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AN INVESTIGATION OF THE NATURE OF IMPORTANCE PERCEPTIONS

*The University of Oklahoma*

PH.D.

1980

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THE UNIVERSITY OF OKLAHOMA  
GRADUATE COLLEGE

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AN INVESTIGATION OF THE NATURE OF IMPORTANCE PERCEPTIONS

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# AN INVESTIGATION OF THE NATURE OF IMPORTANCE PERCEPTIONS

## CHAPTER I

### INTRODUCTION

The perceived importance of work factors by employees is one of the most commonly referred to and potentially useful constructs in behavioral research. Importance is an integral part of the writing and research on job satisfaction, attitudes of employees, motivation and performance prediction. Unfortunately, it is one of the most loosely defined concepts in both theoretical and empirical terms. Yet, without a clear definition of importance perceptions, one has difficulty making any coherent statement about them, their relationship to other concepts and their role in explaining behavior in organizations.

The aim of the present study is to show the centrality of importance in both the theoretical and empirical work of many prominent behavioral scientists, and to define conceptually and then empirically, the factors which contribute to the formulation of importance perceptions. In this way the study should allow future researchers to make more meaningful use of the importance construct. Our understanding of motivation, job satisfaction and other employee attitudes and their relationships to performance will be enhanced, and our knowledge of how to affect employee behavior will be improved.

Importance is central to the literature concerned with employee performance and attitudes, and this centrality provides considerable incentive for careful examination of what it means when someone indicates that something is important. Individual performance is frequently presented in the literature as being a function of choices concerning the direction, amplitude and persistence of effort exerted and these effort choices are in turn presented as being functions of the perceived importance of rewards gained through performance. Therefore a more thorough understanding of the nature of importance perceptions may be helpful in explaining or influencing effort choices and individual performance.

Associated with performance and motivation research is the large body of literature treating the individual's affective response to his work. The reliance of this literature on importance as an explanatory construct suggests that a more thorough understanding of employee attitudes may also result from an investigation of the nature of importance perceptions.

A review of several bodies of literature indicates that while a great deal of reliance has been placed upon individual importance perceptions in performance and attitude theory and research, the importance concept is not yet adequately developed. Very little research has focused upon the nature of importance itself, though a variety of conceptualizations may be inferred from its usage. Three basic approaches to defining and operationalizing importance are identified.

These are 1) a demand-based approach, 2) a need-based approach and 3) a value(s)-based approach. The demand-based approach essentially defines importance perceptions as they are reflected in choices or preferences between factors and makes no attempt to conceptualize the components which go into the making of those choices. Need-based approaches define importance in terms of an individual's current need-states. A review of the theoretical and empirical evidence for the need-based approaches to importance perceptions yields inconsistent and contradictory findings indicating the inadequacy of need states alone to explain importance. The values literature is encumbered by a wide variety of definitions of "value(s)". Those writing from a values perspective introduced the instrumentation construct in order to develop a rational conceptualization of importance. The value(s)-based approaches, however, fail to conceptualize the meaning of "value", thus leaving unanswered the question of the nature of importance perceptions. In sum, the absence of research literature which theoretically and empirically defines importance has led to a variety of usages which all exhibit one or more inadequacies.

The purpose of this study is to examine the usefulness of a cognitive structure conceptualization of importance perceptions. In this study a model of importance perceptions based upon theories of cognitive structure is proposed. The model

developed suggests that importance is a function of 1) the content of the factor to be evaluated, 2) the cognitive centrality of the factor and outcome(s) with which the factor is associated, 3) the degree of dependence of the associated outcome(s) upon the factor, 4) the degree to which the factor is critical to the attainment or maintenance of the outcome state and 5) the temporary salience or cognitive prominence of the factor or associated outcomes.

The present study theoretically and operationally defines each of these variables and then empirically tests the usefulness of such a cognitive approach to importance perceptions.



## CHAPTER II

### REVIEW OF LITERATURE EMPLOYING THE IMPORTANCE CONSTRUCT

Before reviewing and evaluating the specific approaches to the importance construct as they currently appear in the literature, it will be useful to set importance in its general theoretical context. Importance appears most frequently as an explanatory construct in theory and research treating employee performance, motivation and attitudes.

#### Performance, Motivation and Importance Perceptions

The role attributed to importance perceptions in employee performance and motivation provides considerable incentive for a study of the importance construct. Perceived importance of behaviorally-determined outcomes is virtually unanimously held to be a critical factor in the understanding of human performance and motivation. As an example, one of the more integrative performance models suggests performance may be thought of as a function of:

1. ability
2. aptitude
3. skill
4. understanding
5. choice to exert effort
6. choice as to level of effort
7. choice as to persistence of effort

(Campbell and Pritchard, 1976). These variables are thought to account for differences in the level of performance between individuals performing the same tasks. Within individual performance variability is thought to depend largely upon individual choices about the direction, amplitude, and persistence of effort. Motivation may be defined as that which affects those effort choices. Importance is a major component in these behavioral choices.

A large part of the research aimed at providing knowledge that will help us to understand and improve organization performance is built upon theories which attempt to explain the variance in performance between individuals of basically the same aptitude, abilities, skills and knowledge. This literature provides several possible answers to the question "Under what conditions might one expect differences in effort choices and thus performance between and within individual employees?" Without exception these answers involve some use of one form or another of the importance construct as it influences individual behavioral choices.

Process theories. Process theories of performance (e.g. Adams, 1963; Festinger, 1957; Graen, 1969; Hull, 1952; Lewin, 1951; Porter and Lawler, 1968; Tolman, 1932; Vroom, 1964) seek to describe how performance occurs without focusing on the nature of the variables affecting performance. Importance perceptions play a critical role in these theories. Process theorists suggest that effort choices are primarily

determined by the product of 1) the perceived probability that a given level of performance will lead to some outcome, 2) the probability that a given level of effort will lead to the requisite performance and 3) the perceived value of the outcome associated with the effort and performance. The greater the value of the outcome, *ceteris parabis*, the greater the effort. According to Locke (1969, 1976), the value of an outcome as perceived by the employee has two components - the amount of pleasure or other worth to be obtained and the importance of that attainment (italics mine). It is suggested that something in the work situation which is seen as having an impact upon some valued outcome will be regarded as important. Effective motivators should be those objects or conditions which hold forth the probability of the attainment of desired outcomes.

While process theories of performance and motivation give some indication as to the place of importance perceptions in influencing human effort and performance, they are less helpful with regard to the nature and development of importance perceptions. Most process theories seem to assume some basic set of needs, drives or values upon which importance evaluations are built.

Content theories. Another set of theories, frequently referred to as "content" theories (Campbell and Pritchard, 1976; Locke, 1976) attempt to conceptually define the components of performance, including importance perceptions or some

equivalent, by describing the nature and hierarchy of the basic needs, drives, or values assumed by the process theories (Alderfer, 1969, 1972; Maslow, 1954; Murray, 1938). The perceived importance of a specific factor is seen as dependent upon either the relative hierarchical ranking of the associated need or the relative deficiency of the need. Factors contributing to the fulfillment of more basic needs are presumed to be more important than those associated with less basic needs. Also, the greater the deficiency of the need, the greater the perceived importance of factors related to that need. Conversely, according to this view, when a need is relatively satisfied, the factors associated with that need should become less important (Lawler, 1971; Maslow, 1954; Smith, Kendall, and Hulin, 1969).

Reinforcement theories. Another set of theories referred to as "reinforcement theories" (e.g. Skinner, 1948, 1971) develop similar explanations for importance perceptions but, unlike content theorists, view needs, drives, tensions and other non-observable internal states as unnecessary and misleading. According to reinforcement theorists, the perceived importance of a factor will depend primarily upon the positive or negative affective evaluations brought about by exposure to the factor stimuli. If exposure to a set of factor stimuli results in a positive (rewarding) experience, then that factor should increase in importance. If exposure to the factor results in a strongly negative experience, the factor

may likewise increase in importance (it becomes important to avoid it). On the other hand, if the exposure to the factor stimuli does little in the way of producing positive or negative affect, then it is less likely to be perceived as important.

In sum, in process, content, and reinforcement theories of performance and motivation we do find agreement that the perceived importance of a factor helps to determine choices concerning the level and persistence of effort. There seems to be little consensus, however, as to the nature and development of importance perceptions, with nothing said as to their stability or degree of predictability.

#### Employee Attitudes and Importance Perceptions

Associated with performance and motivation theory and research is a large body of literature treating the individual's affective response to his work. The reliance of this literature on importance as an explanatory construct, the very size of this body of literature, and the potential relationship between importance and the formation and dynamic of individual affective responses to work provide additional incentive for gaining a better understanding of the nature of importance perceptions.

Employee attitudes toward the work they do and the environment in which the work is done has been one of the most studied areas of contemporary industrial and organizational research (Locke, 1976). Job satisfaction studies have clearly

dominated this investigation of worker attitudes. While satisfaction is variously defined and measured, it receives this considerable attention either because it is thought to be related to maximizing performance, minimizing costs attributable to human behavior or because employee satisfaction is seen as desirable in and of itself. Regardless of which rationale is adopted, importance perceptions play a fundamental role in the theory and measurement of job satisfaction.

Most theoretical and empirical work on job satisfaction has focused on job situation factors such as the nature of the work task; relationships between supervisors, subordinates and co-workers; growth and development opportunities; compensation and other rewards; and the effectiveness and equity of organization policies, procedures and practices. The work satisfaction literature gives strong evidence that differences in the objective work situation are likely to produce differences or changes in the satisfaction responses of employees (Barnowe, Mangione and Quinn, 1972; Lawler, 1971; Likert, 1961; Pelz, 1951; Rosen, 1969; Vroom, 1964). Real changes in pay or benefits, for example, may be expected to produce changes in the level of employee satisfaction (Smith, Roberts and Hulin, 1976). At the same time, however, the degree of satisfaction with a particular pay increase may vary considerably among employees (Hinrichs, 1969). This is because differences in satisfaction responses between individuals may be expected when there are individual differences in personality or perceptual framework

of the employees (Campbell, Dunnette, Lawler, and Weick, 1970; Herzberg, Mausner, Peterson and Capwell, 1957; Hulin, 1971; Hulin and Blood, 1968; Turner and Lawrence, 1965). Thus the same objective situation may elicit different responses from different individuals. It has been found, for example, that differences in "need for achievement" may account for differences in responses to promotion opportunities or job enrichment efforts (Hackman, Pearce and Wolfe, 1978; Saleh and Grygier, 1969).

Individual differences in perceived factor importance is one of the most referred to variables in the literature used to explain differences in between- and within-individual affective responses to various work factors (Blood, 1969; Friedlander, 1965; Saleh and Grygier, 1969). While the importance of work factors has been frequently employed to explain differences in satisfaction between and within individuals, considerably less has been done to determine whether changes in within-individual factor satisfaction could be attributable to changes in importance perceptions.

Indeed, one of the characteristics of job satisfaction which has been frustrating to researcher and practitioner alike has been the tendency for levels of satisfaction within individuals to change without apparent antecedent changes in the objective situational factors (Smith, et al., 1976). That which receives a response of satisfied at one time may elicit a dissatisfied response at another time (Alderfer and Guzzo,

1979; Cherrington, Condie, and England, 1979; Smith, et al., 1976). The potential for importance dynamics to help explain satisfaction dynamics has remained relatively unexplored primarily due to the limits of our understanding of the nature of importance perceptions and their relationship to affect.

While most behavioral scientists accept the definition of job satisfaction as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences, there is as yet little agreement as to the sources of the emotional state or affect. Perhaps more widely held among satisfaction theorists is the idea that commonly measured self-reports of satisfaction are composed in part of an evaluation of the discrepancy between what is and what ought to be (Dawis and Weitzel, 1975; Katzell, 1964; Likert, 1961; Locke, 1969; Pelz and Andrews, 1966; Rosen and Rosen, 1955; Smith, Kendall and Hulin, 1969). To the degree that satisfaction is an appraisal by the individual of what is, as compared to what ought to be, any changes in the standards by which the individual evaluates the factor may result in changes in the level of satisfaction. Locke (1969, 1976) argues that accurate estimates of the degree of job satisfaction reflect both perceived discrepancies and the importance of the factor. Changes in the perceived importance of a particular factor should then be reflected in reported satisfaction (Blood, 1969). If, for example, an employee perceives that he is receiving less pay than he ought to receive and amount of pay



is very important to him, he is likely to be more dissatisfied than he would be if he placed less importance on amount of pay (Friedlander, 1965; Saleh and Grygier, 1969). Thus, self-reported satisfaction may differ as a function of between-individual or within-individual differences in the importance of the factor in question.

A number of researchers have suggested that being able to identify, measure and predict differences and changes in what is important to employees would be valuable in helping to determine whether such changes or differences are related to changes or differences in satisfaction or performance (Blood, 1969). To what extent do individual perceptions of what is important change? If importance perceptions do change, what are the bases for such changes? Finally, how do changes or differences in importance perceptions relate to satisfaction? It may be, as Blood (1969) assumes, that importance affects satisfaction. Or, it may be that positive or negative experiences resulting from exposure to factor stimuli affect the importance attached to that factor, more in keeping with the reinforcement theories. In either case, additional insight into the nature of importance perceptions should prove useful for gaining a better understanding of employee satisfaction with work factors.

In sum, importance has been widely employed as an explanatory construct throughout the behavioral literature concerned with employee performance, motivation and satisfac-

tion. Therefore, a reliable conceptualization of the nature and development of importance perceptions would seem to be fundamental to broadening our understanding of these research areas. Nonetheless, though an adequate understanding of the crucial dimensions of importance and the cognitive contexts in which they occur seems necessary, a review of the literature reveals that there has been very little specific focus on the importance construct itself and there is as yet little agreement concerning a framework which might account for the adoption and expression of importance evaluations among employees (Jury, 1977).

Any attempt to advance our knowledge of the role, antecedents and effects of importance perceptions on employee performance and attitudes should begin with a clear definition of what is meant by importance. Unfortunately, the importance construct as used in the research literature has nearly as many implied conceptualizations as there are studies which use the term. Each study is accompanied by one or more and sometimes quite diverse operationalizations. In this section we will review and evaluate the existing conceptualizations of importance in the literature and then attempt to formulate a useful, integrative conceptual framework for the importance construct.

#### Early Importance Studies

Even a partial review of the literature treating importance directly or indirectly, as a major focus or related side

issue, yields an amazing variety of explicit or implied interpretations of what individuals mean when they say something is important. Early studies by Chant (1932), Wyatt and Langdon (1937), and Blum and Russ (1942) apparently were inspired by conflicts of opinion between management and union leaders as to what workers desired most in and from their work. Work factors nominated by the various disagreeing parties were submitted to the working electorate for a vote on which among the factors offered were most desired, preferred or perceived as most important. The basic approach was "given a free choice between two or more things, which would you select?" Thus, in these early studies, importance was often inferred from a ranking of factors according to which one would rather have. Other early studies (e.g. Berdie, 1940) did not attempt to infer perceived importance from preference but rather asked informants to rank a selected group of factors according to their importance. In general, most early studies were similar in that they sought to determine which of a number of work factors would be ranked above others, all things considered. A variety of operationalizations were employed, as were several possibly different conceptualizations. Table 1 illustrates some of the findings of these early studies. The quite striking differences in rankings obtained from the miscellaneous and department store workers, studied by Chant and Blum and Russ, and Wyatt and Langdon's women factory workers and Berdie's

male graduates prompted Jurgensen (1947) to investigate the effects of demographic characteristics on rankings of factor importance. Jurgensen reported significant differences in importance rankings for men and women on all of 10 scales including security, advancement, type of work, company, co-workers, supervisor, hours, working conditions and benefits, with the only exception being that both men and women ranked pay equally. While Jurgensen did not report significance levels, he did examine the factor importance rankings across age, education and occupation and concluded that education had the strongest effects. As did Berdie (1940), Jurgensen used a forced ranking technique explaining that, since all the factors were likely to be quite important, a rating scale would not allow a clear-cut ordering of the factors.

Jurgensen also provides an example of early conceptualizations of importance which appear frequently throughout the literature thereafter. While equating importance rankings with "job preferences", as did his predecessors, he clearly links the selection of factors and interpretation of results to job satisfaction. Indeed, Jurgensen's intent in the study was reported as "obtaining data on the relative importance, among job applicants, of various factors which are frequently mentioned as having an important bearing on job satisfaction," (Jurgensen, 1947, p. 555 - italics mine). It may be safe to conclude that this and previously mentioned early studies were not primarily concerned with determining whether or to what

degree certain factors were important to workers, but rather with the relative ranking of factors selected because of their importance. Nor, apparently, were they overly concerned with developing a precise theoretical framework for what employees meant when they said something was important to them. It is not surprising, therefore, to find some variety in the conceptualizations of the importance construct in this early research. In none of the early studies reviewed was importance conceptually defined - no attention is given to theoretically or empirically explaining or discovering what was meant by "important" or "unimportant", under what conditions something is considered important, nor to determining the stability of importance responses. In a summary of several large-scale studies, Stagner (1950) indicated a need to give more heed to this lack of clarity and consistency in conceptualization and operationalization. He points out, for example, that asking subjects directly about importance of work factors may produce quite different results from indirect questions about desires or preferences and thus to compare the two sets of results as if the measures were equivalent may be misleading. An employee may prefer a pay raise to greater job security simply because his position is relatively secure and yet, when asked "How important is job security?" may rate it as extremely high, perhaps much higher than an increase in pay.

In their review of approximately thirty-five studies which in some way employ importance, Herzberg, et al. (1957)

provide further insight into the early conceptualizations of employee perceived importance of work factors. Studies cited by Herzberg, et al., exhibit a common characteristic mentioned above in reference to the study by Jurgensen (1947). That is, importance of job factors is not explored in an unrestricted, all things considered format, but are investigations of job factor rankings in the order of importance to job satisfaction (Herzberg, et al., 1957, p. 43). This represents a potentially important distinction between studies employing importance, which Herzberg, et al., seemed to have overlooked. For within these authors' review of the early literature there are clear differences in the rankings given by employees to factors evaluated according to their importance to job satisfaction and the same or equivalent factors evaluated simply according to "how important" they were with no restrictions.

In their review and interpretation of previous importance studies, Herzberg, et al., contribute their own ideas as to how importance ought to be conceptualized when, in their attempt to explain the wide variety of empirical findings, they suggest that fluctuating situational factors and "need" changes make it "very difficult to predict how important these job factors are to any particular individual unless one knows the things the individual needs and wants most at the moment" (p. 50). Apparently, then, for Herzberg, et al., what the employee wants reflects his current needs and what he wants is what is important to him. This view of importance essentially equates

need fulfillment with satisfaction, pleasure, and personal reward (p. 50). The employee is seen as satisfied with the job to the extent that, in general, all needs which are to be met by the job are fulfilled. If a particular need is not met, the employee becomes dissatisfied with the job factors which he sees as relating to that need and those factors become more important. Thus, Herzberg, et al., apparently conceive of importance in terms of demand (p. 67) or intensity of desire or wanting for whatever need fulfillment (satisfaction) a particular job factor is thought to provide.

While terms such as need, desire, want, preference, and demand appear frequently in the Herzberg, et al., chapter on importance and are quite obviously intended to be synonymous with perceived importance, a number of other concepts are occasionally substituted for importance. Perhaps most striking, because of the way in which it is used is the association of importance and values. In the Herzberg, et al., usage, values are introduced as meaning the individual's hierarchy of importance of work factors. The higher the importance ranking, the higher the value attached to the factor. Work factor importance rankings are defined in usage as being a replication of work values. This raises an interesting question concerning the conceptualization of importance which we shall see has yet to be resolved in the literature. It is clear that Herzberg, et al., view importance as a nearly exact equivalent of both needs and values, and yet state that "an individual

cannot always satisfy his needs and still maintain the values he believes are his". This presents an awkward problem for the conceptualization of importance. If a person perceives a factor as important because he has a need for it or for what it provides, but fulfilling that need violates a value, the same object or condition which would be important because it is needed may be seen as unimportant because of the influence of values. It would seem that neither needs nor values alone can define importance and yet we have no conceptual prescription for how much need offsets how much value, or vice versa. A review of more recent usages of the importance construct strongly suggests that this and similar other conceptual inadequacies have not been resolved.

#### An Overview of Current Approaches to Importance

A selected review of more recent literature within which the importance construct is found reveals a surprisingly diverse set of concepts either equated with or strongly associated with perceived importance of work factors. A partial listing of those concepts is given here to demonstrate that diversity.

1. Demand, wants, desires, preferences (Jurgensen, 1947; Mobley & Locke, 1970; Taylor & Thompson, 1976).
2. Needs (Alderfer & Guzzo, 1979; Herzberg, et al., 1957).
3. Need deficiency (Smith, Kendall, & Hulin, 1969)



4. Need strength (Aldag & Brief, 1975; Friedlander, 1965; Froehlich & Wolins, 1960; Morse, 1953; Ross & Zander, 1957; Schaffer, 1953).
5. Need fulfillment or affect (Blood, 1971; Kraut & Ronen, 1975).
6. Value or worth. (Vroom, 1964; Vroom & Pahl, 1971; Reinharth & Wahba, 1975).
7. Moral values, value systems, ideals, meaningfulness. (Blood, 1969; Cherrington, et al., 1979; England, 1971; Lied & Pritchard, 1976; Pennings, 1970).

It should be noted that a large proportion of the studies reviewed made no attempt whatsoever to develop a conceptual framework for importance. Even less has been done to provide empirical validation for whatever meaning for importance is assumed or implied. As Jury (1977) points out, there are very nearly as many seemingly distinct uses of importance as there are studies employing the term. Most often, in the literature which may be referred to as industrial and organizational psychological research, one is required to attempt to discern the specific interpretation of the meaning of importance by examining a cacophony of proposed "synonyms" and operationalizations each of which is beset by similar conceptual opaqueness. Frequently two or more quite different meanings of importance are stated or implied at the same time. In addition, there are those who insist that importance perceptions

are best is defined by that which their particular instrument measures with or without theoretical foundation.

While the need for more detailed information about importance perceptions can (and must) be met by improvements and refinements in methodology and instrumentation, no matter how refined the techniques, they do not provide direct information about the meaning of the results and do not permit automatic predictions concerning related behavior. The investigator still must make inferences from the data. For this the researcher interested in importance perceptions requires a theoretical framework which accounts for the adoption and expression of importance on the part of individuals.

In the research literature employing the importance construct, little attention is given to the purposeful development of such a framework. In this section an attempt will be made to present and evaluate the more prevalent connotations of importance appearing in the literature.

#### Prevalent Current Connotations of Importance

In order to provide some organization for the review of importance conceptualizations which follows, I have classified studies according to how they seem to use importance, making divisions along lines of theoretical or operational differences. In Table 2 I provide a partial listing of the studies surveyed and a brief summary of their corresponding importance connotations, operationalizations and key variables which

seem to have affected importance perceptions. Conceptualizations of importance, more often implied than stated, may be divided roughly into three categories. These include 1) those studies which interpret importance in terms of demands, wants or desires; 2) those which present importance perceptions as a direct reflection of innate, universal, human needs; and 3) those which present importance as developing from and an expression of personal value(s).

#### Demand-based Approaches

Herzberg, et al., (1957) give evidence that most early studies of employee attitudes toward their work were concerned with what workers want, desire or demand in and from their jobs. The first conceptualization of importance that appears in Table 3 is referred to as "Demand-based". While few if any studies specifically develop a theoretical framework for importance, these provide sufficient example of those which by statement or implication equate importance with demand.

According to this view, demand reflects importance, and the strength of the demand or desire (Alderfer and Guzzo, 1979) indicates the degree of importance. Thus, those things demanded most by employees are the most important and those things which are most important to people will be characterized by higher levels of demand. This is analogous to an economic approach to perceived importance. In economic theory, demand for the individual is based upon tastes or pre-

ferences, desires or wants (e.g. Mansfield, 1975). If we offer the individual any two market baskets, he will be able to indicate which he would rather have, or that he is indifferent and would prefer neither over the other. If he chooses A over B it is understood that A is "more important" than B to that individual. When the researcher asks the employee to indicate his preference for one job factor over another, he is relying upon this kind of reasoning and infers relative importance from choices. For example, when the subject consistently selects a "market basket" which is characterized by items associated with job security over another "basket" characterized by items associated with favorable pay conditions, it is assumed that security is more important than pay. The more often security is selected over other "baskets", the greater the strength of the demand or desire for security, and the greater the presumed importance.

To what extent is demand, desire, want or preference strength equivalent to what the employee means when he says something is important? When the employee indicates that he would rather have job security as defined in a questionnaire than pay increases, is he saying that security is more important?

An examination of the required assumptions of this conceptualization of importance reveals several problems. First, the conclusion that one factor or condition in general is more important than another because of desire or preference choices

is difficult to support. It is far too sweeping to say that the employee prefers security to pay from the evidence presented in the illustration above because we cannot conclude that all levels or degrees of security would always be preferred to all levels of pay. It is entirely possible that a level of pay which is higher than that which is offered (or assumed by the employee) would be preferred to some relatively lower level of security. This is well-recognized in economic theory and is the basis for the development of indifference curves. Demand does not define which factor is more important, but rather indicates how much of one factor would be preferred over a given level of another. Such being the case, we are left with the proposition that demand or preferences may shift from one factor to another quite readily, depending upon the quantity or quality of each factor. According to this view, importance would shift with it. Thus, we are not able to draw conclusions such as "security is more important than pay" from this approach. We are limited to "this particular amount and quality of security is preferred to this particular amount and quality of pay". A further indeterminacy of the demand-based definition is the temporal limits of this interpretation. Does a preference of one factor over another mean that one is generally more important than the other? This is far from certain. There is evidence to suggest that temporary situational factors may significantly alter preferences while having little effect on importance ratings

(Hinrichs, 1969; Herzberg, et al., 1957).

Perhaps a more fundamental limitation of the approach equating demand with importance, so far as this discussion is concerned, is that demand, desire or preference rankings alone do not tell us much about the nature of importance. What determines whether one factor is preferred to another? We know little more about the nature and adoption of importance perceptions than if these concepts had not been introduced precisely because the demand-based approaches do not provide a thorough, precise conceptualization of demand.

#### Need-based Approaches

Numerous studies have appeared over the last two decades which have explicitly or (more typically, implicitly) presented importance as a reflection of the individual's need. A partial listing of studies employing a need-based connotation of importance is given in Table 2. As Jury(1977) points out, in the majority of cases where little more than a brief reference to need theory is provided as a conceptual framework, very little additional insight is available as to the nature and development of importance perceptions.

Theorists use the term "need" to connote the objective presence of a deficiency or excess which, if not altered, would impair the health or well-being, physical or psychological, of the individual (Hall, 1961; Locke, 1969, 1976). Expressed desires, wants or demands are understood to be observed phenomena related to underlying need states. Desires

may be clustered into need classes which may then be thought of as the fundamental life-goals of the individual. Those who interpret importance in terms of needs rely upon the theoretical work of Murray (1938) and Maslow (1954)(and perhaps to some degree the more recent presentation of their ideas by Alderfer, 1972), each of whom proposed a set of human needs which is intended to represent the motive forces behind virtually all human behavior. While there are differences between these three theories, the similarities are striking (see Table 3). Unfortunately, these similarities extend beyond similar clustering of needs into classes to their common inadequacies in providing a sound conceptual framework for importance perceptions. All need-based interpretations of importance exhibit the fundamental weakness of being built upon a foundation which Locke (1976) describes as having the following characteristics:

1. Inadequate evidence, logical or empirical, that needs as presented even exist.
2. Unintelligibility of many of the need concepts.
3. Inconsistency and confusion of conceptual definitions.
4. Inadequate, if any, definition of the concept of need.

In addition to these theoretical weaknesses of the need-based explanations of importance, inconsistent, frequently contradictory empirical findings further erode confidence in this

approach to understanding importance. In the following section, the theoretical and empirical implications of the need-based approaches are examined with regard to their contribution to understanding the nature and development of importance perceptions.

#### Murray, Maslow and Alderfer

Needs became firmly rooted in contemporary attitude and motivation theory due to the conceptual efforts of Murray (1938). He hypothesized approximately twenty specific internal states, the attainment or maintenance of which governs human behavior. The satisfaction of these various needs is the driving force in desires, wants, demands and preferences. That which one needs is that which one desires, wants, demands and, as compared to something which one does not need, prefers. Presumably, then, the strength of the desire (i.e., importance) is the strength of the need. Of course the question must be asked, "which is perceived as more important between two separate needs?". If there is no qualitative difference between needs, then it might be suspected that the stronger of the two needs would be the more important. Importance studies which seem to advocate this conceptualization are indicated in Table 3 as "Need Strength" concepts.

While Murray does not distinguish qualitatively between needs, Maslow (1954) does. He proposes that there are five basic needs which may be arranged in a hierarchy of "prepotency". Needs at a particular, more basic, level of the hier-



archy must be largely fulfilled before needs at the next higher level give rise to prepotent demand. This is not to say that two levels of needs cannot be operative simultaneously, but rather that the more basic takes precedence. If there are qualitative differences in needs, as suggested by Maslow, then we must know exactly what is meant by "largely fulfilled" in order to know which need takes precedence. In addition, since Maslow acknowledges the possibility of individual differences in the basic need hierarchy, we must also know the ordering of need prepotency for the individual (Locke, 1976). We may suppose, however, that more basic needs which are substantially unfulfilled will generate stronger demand than relatively fulfilled needs at a higher level, and thus be perceived as more important. Alderfer (1972), and Schneider & Alderfer (1973) offer an alternative to the Maslow formulation of needs by suggesting three categories: existence, relatedness and growth. Correlations between this ERG formulation and the Maslow need hierarchy have produced mixed results (Schneider & Alderfer, 1973). Alderfer offers several propositions which are intended to explain the relationship between need-states and desires in his framework (Alderfer, 1972; Locke, 1976). These include:

1. The less a need is satisfied, the more it is desired.
2. The less Relatedness and Growth needs are satisfied, the more Existence needs are desired.

3. The more a need is satisfied, the greater the desire for higher order (i.e., more abstract) needs.

Therefore, it would appear that there are two separate instances in which a lower order (e.g., Existence) need would be strongly desired (important). The first would be when it is not satisfied. In the second instance, the lower order need may be quite satisfied but frustration in fulfilling higher order needs causes the person to seek to satisfy those needs with lower order substitutes (Locke, 1976). Higher order needs, on the other hand, will only be strongly desired when lower order needs are satisfied and the higher order need itself is not satisfied. This formulation allows two logical conclusions. First, if needs on all levels are satiable, then the person with substantial satisfaction of all these needs will not strongly desire any of them and thus none of the needs will be important to that individual. On the other hand, if needs are essentially insatiable, then we are left with the conclusion that all needs will be strongly desired and important. In this case the greater strength of desire must go to the lower order needs since they are desired both when unsatisfied and when higher order needs are unsatisfied. Finally, if only the higher order needs are insatiable, it remains that the lower order needs will have prepotency. Thus, either no needs are perceived as important, all needs are important, or only lower-order needs are important. It is

clear that ERG need theory offers little in the way of conceptual breakthroughs (Campbell & Pritchard, 1976).

It should be noted that not all "needs" are assumed to be innate. McClelland (1951) and his associates have proposed the existence of certain learned predispositions which are referred to as needs for achievement, affiliation, failure avoidance and power. These "needs", according to McClelland, may vary in strength and thus it seems plausible that they may be understood to contribute to perceptions of importance in much the same way as the innate needs of Murray, Maslow, and Alderfer (Campbell & Pritchard, 1976). However, since the work of McClelland is more closely associated with another conceptualization of importance (i.e., Value(s)-based), I will acknowledge the use of the term "need" here and return to these acquired predispositions later.

#### Evaluation of Need-based Approaches

Locke (1976) argues forcefully that the logical and empirical support for need theories is far from adequate. First, there is little if any evidence that self-esteem or self-actualization needs even exist. It is far too easy to explain observable behavior in terms of non-observable and thoroughly plastic "needs" (Blacker & Williams, 1971). If needs lead to importance but these needs prove to be phantoms, then importance based upon needs is unsubstantiated. Furthermore, the testimony of empirical work in this area as to the

relationship between need states and importance perceptions, is not entirely supportive of the needs-importance linkage.

Morse (1953) and Ross and Zander (1957) equate importance with "strength of need". In the Ross and Zander study, the authors investigated whether the degree of satisfaction of certain personal needs supplied by a person's place of employment had a significant direct relationship to turnover. Recognition, autonomy, task significance, fair evaluation and knowing important people in the organization were the need areas considered. Part of the study was designed to determine whether the satisfaction of these needs was important to the members. In effect, importance was defined as the degree of dissatisfaction required to cause a person to leave the company. If satisfaction with a particular need was important, then those members who were not satisfied would relinquish membership. This, of course, represents an indirect method of determining importance via observing behavior and satisfaction attitudes. Amount of dissatisfaction was computed by subtracting the amount of satisfaction from the "strength" of the indicated need (Importance). While this procedure is, in itself, somewhat unusual, our concern here is with the conceptualization of importance. Ross and Zander measured importance indirectly through behavior and attitude as described above, yet, at the same time measured "need strength" by the direct question, "How important is it to you

that ....?" Thus, in their study, importance is both "need strength" (the degree to which something is needed) measured directly, and whether dissatisfaction (unmet need) led to certain behaviors - an indirect measurement. Unfortunately Ross and Zander do not compare the results of these two operationalizations. It is of interest that Ross and Zander employ importance as the standard from which the level of satisfaction is subtracted to determine the true level of dissatisfaction which is likely to determine behavior. Theoretically this implies that the degree of dissatisfaction, given a particular level of satisfaction, is directly related to the level of importance (or need strength) and that importance, the standard, and satisfaction, the perception, are independent of one another. This relationship may be expressed as

$$\text{DISSATISFACTION} = \text{IMPORTANCE} - \text{SATISFACTION}$$

where satisfaction is the extent to which the need is met and importance is conceived of as the need requirement, "how much there should be". An importance score of 10, for example, combined with a satisfaction level of 6, results in a dissatisfaction level of 4. There would be no dissatisfaction if the extent to which the need is perceived as met equals or exceeds the need requirements.

The Ross and Zander (1957) and similar conceptualizations of importance as "need strength" (Morse, 1953; Scaffer, 1953) are particularly interesting when compared with the Porter studies on perceived need satisfaction and importance

(Porter, 1961, 1962, 1963). For while both employ conceptualizations of need strength to define employee dissatisfaction with various work factors, and both view factor importance as a reflection of need strength, their ideas of what constitutes strength of need seem to be quite different.

In his series of studies, Porter examined differences in need satisfaction and importance for security, social, self-esteem, autonomy and self-actualization needs across different managerial levels and company sizes. While a conceptual framework for importance is never explicitly developed, the idea of need "prepotency" (strength) as suggested by Maslow was employed in these evaluations of employee attitudes. In much the same way as the formulation by Ross and Zander, Porter defines need deficiencies (dissatisfaction) as the difference between the perceived amount of present fulfillment and perceptions of what should be available:

DISSATISFACTION = Should be - Perceived to be.

Both Ross and Zander and Porter see importance as the strength of the need for whatever object or condition is being evaluated. However, the former equates this with the need requirement, "how much there should be", while Porter clearly does not see importance this way. Importance in the Porter studies is measured directly by asking subjects to indicate how important the item is on a seven point scale, entirely apart from "how much should there be?". Porter (1962, 1963) keeps measures and interpretations of importance quite separate from

those of "how much should there be?" and reports findings concerning each separately. While Porter does not tell us exactly what the nature of need strength is, it is clear that it is not the same as that envisioned by those who follow the pattern of Ross and Zander. To define importance as "strength of need" cannot be sufficient if need strength is, in turn, inadequately defined. On the strength of a comparison of the findings concerning need deficiencies and perceived importance in the Porter studies (1962, 1963), managers appear to be making very different kinds of evaluations when they say something is important (i.e., "this is very important to me") and when they say there is a large need requirement (i.e., there should be large amounts of the item in question).

There are clear implications that perceived importance is somehow a function of need states, yet nowhere in the literature surveyed is there anything approaching a clear statement of what people mean when they say something is important to them.

Since it is not possible to directly evaluate the various need-based conceptual frameworks of importance, we must attempt instead an evaluation of the usefulness of need states as an explanation of importance by examining the empirical evidence. Such an attempt requires some caution since it must be recognized at the outset that if the underlying theoretical frameworks (which are not revealed) are different, the interpretation of the empirical evidence may be inconsistent.

Factor importance as a function of need satisfaction.

Lawler (1971) provides a starting point for evaluating the relationship between need states and perceived importance by drawing some logical conclusions from information provided by need theorists. Lawler suggests that, since the perceived importance of each need should be influenced by need fulfillment in the lower levels of the need hierarchy and by the degree to which the need itself is fulfilled, the more the individual reports lower-level need satisfaction, the higher should be his perceptions of importance of the higher-order needs. The more satisfied the lower-level needs, the less important they should become. Likewise, Smith, Kendall and Hulin (1969) in an earlier evaluation of the need-importance relationship, suggested that there should be a tendency for importance of work aspects to be assessed in terms of deficiencies or inadequacies. Pay, for example, should be perceived as important because the employee is dissatisfied with his pay. Once an acceptable level of satisfaction is reached, it should lose its importance. However, Smith, Kendall and Hulin (1969) found that the empirical evidence did not consistently support this expectation. In their study, dissatisfaction with promotion was extremely high, yet the importance of promotion was very low.

Alderfer (1966, 1969) and Porter (1964) had both found that higher-level needs become more important as they are



better satisfied. In these studies, as was expected from need theory predictions, lower-order needs were perceived of as less important as satisfaction increased. However, in a longitudinal study of managers by Hall and Nougaim (1967), it was reported that as lower-order needs became satisfied they did not decrease in importance. Lawler and Suttle (1972) found that pay needs did not decrease in importance as satisfaction with pay increased, thus supporting the findings of Hall and Hougaim.

Importance as need-strength related to satisfaction.

Not all researchers have assumed that importance is a function of satisfaction or reflects need fulfillment. Schaffer (1953) measured and seems to have employed a definition of importance perceptions in terms of need strengths. He suggested that satisfaction was a function of importance. The stronger the need (greater importance), the more satisfaction was thought to depend upon its fulfillment. In other words, if pay was perceived as very important to an individual, then he should be more likely to have stronger feelings of dissatisfaction if his pay was seen as inadequate. Blood (1969) supports this view, reasoning that importance perceptions precede and influence satisfaction rather than the other way around. Schaffer (1953), however, failed to find significant rank-order correlations between need strength (importance) and relative need satisfaction, casting some doubt on this proposed relationship.

Friedlander (1965) attempted to further clarify the question of importance being essentially an assessment assigned to those aspects which are most dissatisfying, and concluded that importance is associated both with highly dissatisfying and highly satisfying environmental factors. In the Friedlander study, a scatter plot of importance ratings and level of satisfaction/dissatisfaction supports the idea that highly satisfying and highly dissatisfying experiences are related to high importance ratings. The question of interest in this discussion, however, is the causality of that relationship. For, if high satisfaction/dissatisfaction causes the individual to rate something as important, we may suspect that either importance is an assessment of current satisfaction states, or that both satisfaction and importance are related to some underlying causal factor. If, on the other hand, the perceived importance determines the level of the satisfaction/dissatisfaction response, then we know little more about the nature of importance. The Friedlander analyses, however, do not tell us whether strong affective response is a function of importance or the other way around, or whether a third variable may be responsible for both satisfaction and importance perceptions. In addition, a further caution should be added to interpretation of the Friedlander study. That is, importance was specifically limited to "how important each of these things is to your feeling of satisfaction or dissatis-

faction". It is entirely possible that anchoring responses to a specified context such as "your satisfaction" may produce quite different results from unattached judgments.

If satisfaction or need states are primary components of importance evaluations, rather than the other way around, those factors which are assigned extreme ratings on a positive-negative affect continuum should be consistently evaluated as highly important, and a shift from either extreme toward the middle of the affect continuum should result in a decrease in importance. I have already noted a violation of the first requirement in the Smith, Kendall and Hulin studies (1969) where subjects were extremely dissatisfied with promotions and yet rated the importance of promotion as relatively low. A comparison of the Porter (1962, 1963) need deficiency and need importance studies sheds further doubt on the need deficiency importance definition. In two of three areas where need deficiencies were quite high (high dissatisfaction with autonomy and self-actualization) and were then quite significantly improved, Porter's results indicate that importance appears to have decreased significantly. But in the third area, even though dissatisfaction was quite high and subsequently reduced, importance actually increased. This third area (self-esteem) may have been different in some ways from the other two (autonomy and self-actualization). However, the failure to support the expectations of the importance-affect concept suggests a more complex interpretation than that which Porter suggests with his model.

Factor importance as inferred from predictions of general satisfaction. If importance cannot be observed or defined in terms of needs or satisfaction, perhaps one can infer it from its relationship to some other variable. For example, a number of studies have explored the possibility that what is important to the individual is defined by the predictive ability of one or more sub-factor's satisfaction to account for the variance in overall or general satisfaction. This approach abandons the attempt to determine what people mean when they say something is important and employs instead an inferential definition of importance as the size of the correlation between the sub-factor and the criterion measure. In this approach, the more variance accounted for in general satisfaction by satisfaction with a sub-factor, the greater the inferred importance of the sub-factor (Blood, 1971; Ewen, 1967 etc.; Kraut and Ronen, 1975). This conceptualization of importance as predictive power arose primarily from the failure of importance weightings to improve predictions of overall satisfaction over unweighted factor satisfaction. If importance was, in effect, a ranking of factors in the order of their potential effects on overall satisfaction, then it seemed quite reasonable to assume that weighting factor satisfaction by importance would improve the ability to determine which factors were crucial in overall job satisfaction. However, a number of attempts to apply this reasoning failed

to produce any substantial improvements in predictive power of satisfaction models (Blood, 1971; Decker, 1955; Ewen, 1967; Mikes and Hulin, 1968; Porter, 1962; Schaffer, 1953; Wanous and Lawler, 1972). Neither have importance weights improved predictions of turnover (Mikes and Hulin, 1968), performance (Pelz and Andrews, 1966) or leadership behavior (Beer, 1966).

A number of possible explanations have been offered for findings indicating no apparent difference in predictiveness when satisfaction is weighted by importance. Several of these are of interest to this study. First, it is possible that employees may not be aware of the factors which are important to them. Second, as has been suggested earlier, what is important may not be entirely the same thing as that which accounts for variance in the particular criterion being predicted (e.g., overall job satisfaction). An employee may report that pay amount is very important to him and yet the researcher may find that his satisfaction with his job is not highly related to differences in amount of pay. A third possible explanation is that employee reports of importance may be influenced by social desirability and thus not accurately reflect actual evaluative perceptions. An employee may indicate that relationships with co-workers are extremely important because he thinks that such a response is expected of him, that to think differently would somehow be contrary to the values commonly held by his society, while, in fact, this factor is of little importance to him. Another possible explanation for the

failure of importance weighted satisfaction models to yield significantly greater predictiveness than unweighted models is that the restricted range in importance ratings due to the tendency of researchers to select factors which are all quite important may, in effect, result in equal weighting for all factors (Blood, 1971; Evans, 1969). Finally, it has been suggested by Locke (1969) that self-reports of satisfaction along some dimensions may already reflect importance evaluations. That is, satisfaction and importance, while conceptually different, may be perceptually highly interdependent (see results discussed above from studies by Porter and Smith, et al.). Importance evaluations may be primarily cognitive rationalizations for a prior affective response to a factor (Zajonc, 1980) or satisfaction evaluations may be essentially the same thing as degree of importance.

The equivalence of satisfaction with a factor and importance of the factor seems unlikely both because of the research findings reviewed earlier which addressed the relationship between satisfaction and importance and because of largely unsuccessful attempts to correlate importance with various measures of satisfaction (e.g., Kraut and Ronen, 1975). At the same time, it does not seem likely that self-reports of importance of factors are entirely invalidated by social desirability since weighting satisfaction with importance, while not significantly improving predictiveness over unweighted models, does not at all reduce the predictiveness of

those models (Ewen, 1967; Mikes and Hulin, 1968; Kraut and Ronen, 1975).

Kraut and Ronen (1975) present two conclusions from their study of the various attempts to relate importance and affect which may further explain the inconclusive findings of the literature reviewed thus far. First, their results indicate that "importance" of various job factors may vary depending on how importance is measured (i.e., self ratings; identifying predictors of general satisfaction from a list of work factors using regression analyses, etc.). In addition, with respect to the results of the regression analyses, they conclude that the order of importance of job factors may differ with the criterion being predicted in the regression models. Thus, for example, where pay importance is measured by its power to predict overall job satisfaction, it may receive an entirely different evaluation than if subjects were simply asked to indicate how important pay is without restricting it to job satisfaction. Likewise, if one measures importance by ability to predict overall satisfaction one may get different results from those obtained by ability to predict intent to stay on the job or turnover (Mikes and Hulin, 1968) or performance (Pelz and Andrews, 1966). It appears that one needs to specify importance-for-what.

Need-importance factor structures. Another method for examining the adequacy of the need-state importance conceptualization is to compare the factor structures of item

importance and reported need states. If importance is the same as need state, or if needs are the primary component of importance perceptions, then the factor structures of each should compare. Research directed toward investigating the factor structure of work desires do not entirely support the needs-importance concept (Dowell, 1975). For example, Robert, et al. (1971) examined the factor structures of employees' ratings of the importance of work factors and simultaneously gathered need deficiency scores using in both cases scales developed by Porter (1961). They found no similarity between the factor structures of need states and importance ratings for the same subjects. Herman and Hulin (1973) and Payne (1971) report similar findings.

Summary of the need-based approaches. The selected literature review above leads to two conclusions concerning the need-based conceptualizations of importance as currently used. First, there are no clear conceptualizations of importance perception in the literature which adequately formulate a theoretical relationship between importance and need states. Second, empirical evidence fails to support the need-state importance relationship and casts considerable doubt on the sufficiency of need-based approaches to explain what people mean when they say something is important to them. It is clear that a cursory reference to needs and/or the state of fulfillment or deficiency of needs will not suffice as a conceptual framework for the importance construct. Furthermore,



the related need-affect conceptualizations of importance also appear to be inadequate explanations for importance perceptions. The review does not, however, eliminate needs or affect entirely from the possibility of helping to clarify the nature of importance. There are some who would suggest that the addition of one or more complementary constructs to the need- importance interpretation would result in a satisfactory conceptual framework. Hulin (1963) suggests that people tend to perceive and rank as important those things which they both lack and value (italics mine). As is evident in Table 3, a considerable proportion of the studies reviewed which employ the importance construct conceptualize importance in terms of values.

#### Value(s)-based Approaches

Importance perceptions are frequently equated or strongly associated with values. However, as with needs, it is not always clear what is meant by "values". Kluckhohn (1962) bemoans the diffuse, vague, often contradictory conceptualizations of values in the literature. Values concepts, says Kluckhohn, include attitudes, motivations, objects, measurable and unmeasurable quantities, and customs or traditions, to name a few. Connor and Becker (1975) illustrates the pervasiveness of this theoretical serendipity by referring to a single study which variously discusses values as being synonymous with emotional reactions (affect), valuation (i.e.,

X is more valuable than Y), goals, interests, needs and outcomes. Since we are interested in understanding how values are useful in explaining importance perceptions, this lack of precision in the definition of the construct presents a considerable problem.

Exacerbating this difficulty in defining "value(s)" are the need theorists who often appear to use the terms "needs" and "values" interchangeably. Locke (1976) points out this conceptual gerrymandering and then distinguishes between needs and values. Needs are objective requirements of an individual's survival and well-being which exist whether or not the individual consciously desires the conditions or actions required to attain or maintain them. A value is what one consciously or subconsciously desires, wants, or demands. While needs are innate, values are acquired. All men have the same basic needs but may differ according to values. While needs may confront the individual with the demand for some action related to ensuring survival or well-being, they do not help the individual to know or choose specifically how to go about meeting that demand. Any given need may be seen by the individual as being satisfied by any of a multitude of actions or objects, and nearly any object can be associated with any number of "needs". If we accept the nature of persons as having preferences and standards for actions, however determined and whatever they may be, then the question of how to satisfy one's needs requires that one have developed cognitive

categories to aid in identifying and choosing personally acceptable forms of voluntary action. Values, according to Locke, are these standards within the individual which largely determine those choices. If we accept this reasoning, needs, as the generators of demand, will be necessarily observed through the personally acceptable forms of behavior consistent with one's values. We may proceed to treating values as personally acceptable surrogates which reflect underlying needs.

But values, though understood as standards for action and reflections of need-states, require further definition. As we have seen, Locke (1976) apparently equates values with wants or desires. He contends that values have two specific attributes: content, or what is wanted (italics mine), and intensity or strength, how much it is wanted (italics mine). Others disagree with Locke's apparent interchangeable use of values and demand, arguing that what one wants or desires may be entirely different from what one sees as desirable (Connor and Becker, 1975). While there is certainly not complete unanimity in the conceptualization of values, there does appear to be some consensus regarding the nature of values as being quite apart from wants, desires or demands.

Scott (1956) and Kluckhohn, et al. (1962) define values as the conception of the desirable as opposed to that which is desired. Rokeach (1968) defines values as "abstract ideals, positive or negative, not tied to any specific object or situation, representing a person's beliefs about modes of

conduct and ideal terminal modes ..." (p. 389). Values are often seen as global beliefs which guide both actions and judgments concerning specific objects and situations. While there is considerable agreement among values theorists concerning the conceptual distinctiveness of values from needs and desires, there is far less agreement as to how abstract or global a belief must be before it qualifies as a "value". England (1971) points out that values concepts may be thought of as located somewhere on a continuum which runs from very condition-specific to global and highly abstract. Value(s)-based conceptualizations of importance perceptions, then, may be classified according to those which treat value as an assessment of worth which may be applied to specific objects, conditions or ideas (often with reference to specific goal attainment), and those which treat values as normative, ethical ideals. A number of the studies listed in Table 3 employ the importance construct apparently having construed importance to be the perceived worth of such concrete and specific factors as pay, promotion, travel, working conditions and supervisory competence (Friedlander, 1963, 1965; Hinrichs, 1969; Ondrack, 1973; Saleh and Greiger, 1969). Others concern themselves with more abstract ideals such as the "moral importance" of work (Cherrington, et al., 1979; Lied and Pritchard, 1976); the protestant ethic (Aldag and Brief, 1975; Blood, 1969; Wollack, et al., 1971); or honor, truth, loyalty, equality and religion (England, 1971; Whitely and England, 1977).

Other studies range between these in level of specificity and abstraction. A careful examination of the reasoning behind these various approaches to values as explanatory of perceived importance indicates that there is very little conceptual difference in the interpretations of importance as one moves from the specific to the abstract.

The following review and evaluation of the value(s)-importance literature reveals that the use of values to explain the nature and development of importance perceptions, while making some worthwhile contributions, is presently unsatisfactory primarily due to the failure to define the values construct itself. Values, as used in the work factor importance literature, ultimately leaves one asking, "Is a work factor important because of a value, or is it valued because it is important?"

Among those who seem to advocate defining importance in terms of the perceived value or worth of some specific object or condition are those who suggest that value, as a complement to needs, might help to strengthen the need-based conceptualization of importance. If need states do not define importance, then perhaps the "value" of some factor, as it relates to need fulfillment, is the proper framework for understanding importance perceptions. In this view, a factor will be seen as important when it is useful in fulfilling a specific goal - the elimination of a need deficiency. The further from attainment the individual is from the goal (need strength) and

the greater the strength of the association between the goal and the factor in question, the greater the perceived importance of that factor. Inherent in this approach to importance is the idea that need deficiencies give rise to action demand while "value" determines the choice of action alternatives. Hulin (1963) may have had this in mind when he suggested that people see as important those things which they both lack and value. As we have already seen, however, need deficiencies do not seem to play much of a role, if any, in determining importance perceptions, at least as they are currently conceptualized.

Other researchers have abandoned any reliance on need deficiencies to explain importance and have focused instead upon value alone. Extending the idea of the strength of the association between a factor and some goal, importance is conceptualized as a product of 1) the value attached to some goal (this approach totally rejects need theories as explanations for these goals) and, 2) the strength of the role of the factor in attaining that goal. In other words, something is important to the degree that it is seen as contributing to some valued outcome (Vroom, 1964; Vroom and Pahl, 1971; Reinharth and Wahba, 1975). In so far as the outcomes referred to are relatively specific, this approach may be located on the concrete end of the value(s) construct continuum suggested by England. While certain parts of this conceptualization of importance perceptions may prove to be helpful for developing

the nature and dynamics of importance, there is a circularity to this model which requires examination and considerable refinement before we may successfully employ those parts.

The values conceptualization of importance just described has two essential parts. The first is what Vroom calls perceived "instrumentality". The second is the "outcome value". Since this model has become, rightly or wrongly, the dominant motivational theory in organizational psychology (Campbell and Pritchard, 1976; Lawler, 1973), I will examine briefly these two basic components and their implications for developing a conceptual framework for importance perceptions.

The instrumentality concept may prove to be helpful in developing a theoretical framework for importance. Instrumentality refers to the perceived contingency that a particular factor has for a specified outcome. That is, given any factor, the model implies we should ask questions about the extent to which possessing that factor is instrumental for obtaining other outcomes. Instrumentality may be viewed as a correlation coefficient varying from +1.0 through 0 to -1.0. That is, the possession of a factor could mean avoidance of certain outcomes as well as their attainment. Accordingly, we may reason that if two factors are associated with the same outcome, that factor which is seen to be more instrumental in the attainment (or avoidance) of the outcome will be perceived as more important. If the two factors are seen as equally instrumental in the attainment of the goal, then the individual

will perceive them as equally important (and where selection between the two factors is required, some other criterion such as aesthetic preference or cost effectiveness may be employed to make the discrimination). In a similar way, if two factors are independent of one another and are each associated with different outcomes which are of equal value, that factor which is seen as more instrumental in the attainment of its outcome will be perceived as more important. Using this approach and confining our thinking for the moment to instrumentality, we may suggest several possible synonyms for importance which may be useful. A factor will be perceived as important if, to the individual, it is seen to be

critical,  
essential,  
vital,  
primary,  
significant

in the attainment or avoidance of specific outcomes of given value. While this view of importance may be helpful and intuitively appealing, there are difficulties.

One problem with the currently conceived instrumentality approach to importance perceptions is that it seems to assume, perhaps too simplistically, that each factor is associated with only one outcome. As demonstrated by England (1971), it is entirely possible that a factor may be associated with a variety of outcomes with varying degrees of positive or negative value. In such a case, a factor may have strong positive instrumentality coefficients for some outcomes and



negative coefficients for others. Furthermore, in evaluating the relative importance of two factors, the factors may be associated with a variety of different outcomes such that even net instrumentality coefficients (whether thought of as the sum or average of individual coefficients) may not be comparable. Little research has been done to determine to what extent the inclusion of multiple outcomes affects models of importance.

An evaluation of the "outcome value" component of the values-based approach, reveals a further problem with this concept - the unfortunate circularity of the reasoning behind it.

Valence is the term frequently used to refer to the perceived positive or negative value ascribed by the individual to the possible outcomes of a given action. For the sake of clarity, I shall simply use the term "outcome value". While instrumentality may determine the importance of factors associated with the same outcome or outcomes of equal value, inherent in this model is the idea that the outcomes themselves may vary in value. Accordingly, if two independent factors are of equal instrumentality toward the attainment of outcomes of unequal value, that factor associated with the more highly valued of the outcomes should be more important. Ultimately, then, in order for one to know the importance of a particular factor one must have some idea of the value of the

outcome with which it is associated. Those advocating this model insist that there is no need to depend upon untenable need theories to determine the value of a given outcome. The problem of determining the value of an outcome with which a factor is associated is handled by specifying the theoretical existence of both first and second-level outcomes. First-level outcomes are related to second-level outcomes in that they are contributors toward (i.e., instrumental for) the attainment of second-level outcomes. This is very analogous to the decision tree models used in decision theory (indeed, with the addition of the third component of the VIE model, expectancies, or perceived probabilities, they are identical) and as such presents the following conceptual problem. While it is clear that a factor's importance is dependent upon its instrumentality in achieving an outcome of some value, it is nowhere specified how one is to determine that value other than the suggestion that the value of the outcome is, in turn, dependent upon the value of some associated second-level outcome. Either one "knows" the identity and value of the second level outcome or one presumably looks for some associated third-level outcome, and so on (Parker and Dyer, 1975). The value-instrumentality concepts specify the theoretical existence of first and second-level outcomes. First-level outcomes are related to second-level outcomes in that they contribute toward the attainment of second-level outcomes in the same way that factors contribute to the first-level outcomes.

While VIE theorists seem satisfied with two levels of outcomes, it is possible to presume the existence of third, fourth, fifth, etc. level outcomes applying the same structural relationships at each level. If the importance of each successive level is determined by its instrumentality in attaining the next higher level outcome, then the higher level outcomes take on greater and greater significance. It is not entirely unreasonable to think of each successively higher level as approaching closer to some "ultimate" level of values. This final level of outcomes, which will largely determine the importance of all other outcomes, may be thought of as representing the core values of the individual. Since each successively higher level must become more inclusive, it is also reasonable to conclude that the progression from lower to higher levels of values is also a progression from specific to global and abstract as described by England (1971).

While some may object to labeling as "values" the beliefs all along the described continuum (Kluckhohn, et al., 1962 and Connors, 1975, for example would insist that "values" occupy the abstract end of the continuum while "attitudes" occupy the specific end), other than in degree of specificity and inclusiveness, there appears to be no conceptual differences. Kluckhohn, et al. (1962) contend that all lower level values ("attitudes") result from the application of more general values to concrete objects or situations. This entirely supports the idea that, since the importance of an

object, condition or idea at any one level depends upon the value of the next higher outcome(s) with which it is associated, the importance of all objects, conditions and ideas at all levels ultimately depends upon the hierarchy of values at the highest, most global and abstract level. Nowhere in the values-importance literature does there appear a satisfactory theoretical explanation for the hierarchy of this final level of values.

This conceptual inadequacy is not entirely dissimilar to that which was earlier attributed to the need-based approaches to importance. Both seem to suggest that there must be some ultimate or basic set of criteria (needs or values) the hierarchy of which determines the importance of each succeeding level below. Need-based theories rely upon some form of theoretical hierarchy for the most basic categories of needs and value-based approaches employ something similar in terms of a "basic value system". In the case of need-based theories some attempt is made to explain variations in importance within each basic need category as being due to need discrepancies or lacks. Value-based approaches on the other hand, suggest something becomes important not when that which is valued is lacking but rather because of its degree of association with a valued second level outcome. There is no indication that the degree to which the value is fulfilled or unfulfilled affects the importance of the factor. The factor is important by virtue of its relationship to the valued

outcome. As long as the outcome remains highly valued and the instrumentality of the factor is maintained, it will remain important. In contrast to need-based approaches, pay (for example) may be seen as highly important regardless of the pay level because the individual, in assessing importance, is evaluating the contribution or instrumentality of pay to the attainment of some valued outcome. In this view, pay is important by virtue of its relationship to the outcome, not just the lack or abundance of pay. This may help to explain findings which indicate that employees may evaluate a factor as unimportant even when measures of satisfaction or dissatisfaction suggest that they do not have what they feel they should have of that particular factor. If, for example, promotions are not seen as making any significant contribution to valued outcomes, then even where a great deal of dissatisfaction with promotions is expressed it may remain a relatively unimportant factor (Smith, Kendall, and Hulin, 1969).

Apart from failure to consider the possible consequences of multiple factor-outcome associations, the instrumentality construct may make a significant contribution to providing a conceptual framework for importance perceptions by turning some attention to the cognitive (vs. affective) explanations for importance evaluations. However, it remains that value-based approaches to importance do not provide a satisfactory means of conceptualizing a crucial component required of such a model - the relative value of given outcomes. If we define

importance as an assessment given to a factor which reflects its relative contribution to some valued outcome, we still require some way to conceptualize the potency of outcomes without resorting to their relationships to other undefined outcomes.

### Summary of the Importance Literature

Throughout the literature surveyed above, human behavior and attitude as expressed in preferences or choices between alternative objects, actions or ideas are viewed as highly dependent upon the importance of the alternatives as perceived by the individual. Unfortunately, while importance is widely used and heavily relied upon in application of numerous theoretical constructs, it takes on a variety of imprecise, frequently conflicting definitions and connotations. The purpose of the above literature review has been to organize and then analyze the presentations of these concepts from the current behavioral research literature. Three quite distinct categories of importance approaches were identified, each with the potential for making contributions and each exhibiting inadequacies which limit those contributions.

Demand-based conceptualizations of importance essentially describe the behavioral consequences of differences in importance perceptions. Importance is defined as the degree, strength, or intensity of demand, want or desire for a factor which is manifested in preference choices. This approach has two major weaknesses which limit its contribution to our

understanding of the nature of importance. First, it fails to account for differences in amount and quality of alternative factors which could potentially alter any choice preferences between factors. This makes it quite impossible to conclude that one factor is more important than another in any general sense. Second, demand, desire and want are as imprecisely conceptualized as importance.

Need-based conceptualizations of importance attempt to deal with the problem of identifying the sources of demand by suggesting that there are basic requirements for survival and well-being which are common to all mankind. Since these needs must be satisfied, any unfulfilled or unsatisfied need gives rise to increased perceived importance of factors which satisfy those needs. The strength of need, determined by its prepotency and level of deficiency, define importance. However, a review of the research findings indicates that those needs which are most deficient are often not perceived of as important, and many needs fully satisfied are seen as very important. Furthermore, comparison of satisfaction and importance perceptions as well as factor analyses of needs and importance do not support the contention that importance perceptions are definitively linked to need states.

Value(s)-based conceptualizations of perceived importance abandon the need-state explanation of the construct and rely rather upon the perceived value of associated outcomes. Values are seen as quite distinct from needs and wants. While

needs are objective and innate, values are seen as subjective and acquired. The strength of the value of a particular factor (its importance to the individual) is determined by the perceived value of the second level outcome with which it is associated, and the degree of that association (instrumentality). While, instrumentality may have some utility for improving our understanding of importance perceptions, value(s)-based conceptualizations of importance tend to sidestep the importance question by attributing the value of the first level outcome to the second level, which must depend upon the third, etc. In essence, the value(s)-based approach tells us that something is important when it is seen as instrumental in the attaining of an important outcome.

While each of these three major approaches to defining importance perceptions makes some contribution, an adequate conceptualization of the nature and development of importance remains very elusive. Without exception in the importance literature surveyed for this study, clear conceptual presentations of the meaning of importance are either totally absent or connotative in nature. The following section draws from the findings in the above review and from theories of social psychology in an attempt to formulate a more precise and useful conceptual framework for the importance construct.

#### The Nature of Importance Perceptions

Throughout the research literature employing demand-based, need-based and value(s)-based approaches to perceived



importance, the focus has been primarily upon identifying the general nature of the outcomes (demand, need or value satisfaction) with which a particular factor is associated. The relative "importance" of any factor, according to each of these approaches, is essentially a function of the "strength" or "power" of the specified outcome to attract or mold behaviors and attitudes related to a particular factor. In this sense it is the outcome itself in which the strength or power is seen to reside and thus theoretical efforts have concentrated on uncovering the source of the "strength of demand", "strength of need" or "strength of value". While the nature of the factor itself and the relationship between factor and demand, need or value receive passing acknowledgment, the emphasis is clearly upon the outcomes. It would seem that a more careful examination of the entire factor-outcome relationship might prove to be more productive for developing a conceptualization of importance perceptions.

In Chapter III we will attempt to build a more thorough conceptualization of importance perceptions by acknowledging that there are, in fact, numerous possible outcome states with which different objects, conditions or ideas are associated. These outcomes may be any of a number of needs, wants, desires or values. Focusing our attention systematically on each of the components of the factor-outcome relationship will ultimately lead to the formulation of a conceptual model which will encompass not only the outcomes but also the factors

themselves and the ties between factors and outcomes. We begin by recognizing that factors and outcomes, regardless of whether we call them demands, needs, or values, are essentially subjective perceptions, i.e. individual cognitions. We then make use of the general and mainstream theories of social psychology as expressed in theories of the individual organization or structure of personal perceptions and cognitions to provide a conceptual framework for the development of such a model.

## CHAPTER III

### A COGNITIVE STRUCTURE APPROACH

Beliefs, attitudes, values, virtually all concepts used in reference to evaluative perceptions, are thought to be composed of two distinct attributes - affect and cognition (Newcomb, Turner, and Converse, 1965; Proshansky and Seidenberg, 1966; Rosenberg, 1956; Secord and Backman, 1964, etc.). The first of these attributes, affect, is the positive or negative feeling one gets from the object being evaluated. As we have seen from the literature review above, importance perceptions do not seem to be fully defined in terms of various measures of affect, such as satisfaction. Further, it would appear that, while there is some possibility that importance may be linked to the range of feelings toward a factor, importance evaluations and feelings (affect) are quite distinct concepts. An individual may have almost any feeling toward an object regardless of its level of perceived importance. It would appear, then, that affect is a less useful construct in helping to account for perceived importance.

The second component of evaluative perceptions - cognitions - are elements in human thought which enter into relationships with one another and may be described as items of

information (Brehm and Cohen, 1962; Lawrence and Festinger, 1962) and as such define what the individual knows about a factor rather than how he feels about it. Cognitions are organized wholes of interdependent parts. The human mind organizes or structures cognitions into patterns of relationships which have attitudinal and behavioral consequences. Scott (1962) understood cognitive structure to mean the complete cognitive world of the individual which is the final product of the individual's interaction with his environment, "the individual's phenomenological representation of himself and the world - the set of ideas maintained by him and relatively available to conscious awareness" (p. 87). Importance perceptions may be usefully conceived of in terms of the organization or structure of what the individual knows or believes about an object, condition or idea.

Both need and value(s)-based interpretations of importance perceptions rely to some degree on cognitive structure to explain importance. Need-based approaches employ need states and the association of the factor in question with need states. If an object is seen as contributing to the satisfaction of a need deficiency, then it will be important. In the same way, value(s)-based approaches define importance in terms of the linkage of the factor with some valued outcome. In addition, values concepts specify that the first-level outcomes are related to the outcomes at subsequent

levels. In simplified form, need and value(s)-based approaches to importance perceptions imply two foci as represented in Figure 1.

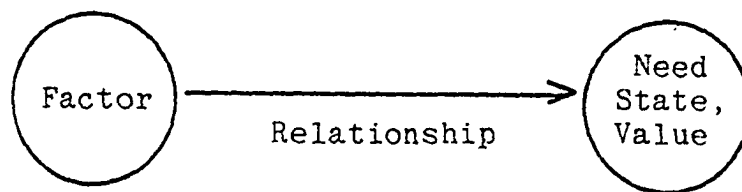


Figure 1. The two foci of importance perceptions as implied by the need and values approaches.

In each case there is a factor under consideration for which we desire to know the individual's importance perception. As an illustration, we may be interested in knowing the importance of the factor "snow". There is also some outcome (e.g., a need state or value) to which the factor is presumed to be related. In our illustration, snow may be related to recreation or physical comfort. Finally, there is the relationship itself, the linkage of the factor with the outcome, which may have its own components. A thorough examination of importance perceptions needs to carefully consider issues relating to 1) the nature of the factor, 2) the nature of the factor context,

i.e., the outcome(s) and the relationship between the factor and outcome(s).

#### Factor Content

A factor may be defined as a generalized cognitive component which includes one or more unique, specific elements. For example, if "snow" is the factor under consideration, it may be thought of in terms of one or more elements such as "cold" or "wet". Thus an individual's cognition of the factor "snow" will tend to be characterized by relatively well-defined boundaries representative of the individual's interaction with snow (Scott, 1962). While it is common to refer to the importance of a particular factor as if it were a single-element object, condition or idea, it should be recognized that factors may vary as to their degree of inclusiveness (Newcomb, et al., 1965). Factor definitions are subjective and there are likely to be differences between individuals both in the number and kind of elements included within the cognitions of that factor. For some people with limited or specific experiences with snow, that factor may contain only one or two elements such as "cold" or "wet". On the other hand, for the eskimo or cross-country skier, snow may include not only the broad elements such as "cold" and "wet" but also more specific elements such as color, powder, depth, beauty, etc. Differences in the number and kinds of elements included in individual cognitions of a particular factor may require caution on the part of the researcher who wishes to interpret

reports of importance. That is, a term or phrase which we intend to have one meaning for evaluative purposes may, in the cognitions of different people, have quite different meanings and may thus be associated with a different number and/or kinds of outcomes.

A second way of looking at factor content is in terms of how elements are organized within the boundaries of the factor. For different people factors may have many or few dimensions. Dimensionality may be thought of as the number of sub-factor categories into which the factor elements are organized. This is illustrated in the evolution of job satisfaction questionnaire items concerning the concepts of "pay" and "supervisor". In many early studies pay was presented as a single-dimension factor and subjects were asked to indicate how important "pay" was to them (e.g., Berdie, 1943; Chant, 1932; Wyatt and Langdon, 1937 etc.). More recently it has been recognized that "pay" may have more than one dimension and that subjects may attach different importance to each. Thus "pay" importance items frequently include "pay amount", "pay comparison" and/or "pay practices". The same may be said of questions involving the concept of "supervisor". Supervisor items frequently include such dimensions as "supervisor competence" and "supervisor human relations".

Since factors may have subjectively different components and internal organization, it would seem reasonable to expect that the individual might have different evaluative

reactions to each of the several elements or dimensions represented by a complex factor. It is fair to ask whether we are correct at all in speaking of "one" importance perception of a factor. In our illustration, one element or dimension of "snow" may be seen as very important while another element is relatively unimportant. Which of these evaluations does the individual report when we ask him to indicate the importance of "snow"? Where different elements or dimensions are evaluated equivalently the individual may form a generalized evaluative response to the factor as a whole, just as in the case where a factor had only one element. However, a subject may hold very different views of different components of a factor. He would have difficulty considering such a diverse factor as though it were a unified whole and would likely feel obligated to respond differently to the various component parts. It is possible, for example, that the coldness of snow is quite unimportant to the nature photographer while the color and texture is extremely important. Some care would have to be used when interpreting the importance evaluations of individuals who have quite different content perceptions of snow. Both the cross-country skier and the nature photographer may indicate that snow is of high importance to them and yet we might find the skier quite dissatisfied with snow that would delight the photographer. For interpretation of importance reports and certainly for program implementation in the work



organization, some effort should be made to determine what it is about a factor that is important.

#### Factor Context

A second focus of importance perceptions is that of a factor context. By factor context we mean the outcome(s) with which the factor is associated and the relationship(s) between the factor and those outcome(s). Just as factor content may be multi-dimensional and differ in its inclusiveness across individuals, so may the factor context be multi-dimensional and vary across individuals.

Several factors may be related to one outcome (e.g., snow and sunshine may both be seen as relating to recreation) and a given factor may be seen as relating to more than one outcome (e.g., snow may relate both to recreation and transportation difficulties). We have already seen that a factor may be related to two quite different, even conflicting outcomes - a "need" and a conflicting "value" (Herzberg, et al., 1957). The possibility of multiple contexts for a given factor and the likelihood that perceived contexts differ across individuals raises problems for the frequently employed uni-dimensional approaches to importance which have been discussed earlier. The fact that factors and outcomes entering into interaction tend to be multi-dimensional suggests that in different interactions, different sets of factors become relevant (Zajonc, 1968). If a relevant context is specified or assumed, a given factor may be seen as important. If an

irrelevant context is specified or assumed, the same factor may be seen as unimportant. This suggests that in any reasonable interpretation of importance evaluations, the context in which the individual is asked to evaluate a factor must be clearly identified or defined. If, for example, we ask employees "How important is your supervisor's competence to your job?", we may receive different responses than if we ask "How important is your supervisor's competence to your life?", or "to your job satisfaction?" "How important is X to you?" may be quite different from "how important is X to society?" (Hofstede, 1976). Figure 2 illustrates the potential multidimensionality of factor-context.

The tendency for the literature to employ different contexts and then attempt to compare the results is an unfortunate one. For example, Jurgensen (1947) specifically states the context of his importance questions as being "how important is X to your job satisfaction?" without noting that many of the earlier studies to which he compares his results made no such specification. Those who would compare importance evaluations obtained from direct reports (e.g., "how important is X?") to those inferred from a regression analysis of "general satisfaction" on various work factor satisfactions would also do well to note that the results obtained from the regression analyses may be "important" to the researcher in that they indicate which specific work factor satisfactions account for variance in overall satisfaction and yet not

reflect accurately that which is most important (perceptually) to the employees. This is possible because the employee may not use the restricted domain of "overall job satisfaction" as the appropriate context in which he makes his evaluations. For example, it may be that the importance of promotion is evaluated in a much broader, "all things considered - including family and other aspects of life" context and not just with respect to satisfaction on the job. Only to the degree that the job plays a highly critical role in the broader context will the importance evaluations obtained from these two contexts be equivalent. In addition, where one context is specified (e.g., job satisfaction), to the degree that the subject is able to limit his evaluations to that restricted context, other possible contexts are not considered. If these other contexts were considered, it is possible that the importance evaluations would be altered. To illustrate, suppose that we ask an individual the importance of snow to recreation. The outdoor photographer may indicate that snow is relatively unimportant if he does not participate in winter outdoor recreation. On the other hand, if we ask only "how important is snow?" and allow him to consider recreation, transportation and his photography, we may receive a much higher importance rating. Little has been done to investigate the potential differences in importance perceptions which may occur as contexts are specified or unlimited (Jury, 1977). It may be that evaluations of importance in unspecified contexts

tend to generalize to the restricted case so that if a factor is important in association with any outcome, it will be reported as important in every other situation as well. Definite answers to questions relating to the effects of multiple factor-outcome associations would have implications for interpretation of importance responses. A number of recent studies, for example, seem to indicate that the job does not play as significant a role in general satisfaction with life as has been previously thought (Michaelson, Weitzel, and Jones, 1979; Near, et al., 1978). Do these findings imply that job-related factors will tend to have less overall importance for those for whom the job is not the primary factor in life satisfaction? At the present time an adequate answer to this question is not available.

There is further support for the need to give attention to the problem of context differences. In the empirical work of England (e.g., 1971) and the earlier work of Dennis (1957) it has been demonstrated that subjects may indicate identical perceptions of the importance of some factor but for entirely different reasons. For example, Dennis (1957) found that American and Middle-Eastern children both saw gold as something important. However, the American children's evaluation was based upon the perceived economic value of gold while the Middle-Eastern children saw gold as important because it was decorative or ornamental. In the same way, American children thought dogs were important for playing with while Middle-

Eastern children saw them as important for guarding. England (1971) demonstrates that managers may see a factor as important for at least three different reasons: because it is linked with "success" outcomes, because it is related to "ethical-moral" outcomes or because it is related to "personal pleasure" outcomes. It is also evident from the work of England that different individuals may see a factor as important for more than one reason, i.e., because it is associated with more than one outcome.

In sum, the possibility of more than one associated outcome for any factor gives rise to the potential for an individual to view a factor as important for one outcome and relatively unimportant for another. Unless we are aware of the context in which the individual makes his evaluation, we may only conclude that the factor is important or unimportant for some reason. We cannot infer for what reason and, therefore, cannot determine that any action taken in response to a particular expression of importance will result in a given behavior or attitude. Further research is needed to determine the effects of context specification or non-specification on importance evaluations.

Critical instrumentality. Another context issue which must be considered in developing a model for importance perceptions is the perceived instrumentality of a factor toward a given outcome. In Figures 1 and 2 the relationship between factor and outcome is indicated by a directional arrow

suggesting that the factor is viewed as having some impact on the outcome state. The degree to which the factor influences the outcome defines the level of "instrumentality". In other words, when the outcome is the specified context, the individual considers the amount of the contribution of the factor toward that outcome and this is reflected in evaluations of factor importance.

Where other factors are also viewed as influencing the outcome, we must know something more than the level of instrumentality as defined above in order to know the relative importance of each factor. For it is possible that a number of factors may each contribute more or less equally to the attainment of the specified outcome and still vary in importance. We must know how critical each is perceived as being toward the attainment or maintenance of the outcome (Emerson, 1962; Thompson, 1967).

By "critical" here is meant the degree to which the contribution made by the factor specifically determines the outcome, that is, the degree to which its contribution is unique and cannot be readily substituted for by some other equally available factor. Zajonc (1968) refers to this characteristic of factor-outcome relationship as "prominence", the ability of the factor by itself to represent or determine the outcome. If, for example, both pay and promotion are perceived as being relevant contributors to an outcome called "physical well-being", to the degree that the individual is

not aware of substitutes for the contribution of one of the factors, that factor will be seen as more important. Pay may take on greater importance simply because there are no readily available substitutes for its contribution. If, on the other hand, there are any number of potential substitutes for the factor's contribution, it will be seen as less critical and less important. The more essential or unavoidable the factor's contribution toward the attainment or maintenance of an outcome, the more important the factor (Zajonc, 1968). Therefore, even though a factor may be seen as making a significant contribution to a specified outcome, it may be that the perceived criticalness of that contribution will also determine its importance. The individual is aware that there are many potential substitutes for spinach, for example. Thus, even though spinach may make a very significant contribution by providing certain required vitamins and minerals, the fact that there are other sources reduces its criticalness and importance. Thus, importance perceptions may be conceptualized as being, in part, a function of the degree to which the factor is critically instrumental in the attainment of the specified or assumed outcome.

In sum, it would appear that not only must we have some idea as to the content of the cognitions about the factor(s) in question, but we must theoretically and operationally give some consideration to the context in which a factor is evaluated (Zajonc, 1955, 1960). This involves an identification or

specification of associated outcomes and an evaluation of the degree of dependence and perceived criticalness of the factor toward the outcome.

Contextual considerations require that we look beyond the factor-outcome(s) relationship to gain an understanding of the nature of importance as reflected through cognitive structure. For not only does the factor have a context which must be considered, but the outcome itself is embedded in a lattice-work of cognitions. Recognizing this may help us to gain some insight as to how to conceptualize the differential effects of outcomes in determining factor importance without having to rely on the circularity of the second-third-fourth level values approach.

Factor and outcome cognitive centrality and salience.

A construct which may prove helpful in conceptualizing importance perceptions in terms of cognitive structure is the psychological centrality of the factor and its associated outcome(s). Some factors stay persistently in the forefront of the individual's consciousness while others are psychologically remote, and would be said to have low centrality (Newcomb, et al., 1965). Figure 3 extends the concept of factor context and illustrates this graphically.

The factors and outcomes located in the middle of the individuals' cognitive space (e.g., X in Figure 3) with multiple ties to other factors, are far more central than those located more toward the periphery (e.g., Y in Figure 3).



Centrality, then, may be thought of as closely related to the frequency with which an outcome and related factors occur to a person. The extreme case, that is factors totally outside the cognitive space, represents factors the person does not know exist. These factors would show no incidence at all in the person's conscious thought and would have no importance. While it would be difficult to predict in advance, we might expect that among factors and outcomes lying at the core of the centrality dimension would be those closely associated with the "self" (Newcomb, et al., 1965). Conceptually, there would be at least one, and perhaps several highly central outcomes around which all other cognitions would be organized (Lindzey and Aronson, 1968). One would expect these to follow the pattern suggested by England (1971), in that the more central outcomes would be the more global while those located on the extremes would tend to be more specific and less inclusive. In sum, the overall importance of a factor may be a function of the centrality of the specified or assumed outcome in the entire cognitive space of the individual. A factor which is in itself central will tend to be more important as will those factors which are critically instrumental in the attainment of central outcomes.

Asch (1952) pointed out (and seems to have shown experimentally) that the centrality of a factor does not depend on its intrinsic quality but on its relationship to its neighbors in the entire cognitive space. Cognitions are central to the

cognitive structure, then, to the degree that they recur in the consciousness. This recurrence reflects the degree to which cognitions tend to organize around themselves large numbers of other cognitions. Money, family or religion, for example, may be highly central if they tend to be associated with many other elements in the cognitive space. It may be further suggested that factors which are associated with central outcomes as a means toward their achievement take on added centrality as well. If self integrity is about as central as any outcome is likely to be, for example, then factors closely associated with achieving and preserving the integrity of the self may have increased centrality by virtue of that fact ( Newcomb, et al., 1965).

It is important to distinguish centrality from salience. A factor or outcome is salient if the immediate situation is such as to sensitize the individual to it, while centrality refers to a durable and generalized prominence. A factor of generally low cognitive prominence may become temporarily salient when the immediate circumstances draw one's attention to it forcefully and explicitly. In a case where an employee's parking privileges have been violated, for example, "parking space" might become temporarily salient and in that sense "important". We would not expect, however, that "parking space" would be necessarily prominent in the individual's more enduring cognitive structure. Rather, even though it is not central, it has become temporarily highlighted by an immediate

situation. Stouffer (1955) demonstrated that cognitions which were of low centrality may be brought temporarily into a state of salience but are not likely to have dominant influence on the on-going attitudes and behavior of individuals.

Few, if any, studies have attempted to examine the effects of temporary salience on perceived importance of specific factors. The cognitive structure approach suggests that general perceptions of importance which influence everyday behavior and attitudes may be temporarily disturbed by transient situations which raise particular factors or outcomes to conscious prominence. This is illustrated in Figure 4.

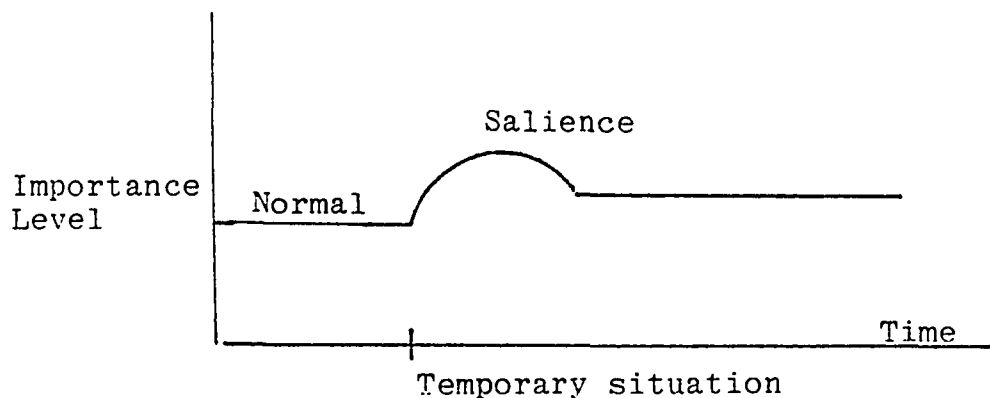


Figure 4. Factor Salience.

In sum, it is suggested that cognitive centrality (i.e., the degree to which other cognitions are related to and organized around the factor in question and/or the degree to which a factor is seen as contributing to outcomes thus described) may also help determine the perceived importance of the factor to the individual and may be reflected in

self-reports of importance. In addition, use of the centrality construct may help in defining the relative power of different outcomes to determine the importance of an associated factor without the necessity of resorting to the second, third, etc. levels of outcomes as suggested by the value(s) approach to importance perceptions.

We may summarize this discussion of the cognitive structure approach to the nature of importance perceptions by reiterating the primary determinants of importance evaluations as developed above. First, the meaning of any reported importance evaluation must be interpreted in the light of knowledge concerning the understood content of the factor and the context(s) in which it is evaluated. The possibility of multiple-dimension factor contents and contexts may substantially affect the interpretation and prediction of importance evaluations. Second, both the degree of influence of a factor on its associated outcome(s) and the perceived criticalness of that influence may, in part, determine the importance of the factor under consideration. Third, the cognitive centrality of the factor and its associated outcome(s) as well as temporary salience of factor and outcome(s) are seen as making potentially significant contributions to the development of importance perceptions. Such an approach to importance may help not only in improving our understanding of the cognitive nature of importance perceptions, but may also prove helpful in providing a theoretical base for the future examination of importance dynamics.

### Importance Dynamics

A question of considerable theoretical and practical import which was raised at the outset of this paper is "Under what conditions might we expect importance perceptions to change?" An application of the cognitive structure conceptualization of importance should help to provide some potential answers.

Evidence is offered by Rosenberg, et al., (1960) and Rosenberg and Gardner (1958) which suggests that perception changes are reflections of cognitive reorganization and restructuring. They attribute this in part to the striving toward cognitive consistency or balance (Festinger, 1957; Heider, 1946; Osgood and Tannenbaum, 1955 etc.). According to this view, an individual can attain or maintain cognitive balance by altering relations between cognitions or by refining (differentiating) or isolating elements. If we consider the factor-context relationship in either its simple (Figure 1) or complex (Figures 2 and 3) forms, we may identify several possible conditions under which we might expect changes in importance perceptions of a given factor.

First, we might expect the perceived overall importance of factor A to change if the centrality of the outcome with which it is associated were to somehow be altered. This could occur when the number and degree of the relationships between the outcome and other cognitions change. For example, if a previous relationship between X and Z in Figure 2 were to

break down, factor C would become less important due to the decreased centrality of its associated outcome.

Second, where the overall cognitive structure is relatively stable, changes in the critical instrumentality of factor C with respect to specified outcome Z should alter the perceived importance of factor C. If all other elements in the cognitive space remain stable, such a change would affect both the importance of C with respect to Z and the relative overall importance of factor C vis-a-vis other factors which have not undergone such a change.

Third, where the overall cognitive structure is relatively stable, changes in the number of outcome associations for a given factor should alter its importance. For example, if factor B (Figure 2) was instrumental only in the attainment of outcome Y, but then cognitive links were established between B and W, and/or B and X, the importance of factor B should increase. Likewise, for person 1 for whom there were links between B and several outcomes as compared to person 2 for whom B was linked only with Y, if Y is the same for person 1 and 2, factor B should be seen as more important to person 1.

Having indicated the conceptual rationale behind potential changes in importance perceptions, we may now give thought to those occurrences in the individual's existence which may bring about these changes.

Essentially, there are two ways in which the critical instrumentality and/or centrality of a factor or outcome may

be altered. The first is the addition or subtraction of cognitions which are related to the factor or outcome(s) in question (Adler and Kounin, 1939). Sheer numbers and repetitions of cognitive experiences may lead the person to acquire larger numbers of psychological cognitions and to form new factor-outcome linkages (Barker, Dembo and Lewin, 1941; Zajonc, 1968). One of the primary differences between a child and an adult may be the increased cognitive complexity which comes as a result of added experiences. Generally speaking, we may expect an adult to have a far more complicated lattice-work of cognitions. Each additional cognitive experience increases the potential for larger numbers of relationships between factors and outcomes (Deutsch, 1968). The importance of a particular factor may be reduced or increased as a result of the addition or subtraction of cognitions which contribute to the same outcome(s). This, in effect, may reduce or increase the critical instrumentality of the particular factor with respect to the specified outcome, and may result in changes in importance evaluations (Festinger, 1957; Zajonc, 1968). This may be illustrated by the employee approaching retirement who sees the potential for income reduced from present salary and wages or other gainful employment to sole reliance on pension income. The removal of other contributing factors may increase his perceptions of the importance of pension. Smith, et al., (1976) evaluated the level of satisfaction of older workers with

various work factors and concluded that the "lack of alternatives" may tend to increase their satisfaction with various factors. This may reflect an underlying cognitive restructuring which allows the maintenance of balance - a given factor becomes more important by virtue of its increased critical instrumentality toward some outcome. At the same time the elimination of other alternatives forces an adjustment in what is "satisfactory" since an unsatisfactory evaluation would demand an impossible behavior (looking elsewhere).

A second related development might also lead to changes in the perceived importance of a factor. That is, an initial importance perception may be strengthened or eroded by objective experiences (Cherrington, et al., 1979). For example, if the young factory worker sees pay as the crucial contributor to his satisfaction with his job, and subsequently finds that increases in pay do not, in fact, make his job more satisfying, one would expect that the critical instrumentality of the initial perception would be decreased and perceived importance would decline.

On the basis of the above reasoning using a cognitive structure conceptualization of importance perceptions, one would expect such experience-enhancing correlates as increased knowledge, education, age, work experience and objective relationships between factor and outcome to alter importance perceptions (Cherrington, et al., 1979). Individuals' importance perceptions would be alike, initially, to the degree



that processes influencing the elements and relationships in the cognitive organization did not differ. Certainly one would expect cultural differences (England, 1971; Whitely and England, 1977 etc.), differences in socialization processes such as differences between generations (Ondrack, 1973; Smith, et al., 1977; Taylor and Thompson, 1976), and possibly sex (Jurgensen, 1947) to affect importance perceptions. While the initial differences in organization of cognitions are inevitable and to some degree less predictable, the processes which result in changes in importance perceptions should be the same. Finally, one would expect that those factors which are characterized by extreme centrality (for example the "self") or which are seen as highly related to such factors, would be much less susceptible to changes simply by virtue of the vast numbers of relationships which would have to be altered in order to effect such changes (Rokeach, 1960; Zajonc and Morrissette, 1960).

In addition to these relatively enduring changes in importance perceptions which occur due to the more or less permanent rearranging of cognitive structures, there are likely to be temporary changes in importance perceptions which are due to what has been described above as "salience".

While we have raised questions concerning the dynamics of importance perceptions and suggested possible sources for changes in importance, answers to the question "Do importance perceptions actually change in a predictable manner?", must

await the formulation of a clear conceptual definition of importance. This study, therefore, defers questions of importance dynamics to future research and focuses primarily upon the nature of the importance construct.

#### Summary of the Cognitive Structure Approach

Employing a cognitive structure approach to the conceptualization of importance perceptions yields a model which takes into account a number of crucial issues for the most part ignored or inadequately developed by demand-based, need-based, and value(s)-based approaches. Those issues include 1) the need to acknowledge the potential impacts of differences in factor content between subjects on importance evaluation interpretations, 2) the need to identify, or specify, factor context, including 3) the need to consider the criticalness of the dependent relationship between factor and outcome and 4) the necessity of determining outcome centrality and taking into account temporary salience effects. The failure of currently employed conceptualizations of importance to deal with these issues has left us with an inadequate conceptual base for the importance construct so frequently used to explain employee performance and attitudes.

The cognitive structure approach to importance leads to the following conceptual model which may be useful for examining the cognitive nature of importance perceptions:

Perceived importance = f  
of a factor

1. Factor content.
2. Factor context including:
  - A. Critical instrumentality of the factor's contribution to associated outcome(s).
  - B. Cognitive centrality of the factor and/or associated outcome(s)
  - C. Temporary salience of the factor and/or associated outcomes.

That is, the perceived importance of any factor with respect to a particular outcome is said to be a function of the cognitive centrality of the factor and the perceived critical instrumentality of that factor in the attainment or maintenance of the specified outcome(s). The overall importance of a particular factor (its importance in the entire cognitive space) is said to be a function of 1) the cognitive centrality of the factor and associated outcome(s), 2) the perceived instrumentality of the contribution of the factor to the associated outcome, including both the perceived degree of dependence of the outcome on the factor and the perceived criticalness of the factor contribution and 3) the temporary salience of the factor and its associated outcome(s). It is expected that differences in self-reports of factor importance between and within individuals will be largely explained by differences in these variables.

To the degree that these expectations are supported by the study, numerous theoretical and practical implications may follow.

The following implications for attitude theory and research may result from this study:

1. A clearer understanding of the cognitive components of importance perceptions - providing a foundation for a re-examination of the role of the importance construct in performance, motivation and attitude formation.
2. Insights into the stability of importance responses given the effects of temporary salience of factors and outcomes - providing guidelines for measurement and interpretation of importance evaluations.
3. The effects of context specification and non-specification on importance evaluations (restricted importance) - providing cautions and guidelines for comparing research using different approaches.

This study investigates the propositions advanced from the cognitive structure conceptualization of importance perceptions presented above by examining the effects of factor content, cognitive centrality, critical instrumentality and salience on perceived importance, and then discusses implications of the findings for theory and practice. The variables to be used in this study are defined as follows:

Factor: A generalized cognitive component which includes one or more unique, specific elements. Factor boundaries and inclusiveness are subjectively determined by each person.

Factor content: Because factors may differ across individuals

as to their inclusive elements and dimensions, the subjective perceptions of primary elements (defined next) included in each factor must be determined. The primary elements included in the cognitive set bounded by the factor describe the factor content.

Elements: Specific factor components which are indivisible and yet possess meaning of their own. In this study we shall be concerned with those elements which account for the greatest proportion of the factor content. Primary elements are those components of a factor which are most readily perceived as defining the factor's meaning to an individual.

Factor context: One or more outcomes which may be associated with a particular factor in a dependent relationship.

Centrality: That characteristic of a given cognition which indicates the number and strength of the relationships between it and other factors and outcomes in the cognitive space. Factors and outcomes which are in the forefront of the individual's consciousness and which therefore generally occur frequently in the individual's thoughts, are said to be central.

Saliency: A factor or outcome which takes on prominence in the individual's consciousness because of an immediate and temporary situation is said to be salient. If the same outcome would not occur frequently in the individual's consciousness under general, normal conditions, it is not said to be central.

Critical instrumentality: The degree to which a specified outcome is dependent upon the unique contribution of a given factor. Thus, both the strength of the dependent relationship and the degree to which the individual is aware of equally available factor substitutes determines critical instrumentality.

Overall importance: An individual evaluation of the overall consequence of a particular factor, that is, considering the entire cognitive space. Overall importance reflects factor context, centrality and the critical instrumentality of long-term dependent relationships between cognitive components. Overall importance perceptions may also reflect short-term dependencies (salience) brought about by transient cognitive linkages.

Restricted importance: An individual evaluation of the consequence of a particular factor relative to a restricted, specified outcome, without consideration of the relative centrality of that outcome nor other possible factor-outcome relationships.

#### Study Objectives

The variables identified above can be combined to form a general model of importance perceptions. In the present

study, each of the variables is operationalized and then all are combined to test the utility of the model in accounting for differences in importance evaluations on a wide range of factors. In particular we are interested in knowing whether or not and the degree to which differences in importance perceptions for a particular factor within and between individuals can be explained by 1) differences in the cognitive centrality of the factor and its principal associated outcomes, 2) differences in the perceived critical instrumentality of the factor-outcome relationships and/or 3) differences in the temporary salience of the factor and its associated outcomes.

A second purpose of the study is to investigate the differences in the ability of the above model to predict importance perceptions when the predictor variables are limited to a single context vis-a-vis a multiple context. That is, does the inclusion of secondary associated outcomes improve the ability of the model to explain importance evaluations over a model which considers only the outcome with which the factor is most associated? In addition, the study will examine differences obtained in importance evaluations for factors evaluated in a specified context versus evaluations obtained for the same factors when the context is unspecified. Finally, we shall seek to determine whether the cognitive model of importance perceptions is differentially effective in

explaining importance evaluations for individuals belonging to different demographic groups.



## CHAPTER IV

### METHODOLOGY

#### Subjects

In order to examine the key question presented in this study relating to the possible effects of factor content, critical instrumentality, centrality and salience on importance perceptions, it was necessary to examine importance perceptions for a wide variety of factors for a large number of subjects who were likely to vary considerably with regard to each of the variables of interest as related to the factors selected. Furthermore, it was desired to employ a sample which included the employed (full and part-time) and unemployed (e.g., retirees, students and housewives) and those entering or considering entrance into the job market.

In order to increase the likelihood of considerable differences between the subjects on the model variables for the work and non-work factors chosen for the study, subjects were selected from the university community and from a moderately conservative religious group. Students were selected primarily from among those having at least some work experience, nearing graduation or pursuing graduate degrees. The religious group subjects were all members of a large,

moderately conservative, protestant denomination, whose membership also represented a variety of socio-economic classes. It was felt that the differences in ages, experience and peer norms among the subjects would provide for considerable differences in the cognitive structures for many of the factors selected for the study (Alderfer and Guzzo, 1979; Smith, Roberts, and Hulin, 1977; Taylor and Thompson, 1976), and thus would provide a reasonable test of the model. The demographic characteristics of each group are given in Table 4. All subjects were volunteers. The sample size for the study was 275.

#### Operational Definition of the Variables

Factor importance. The perceived importance of each factor (considered the criterion variables) was measured on a fifteen point scale from "of no importance" through "somewhat important" to "extremely important" (see Appendix A, p. 215). Degrees of unimportance were not used since they were believed to be meaningless. A rating/ranking scale was selected over simple rating or ranking. This has the advantage of allowing subjects to give identical evaluations to more than one factor and avoid the problem of unrepresentativeness of forced ranking techniques. Subjects were asked to rate each factor according to its importance alternating between the most important and least important and were required to write each factor next to the appropriate number on the fifteen point

scale. This caused the subjects to consider the relative importance of each factor vis-à-vis the other factors without requiring them to rate, unequally, factors which they perceived to be of equal importance. It is believed that this method provides a better approximation for importance perceptions than either rating or ranking performed separately. At the same time, the rating/ranking method helped to avoid the lack of variability which so often occurs in importance measurement. The possibility of employing both rating and ranking for comparison purposes was rejected since it was felt that subjects would not be able to accomplish these independently.

#### Factors and Outcomes

Importance evaluations were sought across fourteen factors taken from items commonly used in both work and non-work importance, satisfaction or values studies. In addition, several factors were selected to maximize the potential variance on the centrality and salience dimensions. The study also employed forty-five factors similarly selected which were used as distractors and to provide a means for measuring outcome centrality (see questionnaire, p.210). Fourteen factors were employed because it was felt subjects would have difficulty ranking and rating more (see p. 214). A wide variety of factors were adapted from earlier studies by England (1967, 1971), Michaelson et al (1979), Porter (1961), Friedlander (1965), and Wollack et al (1971) in order to provide a test for the model over factors which seemed likely to vary in importance for different subjects. Outcomes were adapted from the theoretical work of Maslow (1954) and Vroom (1964).

While outcomes were selected primarily to conform with prevalent theory, factors had to be selected in such a way as to provide for differences in temporary salience, criticalness, and centrality as well as importance.

Factors	Outcomes
1. Income compared to others.	1. Financial goals.
2. College Education.	2. Personal pleasure/happiness.
3. Religion.	3. Right and wrong.
4. Conserving natural resources.	4. Personal growth and development.
5. Inflation.	5. Health and safety.
6. Job security.	6. Self image.
7. Afghanistan.	7. National security.
8. Equal opportunity.	
9. Home ownership.	
10. Leisure.	
11. Influencing others.	
12. Retirement.	
13. Neighborhood.	
14. Taxes.	

For selected factors, importance was measured via the fifteen point rating scale both for evaluations considered without regard to a specified context and with respect to specific selected outcomes. Subjects first rated factors in an unspecified context and later with respect to either "job satisfaction" or "general life satisfaction".

Factor content. In order to meet the requirement of specifying or identifying the understood factor content, subjects were asked to indicate the primary elements contained in their personal conceptualizations of each factor. Questions were worded, "As I commonly think of it, \_\_\_\_\_ includes". A list of common meanings derived from interviews and dictionary definitions was provided from which the subject was instructed to select the two which best represented elements which he/she most commonly included in thoughts about that particular

factor. Since it was possible that the list of elements provided did not include those which were relevant for the subject, blank spaces were provided in which the subject could write alternative choices. It was felt that two choices prevented the alternatives from being too restrictive while the blank space provided the opportunity for a greater range of responses.

Factor context. For the purposes of evaluating differences in restricted and unrestricted importance perceptions and for comparing importance perceptions across instrumentality and centrality differences, it was necessary to identify the outcomes with respect to which the subjects evaluated the importance of the factor. Subjects were asked to select from a list two outcomes with which he/she most associated the particular factor. Questions were worded: "This item contributes most to ..." and subjects selected the first and second outcomes to which the factor made its greatest contribution. A list of commonly associated outcomes was provided along with a blank space in which the subject could indicate an alternative choice. The outcome choices provided were 1) my pleasure and happiness, 2) financial goals, 3) national security, 4) my image of myself, 5) right and wrong, 6) health and safety, and 7) personal growth and development. These outcomes represented adaptations of outcomes commonly used as motivational bases for behavior in VIE theory and research which contributed some of the aspects of instrumentality construct used in the cognitive structure conceptualization of importance perceptions developed above (see especially Vroom, 1964, chapter 3). In addition, similarities to need categories hypothesized by

Murray and Maslow were sought with the expectation that operational compatability with these theories might prove helpful in the interpretation of the results of this study in the light of need-based approaches reviewed earlier (see Table 3).

Critical instrumentality. As described in Chapter II, critical instrumentality is composed of two dimensions - the degree of dependence plus substitutability of the factor. The degree of dependence on a given factor of each of the two previously selected outcomes associated with that factor was measured by asking subjects to indicate the degree to which the factor influenced the respective outcomes. Questions were worded "How much does the item influence the first and second outcome choices?" and subjects were to rate the degree of influence on a five point scale from "very little influence" through "some influence" to "very strong influence".

The criticalness of a factor with regard to its contribution to each of the two associated outcomes was measured by asking the subjects to indicate the degree to which there were readily available substitutes for the factor's contribution to the outcome in question. Subjects rated criticalness on a five point scale from "YES, there is one or more possible substitutes and they are very readily available to me" to "NO, there are no readily available substitutes. The item is essential or unavoidable".

Cognitive centrality. The centrality of the two selected associated outcomes was measured in two ways. The

first measure (method no. 1) was based on the number of linkages in the cognitive space between the outcome and other cognitive elements. That is, centrality was a measure of the degree to which cognitions tend to be organized around the outcome in question. In order to get some indication of centrality as represented this way, the subject was given a list of items (among which were factors used elsewhere in the study) and the seven outcomes discussed previously (see Factor context). For each of the forty-five items the subject was asked to select two of the seven meanings (outcomes) or "none of the above" according to which best represented descriptions of what that item meant to them. The total number of times that the individual selected a given outcome (as either a first or second choice) was taken as a measure of the relative centrality of that outcome for that individual (vis-à-vis other individuals). This approach is consistent with that used by England to study managerial values (e.g., 1971).

Outcome and factor centrality were also measured (method no. 2) by operationalizing the concept of incidence of conscious thought (Newcomb, et al., 1965). Subjects were asked to indicate how frequently they thought about the factor or outcome generally (defined as over the last year or two). Questions were worded, "generally I tend to think about this ..." and subjects indicated their answer on a five point scale from "not at all" through "occasionally" to "very often".

Salience. The temporary salience of factors and their associated outcomes was measured by asking subjects to indicate how frequently they thought about the item recently (defined as the last three to four weeks) as compared to generally in the past (over the last year or two). Ratings were on a five point scale from "much less" through "about the same" to "much more".

### Instrument

Pre-administration interviews were conducted during the development of the instrument to determine the ability of the questions to generate responses which were consistent with those sought for the purposes of the study. Numerous adjustments were made in the wording of the instructions, examples and the questions themselves until interviews indicated that subjects were able to comprehend and respond to the intent of each section of the survey instrument. The survey included eighteen pages including general instructions and required approximately forty minutes to complete. The criterion variable (factor importance rating/ranking) was positioned at the beginning of the survey to avoid the possibility that responses to other sections would influence responses to factor importance questions. Post administration interviews were conducted to determine whether subjects' answers to any one section were influenced by their answers to previous sections. Such influence was virtually non-existent. A subsample of 50 subjects was re-administered the survey three to four weeks



after the original administration to determine the stability of the measures on each variable.

### Procedure

Questionnaires were administered to all the subjects over the same two-week time span. Verbal instructions were given to groups of subjects explaining that the questionnaire was part of a doctoral dissertation research project, the purpose of which was to examine the beliefs of different groups of people concerning a list of topics relating to many everyday concerns and interests. Subjects were told that the questionnaire was composed of several sections and that it was very important that they fill in each section completely and in sequential order. They were encouraged to read the instructions carefully, including the examples for each section. Subjects were instructed not to include their name anywhere on the questionnaire, that the information they provided was entirely anonymous. They were asked to fill out the questionnaire in one sitting, individually, and to respond only with their personal beliefs, regardless of whether or not they felt their response was consistent with what others might believe.

In 100 cases, subjects received verbal instructions and immediately completed the questionnaire in the presence of the researcher. In 250 cases, verbal instructions were given, subjects later completed the questionnaire and returned them to the researcher. Self-addressed envelopes were provided and subjects were asked to seal their completed questionnaire in

the envelope before returning it to the researcher. Of the 250 subjects who did not complete the questionnaire in the presence of the researcher, 200 were returned completed within five days after administration. From the 350 original subjects, 275 returned surveys sufficiently completed to be used in this study.

### Analytical Procedures

#### Importance Differences

Analysis of variance was employed to determine whether significant differences in importance ratings of factors were attributable to age, sex, work experience, education, or religious practice.

#### Test of the Model

In order to examine the ability of the cognitive structure model to explain differences in importance perceptions between individuals, a series of multiple regression analyses were performed, to test the ability of the model components to explain importance evaluations for fourteen different factors. The first series of multiple regression analyses examined the ability of the full model to explain importance rating/rankings for each of the fourteen factors. Predictor variables thus included:

1. Primary associated outcome centrality measured by method no. 1 (the total number of times the forty-five original items were associated with the outcome - Appendix A, p. 210).

2. Secondary associated outcome centrality measured by method no. 1.
3. Primary associated outcome centrality measured by method no. 2 (frequency of thought, generally, from "not at all" to "very often" - Appendix A, p.225).
4. Secondary associated outcome centrality measured by method no. 2.
5. Degree of dependence of the primary outcome on the factor (from "no influence" to "very strong influence" - Appendix A, p.220).
6. Degree of dependence of the secondary outcome on the factor (the same as variable no. 5).
7. Criticalness of factor contribution to primary outcome (from "no readily available substitutes" to "many readily available substitutes" - Appendix A, p.222).
8. Criticalness of factor contribution to secondary outcome (the same as variable no. 7).
9. Factor centrality (method no. 1: frequency of thought, generally, from "not at all" to "very often" - Appendix A, p.225).
10. Factor salience (frequency of thought, recently as compared to generally in the past, from "much less" to "much more" - Appendix A, p.225).
11. Salience of primary outcome (same as variable no. 10).
12. Salience of secondary outcome (same as variable no. 10).

In order to examine the possibility of reducing the number of predictors in the model without reduction in explanatory power, a forward stepwise multiple regression was used, replicated by developing the model for each of the fourteen factors.

A second series of multiple regression analyses was conducted to determine the relative effectiveness of a multiple-outcome model (Importance =  $f(\text{dependence} - \text{outcome 1}, \text{dependence} - \text{outcome 2}, \text{criticalness} - \text{outcome 1}, \text{criticalness} - \text{outcome 2}, \text{centrality} - \text{outcome 1}, \text{centrality} - \text{outcome 2}, \text{saliency} - \text{outcome 1}, \text{saliency} - \text{outcome 2})$ ) vis-a-vis a model including the same components only limited to a single outcome. Differences in variance accounted for in the restricted (single outcome) model versus the full model were tested using a restricted/unrestricted regressions F-test for significance.

#### Outcomes As Latent Factors

A factor analysis of the importance rating/rankings of the fourteen major factors was conducted to determine whether there was support for the notion that factors tend to be cognitively organized around the outcomes with which the factors are most associated. A common factor analysis was conducted using a Scree test (Cattell, 1966) as the criterion for retaining factors and a varimax rotation.

#### Model Effectiveness for Sub-groups

Additional regression analyses were performed in order to determine whether there were significant differences in the

model's ability to explain importance evaluations for subsets of the sample. Regressions were conducted for sex differences, education and age. In addition, those with work experience were compared to those without work experience to determine whether the importance of job-related factors tended to be better explained by the model for those who have had some direct experience with the factors. A similar analysis was conducted to determine whether the importance of religious beliefs is better explained by the model for those who attend church regularly.

#### The Effects of Context Specification

Twenty of the original forty-five items were given importance ratings both in an unspecified context format and in a specified context (ten of the items were rated on importance with respect to "Job Satisfaction" and ten were rated with respect to "Life Satisfaction"). Zero-order correlations were performed between specified and unspecified ratings for each of the twenty items and t-tests were used to examine differences in mean ratings given each item under the two conditions. Unspecified context yielded what will be referred to as "unrestricted" importance ratings while specified contexts yielded "restricted" ratings.

## CHAPTER V

### RESULTS OF THE INVESTIGATION

#### Introduction

This chapter presents the results of analyses of the data generated by this study. First, the results of the test-retest stability measures, and the specific characteristics of the sample are reported. Mean importance ratings are also reported for the major sample subgroups (sex, education, job experience, age and religious practice) on selected factors. In addition, this section will report the frequency distributions for factor content and context selections.

Next, the results of the multiple regression analyses of the model on each of the fourteen factors are reported. Included are the overall ability of the full model and a similar model which includes only components related to a single outcome to account for importance evaluations.

Next, the relative usefulness of the full model to account for importance evaluations for various subgroups of the sample is presented. Included are comparisons of the model's effectiveness between sexes, education levels, ages, work experience levels and religious practices.

The statistical calculations were performed by the Statistical Analysis System package programs (Helwig and

Council, 1979). An IBM-370 computer at The University of Oklahoma Computer Center was used.

The following chapter (Chapter V) is given to a discussion of interpretations and implications of the results of study and a discussion of the limitations of the study as well as suggestions for future research.

#### The Reliability of the Measures

The length of the instrument (subjects required an average of forty minutes to complete the survey) and the nature of the measurements dictated a test-retest procedure for examining the stability of the measures employed in this study. Since many of the scales were developed specifically for this investigation, the reliability of the measures over time is of particular interest.

Fifty of the original 350 surveys administered were coded in such a way as to allow identification for retest purposes without jeopardizing the anonymity of the respondents. All fifty of the thus identified subjects were asked to take part in the retest and agreed to do so. Retest surveys were distributed to these subjects from three to four weeks after the original administration. This was judged to be sufficient time elapsed to prevent bias due to memorization. Difficulties were encountered, however, in getting the respondents to return the retest surveys and only twenty-five were eventually returned. Of these twenty-five, two were incomplete and were not used in the reliability analyses.

Importance rating/ranking. The dependent variable in the model was tested for stability using the twenty-three test-retest scores obtained over the three week elapsed time. It will be recalled that in the Importance rating/ranking procedure the subjects rated the fourteen major factors for importance on a scale of 0-15 and in each case wrote the abbreviated form of the factor on a line corresponding to the rating given. This encouraged the subjects to consider the relative ratings each item was given without requiring that each factor be given a unique rating or rank. Test-retest correlations for the fourteen factor importance ratings using this method ranged from a low of .79 to a high of .85.

Reliability tests for the independent variables in the model were severely hampered by a reduction in the number of comparisons available. On numerous occasions in the retest, subjects selected different first and second associated outcomes than those they selected originally. While it was recognized that the two-outcome model was only a surrogate for a multi-context approach, it was not anticipated that in the retest subjects might select different outcomes (which may have been nearly equal in association with those selected in the original administration). Approximately seventy percent of the twenty-three usable retests made outcome selections identical to those they made originally. Nonetheless, this reduced the number of comparison scores for measures of outcome dependence, criticalness and outcome centrality to



fourteen or fifteen. Similar difficulties reduced the number of paired comparisons available in the examination of factor centrality and outcome centrality as measured by "frequency of thought, generally" (method no. 2). Correlations for these measures using the very reduced numbers for retest yielded values ranging from as low as .30 to .91. This inconclusiveness may have been due to the insufficient numbers of comparison scores. Correlations obtained for the model components employing the limited number of paired comparisons ranged as follows:

	<u>RANGE OF</u> <u>TEST-RETEST CORRELATIONS</u>		
	<u>Low</u>	<u>High</u>	<u>N</u>
Outcome dependence:	.67	.75	14
Criticalness :	.30	.69	14
Factor Centrality :	.50	.70	17
Outcome Centrality: (method no. 1)	.66	.91	21
Outcome Centrality: (method no. 2)	.35	.67	17

Future research should certainly further examine the stability of both importance evaluations and the cognitive model components over various time spans. It should be noted here that the cognitive theory developed in this study and upon which the model is built acknowledges the possibility of continual re-structuring of cognitions by the person and therefore one

would expect some changes in the dependence, criticalness and centrality measurements. In addition, the instructions and procedures used in this study were relatively difficult for most subjects to comprehend upon first reading. Therefore, there may be some learning effects influencing the stability of the measures. Furthermore, the length of the test (requiring an average of forty minutes to complete) may have led to inattention or carelessness in the later stages.

#### Sample Characteristics

Table 4 indicates the frequency distributions for the sample along several demographic characteristics. It should be noted that sex, marital status, employment and job tenure are evenly distributed across the sample. However, age and number of children tend to reflect the relative youth of the subjects taking part in the research, with 65 percent of the sample being below thirty years of age and less than 50 percent of the married subjects having children at home. The level of education of the sample was also quite high with nearly 90 percent having had at least some college. The high education level reflects the college students primarily from upper-division and graduate classes and the middle-class characteristic of the religious group. While a large percentage (84%) of the sample were church members, only about 50 percent attended church regularly and 24 percent rarely or never.

The Effects of Age, Education, Sex, Employment Status and  
Religious Practice Differences on Importance Ratings

Tables 5-9 show the results of analysis of variance tests performed to determine whether differences in major demographic characteristics were responsible for significant differences in importance ratings. Analyses of variance were performed across age, sex and education differences for each of the fourteen factors in the study and similar tests were performed across religious practice differences for importance of religion and across employment status differences for importance of comparative pay and job security. In each case importance was measured using the rating/ranking scale described in Chapter III.

As indicated in Table 5, nine out of the fourteen F values were statistically significant. However, only for leisure, education and home ownership did age difference account for five percent or more of the variance in the importance evaluations when subjects below thirty years of age were compared to those over thirty. In addition, small but significant differences were found for the importance of religion, inflation, job security, influence, retirement and taxes. The older subjects evaluated religion, inflation, home ownership, retirement and taxes as more important and the younger subjects rating education, job security, leisure and the opportunity to influence others as more important. Rather large

differences exist in the ratings for taxes with older subjects rating taxes much higher.

Table 6 indicates the results for comparisons of importance ratings between male and female subjects. While there were statistically significant differences in the importance ratings given religion, the actual difference accounts for less than three percent of the variance in the mean ratings.

As with sex differences, Table 7 indicates that there were no practically significant differences in the importance rating given the fourteen factors between subjects who had completed at least an undergraduate degree and those who had not. Statistically significant differences were found for the importance of job security and home ownership but variance accounted for was so small as to make these differences without practical significance.

Analysis of variance of importance of job security and comparative pay across differences in employment status (Table 8) likewise yielded  $R^2$  values which account for less than three percent of the variance in importance evaluations indicating that there was effectively no difference in importance ratings between these groups of subjects. However, the test for significant differences in importance of religion across high and low church attenders (Table 9) yielded a very significant variance accounted for with the high attenders giving a much higher importance evaluation to religion than those who

attend church less frequently. This, of course, is as would be expected if it is the perceived importance of religion which leads to church attendance (Blood, 1969).

Since only four of the forty-five comparisons between the various demographic comparison groups showed variance accounted for of over five percent in the mean importance ratings, it appears that these characteristics are accounting for nothing but chance variation in the importance ratings themselves (the dependent variable in the subsequent regression analyses) or, at best, very small proportions of any systematic variance.

#### The Importance Measurement

As explained in Chapter III, the method of obtaining importance evaluations used in this study (the dependent variable in the model) was the simultaneous rating/ranking method. The purpose of employing this method was to increase the variance in importance across factors and to discourage the tendency to rate all factors as of high importance.

#### Factor Content

In an attempt to help stabilize and identify the meanings of each factor as they were subsequently considered by the subjects throughout the latter portions of the survey, respondents were asked to indicate which of several content descriptions they normally use in thinking about each factor. Table 10 provides the frequency distributions for the major

content selections. . In eleven of the fourteen cases there was general agreement as to the content of the factor with 65 percent or more of the subjects selecting the same content description. In the remaining three cases (conservation of natural resources, retirement and neighborhood) selections were more evenly divided among three content descriptions. Even in these three cases, however, in excess of 50 percent of the subjects agreed on the content of the factor.

#### Factor Context

For each of the fourteen factors the primary and secondary outcomes with which the subject most associated the factor was indicated. The frequency distributions for the primary outcome selections are reported in Table 11. (i.e., the percentage of the subjects who selected each outcome as being the one most associated with the particular factor). None of these findings were unexpected. The primary purpose of this context identification was to provide the subject with a reference for dependence and criticalness evaluations and to allow identification and measurement of the cognitive centrality and salience of the associated outcomes for use in subsequent regression analyses.

#### Test of the Full Model

Multiple linear regression analyses were performed to test the ability of the full (multiple outcome) model to

explain variance in importance rating/rankings between individuals. thus, the model examined was

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots + \beta_n X_n$$

or more specifically:

Factor Importance = f(Outcome 1 dependence,  
(rating/ranking) Outcome 2 dependence,  
Outcome 1 criticalness,  
Outcome 2 criticalness,  
Outcome 1 centrality (method no. 1),  
Outcome 2 centrality (method no. 1),  
Outcome 1 centrality (method no. 2),  
Outcome 2 centrality (method no. 2),  
Outcome 1 salience,  
Outcome 2 salience,  
Factor centrality,  
Factor salience).

Table 12 reports the correlation coefficients between each of the predictors in the model and the importance rating/ranking for each of the fourteen factors. Consistent and moderate-to-strong correlations were found between factor importance and the degree of dependence of the associated outcomes (both the primary and secondary outcomes) and factor centrality. Frequently, moderate correlations were found between factor importance and the criticalness of the contribution of the factor

toward its associated outcomes and factor salience. In no case was the salience of either the first or second outcome found to correlate at any practically significant level with factor importance, and in only one case did either measure of the centrality of either the primary or secondary outcomes correlate even moderately with factor importance.

#### Degree of Independence of Predictor Variables

Correlations between pairs of predictors were also examined. Tables 13-26 report the correlation coefficients for the relationships between predictors in the full (multiple outcome) models for each of the fourteen factors. Only correlations of .30 were considered to be practically significant. In thirteen of the fourteen cases, the dependence of the primary outcome on the factor was moderately correlated (a modal correlation of around .45 was found) with the dependence of the secondary outcome on the factor. This is to be expected since the primary and secondary outcomes were very often quite similar. For example, the primary outcome selected as associated with a college education was "personal growth and development" while the secondary outcome was "my image of myself". The interdependence of outcomes, therefore, probably explains much of the tendency for dependence of outcomes on a factor to correlate moderately. The same could be said for the moderate



correlations between the criticalness of a factor's contribution to the primary and secondary outcomes in all fourteen cases (again a modal correlation of about .45). However, the correlations of criticalness evaluations may also be due to subjects evaluating the factor itself without particular regard to the specified outcomes so that, if education was considered, it may have simply been rated critical in its contribution to both "personal growth and development" and "my image of myself" simply because the subject could think of no readily available substitutes for education, regardless of the outcome. In seven out of fourteen cases the cognitive centrality of the factor itself was moderately ( $r = .35$ ) correlated with factor salience. That is, there was a slight tendency for those factors which have been thought of quite frequently, generally in the past, to also be reported as receiving somewhat more attention recently. As expected, this was not true in cases where one might expect that current events would have dramatically increased the frequency of recent thought concerning a factor (e.g., Afghanistan, equal opportunity, home ownership, retirement and inflation). Factor centrality was also moderately correlated with primary and secondary outcome dependence upon the factor (eight out of fourteen and six out of fourteen cases respectively). This, too, is as expected since the cognitive centrality of a factor represents both the number of cognitive links with other

cognitions and the strength of those linkages. To sum, there appears to be little practical interdependence between the model predictors for each of the factors examined. This interpretation is consistent with Lykken (1968) who argues that there is often an autocorrelation between two measures taken on the same subject regardless of the content of the measures.

#### Multiple Regression Results

The results of the multiple regression analyses are reported in Table 27. In all fourteen cases the full models were significant at  $p < .0001$ . Variance in importance rating/rankings accounted for by the full model ranged from a low of  $R^2 = .32$  for importance of inflation and kind of neighborhood to  $R^2 = .54$  for importance of being able to influence others to  $R^2 = .81$  for the importance of religion. Table 27 also reports the standardized beta coefficients for each predictor variable in each of the fourteen regression analyses. Since coefficients are reported only for those predictor variables for which the contribution to the variance accounted for was significant (a significance level of  $p < .10$  was used as the criterion), it is possible to gain a feel for the similarities in the regression models by considering how often each of the predictors entered into the regression equation. In fourteen of fourteen cases, the cognitive centrality of the

factor made a significant contribution. That is, the degree to which a factor tends to be consciously associated with other cognitions appears to be a consistent predictor of the importance of the factor. In twelve of fourteen cases and nine of fourteen cases, respectively, the dependence of the primary and secondary outcomes on the factor made significant contributions to the explanatory power of the model. That is, the degree to which a factor is perceived as influencing the outcomes with which it is associated quite frequently is a significant predictor of factor importance. In nine of fourteen cases the criticalness of the factor to the primary outcome or the secondary outcome was a significant predictor. That is, the degree to which there are readily available substitutes for the factor frequently influences its importance. Likewise, in eight of fourteen cases the salience of the factor was a significant predictor of the factor importance. That is, the temporary conscious prominence of a factor may significantly influence its importance. The role of the centrality of the primary and secondary outcomes is less clear. In three of the four cases where the regression analyses indicate a significant contribution of outcome centrality measured by the frequency of thought (generally, i.e., method no. 2), the standardized betas are negative. While the meaning of negative betas is not readily interpretable, the lack of any

significant numbers of positively significant coefficients tends to support the conclusion that this measure of outcome centrality is of little utility in the model. An analysis of the overall model indicates that the generally significant predictors (as judged by standardized betas) are:

1. Factor centrality
2. Outcome dependence (either primary or secondary outcome)
3. Criticalness of the factor contribution to the primary outcome
4. Factor salience
5. Outcome centrality as measured by method no. 1.

It would appear that outcome centrality (method no. 2) and outcome salience generally fail to contribute significantly to the explanatory power of the model. In order to help verify these findings, a forward stepwise regression analysis was performed for each of the fourteen factors. In none of these analyses did the entry of the outcome centrality (method no. 2) of either the primary or secondary outcome add more than .01 to the variance accounted for by the model. In the case of equal opportunity, the salience of the primary outcome did make some significant contribution to the model (adding approximately .02 to the variance accounted for) as did the salience of the secondary outcome to the explanation of importance of neighborhood.

Since we are interested in knowing not only which of the predictors make significant contributions to the explanatory power of the model but also which among the significant predictors should be weighted most heavily in future studies, a more careful examination of the standardized beta coefficients is needed. Listed in table 28 are the number of times a predictor was found to have the largest beta coefficient, the second largest and the third largest. These findings further strengthen the previous conclusions that factor centrality, outcome dependence, criticalness, and factor salience are the best predictors in the model. The results also suggest, however, that either factor centrality or dependence may be the best predictor (dependence exhibits the largest beta in five cases as does factor centrality). For Afghanistan, for example, the importance of the factor was explained much more by the dependence of the primary outcome (national security) on the factor than by the cognitive centrality of the factor itself. This is entirely as one would expect since Afghanistan is not very likely to be a cognition around which are organized large numbers of other cognitions. It would also appear that the criticalness of the factor's contribution to the primary or secondary outcome should also be weighted fairly heavily. We may consider criticalness to be a better predictor than factor salience, generally, but should note that for factors for which temporary salience is likely to play a role,

it is equally likely to be a strong one (salience appears as the first or second most predictive variable four times).

#### Comparison of Multiple and Single-Outcome Models

Having determined the ability of the full cognitive model and the relative power of the model components to explain importance evaluations on a wide range of factors, we turn to an examination of the benefits of employing a multiple-outcome model vis-a-vis the more commonly used single-outcome models. In this study, the "multiple" outcomes were limited to only two. However, some indication of the relative explanatory power of a model with several outcomes was expected. A comparison of single and two-outcome models was accomplished by performing a restricted/unrestricted models F-test for significant differences in the ability to predict a given dependent variable and by comparing the variance accounted for by each of the models. In other words, we compared the restricted (single-outcome) model:

$$\begin{aligned} \text{Factor Importance} = f(\text{Outcome 1 dependence} \\ \text{Outcome 1 criticalness} \\ \text{Outcome 1 centrality-method no. 1 and 2} \\ \text{Outcome 1 salience} \\ \text{Factor centrality} \\ \text{Factor salience}) \end{aligned}$$

with the two-outcome model specified on page 115. The test for significance between redistributed and unrestricted regression models is an F-test where

$$F = \frac{\text{Sum of squares (error) Restricted} - \text{Sum of squares (error) Unrestricted}}{\text{Degrees of Freedom Restricted} - \text{Degrees of Freedom Unrestricted}}$$

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Degrees of Freedom - Degrees of Freedom  
Restricted Unrestricted

---

Sum of squares (error) / Degrees of Freedom  
Unrestricted Unrestricted

and where the degrees of freedom for the F-test are:

$$(df_r - df_u), df_u.$$

Table 29 reports the results of the comparisons replicated on each of the fourteen factors. In twelve of the fourteen cases the two-outcome model significantly improved the explanatory power of the cognitive model and in every case there was a positive increase in the variance accounted for. Increases in variance accounted for by employing the two-outcome model ranged from .02 to .11 with eight of the fourteen cases exhibiting increases of .05 or better. More importantly, these consistent increases in variance accounted for represent improvements of from 4-30 percent over the variance accounted for under the single-outcome models.

#### Latent Factors

To determine whether the wide variety of factors analyzed in this study tended to organize themselves around common associated outcomes, a factor analysis of the rating/

rankings for the fourteen factors was performed. A common factor analysis was selected since it was the common variance shared between factors which was of interest. An application of the Scree Test (Cattell, 1966) to the principal axis solution led to the retention of six factors. The axes were then rotated orthogonally (Varimax procedure). Rotated factor loadings for each of the fourteen items are reported in Table 30. An examination of the factor loadings indicates that Factor I tends to load those items which were most closely associated with the outcome "Personal Pleasure and Happiness" (items loading on this factor include home ownership, retirement, neighborhood and job security, all of which were strongly associated with "Personal Pleasure and Happiness"). Equal opportunity, conservation of natural resources, and Afghanistan all loaded on Factor II and were all associated with "Right and Wrong". Taxes, inflation and income loaded on Factor III. Each of these was associated with "Financial Goals". Only one item, being able to influence others, loaded on Factor IV, and this was the only item which was closely associated with "My Image of Myself". In no instance did an item load with items which were not in some way similar with regard to the outcomes with which they were associated. Education, religion and leisure, however, did not tend to load on any factor. This may be due to the high centrality of these issues to the subjects in our sample. That is, education, religion and leisure may be so highly cognitively central



as to make them outcomes themselves, rather than factors which influence given outcomes.

#### Model Effectiveness for Sample Sub-groups

Since it was plausible that a cognitive model such as that developed here might explain importance evaluations better for one group of subjects than for another, a second series of regression analyses was conducted to determine the relative effectiveness of the model for men and women, those under and over thirty years of age, those with different employment status, different education levels and different religious practices. Multiple regressions were performed for the full (multiple-outcome) model for each of the fourteen factors for male and female subjects and for subjects differing in age and education. Regressions for subjects differing in employment status were performed only for importance of job security and comparative pay. Regressions for subjects differing in religious practice were conducted only for the importance of religion. Tables 31-35 report the findings of these comparisons.

#### Sex

A comparison of the relative ability of the cognitive structure model to explain factor importance for male and female subjects (Table 31) indicates that in seven of the fourteen cases there are no large differences in the explanatory power of the model for male and female subjects. For the

importance of influencing others, taxes, conservation of resources, education and kind of neighborhood, differences in variance accounted for are less than .04. In two of the fourteen cases the model performs slightly better for explaining factor importance for female subjects. Differences of .07 were found in variance accounted for for importance of inflation and Afghanistan. In ten of the fourteen cases, the model explains factor importance better for men than women. Variance accounted for differences exceeded .08 for importance of religion, job security, retirement, comparative income, equal opportunity and leisure time. Rather large differences were found for job security, retirement, equal opportunity and leisure.

#### Education

A similar comparison was performed for the explanatory power of the cognitive model as applied to subjects with and without college education. Table 32 indicates that in three of the fourteen cases the importance ratings of those without at least an undergraduate degree were better explained by the cognitive model. The importance of neighborhood, leisure and education were better explained by margins of increased variance accounted for of .10, .17 and .23, respectively. In four cases (religion, influence, conservation of resources and inflation) little difference in the explanatory power of the model between subjects of different education levels was found. In general (nine of the fourteen cases), the cognitive

model performed better for subjects who had at least a completed undergraduate education. Home ownership, taxes, job security, retirement, Afghanistan, comparative income, equal opportunity all exhibited an increased variance accounted for of .09 or greater. The tendency for those without an undergraduate degree (in this sample) to be somewhat younger on the average than those who have completed at least an undergraduate education, may account for the general tendency of the model to perform better for the more highly educated since the actual number of years of education does not vary much (see Table 5).

#### Age

A comparison of the relative ability of the cognitive structure model to explain factor importance for subjects above and below thirty years of age reveals that in eleven of the fourteen cases the model accounted for more of the variance in factor importance for the older subjects. In six of these cases the difference in variance accounted for exceeded twenty percent. In none of the fourteen cases did the model perform significantly better for the younger subjects (Table 33).

#### Religious Practice

A comparison of the relative ability of the cognitive structure model to explain importance of religion for subjects who vary with respect to religious practices (Table 34) indicates that for those for whom religion is relatively unimportant and who are less frequent in such religious practices as church attendance, the model is more effective in explaining

importance evaluations than for those who see religion as very important and who are very regular in church attendance, though in both cases over 40 percent of the variance was explained by the model. A possible explanation for the failure of the model to explain as much variance in importance of religion for those who are frequent practitioners is that there simply is no variance in the importance evaluation of this sub-group (see Table 9), while there is considerable variation for those who are less regular in church attendance. Another potential explanation is that those who see religion as important and attend church regularly may associate religion with outcomes quite different from those offered as alternative choices in the survey. Since it was possible for subjects to indicate choices other than those offered, a high frequency of such "other" outcome selections by those who rate religion as very important and attend church regularly would explain the inability of the regression model to explain what little variance does exist. An examination of the frequency of "other" outcome selections by the two groups, however, did not reveal any large differences in the frequency with which "other" alternative outcomes were selected. A third explanation for these findings may be that high attenders may tend to rate religion as more important to them than it actually is since it would be socially desirable to do so. Finally, it may be that the importance of religion is not a cognitive evaluation for those for whom it is extremely important and who are high attenders.

### Employment Status

A comparison of the relative ability of the cognitive structure model to explain importance of job security and comparative pay for subjects who hold full-time jobs and those who are not employed indicates that in both cases the model is more effective for the full-time employed (see Table 35). Particularly where the importance of job security is evaluated the model is much more effective for those with full-time work experience, increasing the variance accounted for by 26 percent and accounting for 54 percent of the variance in importance of job security.

### The Effects of Context Specification

To address the question of the possible effects on importance ratings and rankings of using procedures which do or do not specify the contexts in which the subjects evaluate a factor, a correlation analysis was performed for importance ratings for ten factors rated without specification of context and ratings where "job satisfaction" was specified as the context. In addition, similar correlations were performed for ten factors rated in an unspecified context and rated where the context was specified to be "life satisfaction". Each rating procedure employed the same fifteen point rating scale. The unspecified context ratings were performed early in the survey and the factors were included among a large number of distractors. Interviews indicated that there was little likelihood that the earlier unspecified-context ratings influenced

the later ratings where job satisfaction and life satisfaction were the specified contexts. Table 36 reports the results of these analyses. The moderate to high correlations between factor importance ratings for unspecified and job satisfaction contexts (correlations ranged from .46 to .72) and the somewhat higher correlations between importance ratings for unspecified and life satisfaction contexts (.54 to .93) provides some support for the common practice of comparing importance evaluations between studies which have employed different contexts. A comparison of the mean importance ratings and the rankings of a variety of factors evaluated under unspecified and specified contexts (see Table 11) indicates that there is virtually no difference in mean ratings or rankings under the two methods. However, the clear tendency in Table 36 for the Unspecified-Job Satisfaction correlations to be lower than the Unspecified-Life Satisfaction correlations advises some caution. It may be that the further the specified context becomes from "all things considered" the greater will be the disparity in the importance ratings. Thus, to the extent that "job" is a large part of the individual's view of life, ratings will be equivalent. Furthermore, the relatively low correlations between unspecified and specified context importance ratings for certain factors suggests that importance ratings may tend to vary for certain factors and not for others. In addition, it is not known if subjects tend to generalize factor importance across all outcomes. It may be, for example,

that if a person sees comparative income as critical to self-image that it becomes very difficult for that person to reduce that importance evaluation in any other context.

### Summary of the Results

#### Cognitive Model Effectiveness

The cognitive model of importance perceptions examined in this study demonstrates considerable ability to explain differences in importance evaluations for a wide variety of factors across a heterogeneous sample. Between 32 and 81 percent of the variance in importance rating/rankings was explained by the full model. Furthermore, it appears that, for certain sub-groups of subjects, the cognitive structure approach to importance perceptions may account for even larger proportions of the variance in factor importance. The model would appear to be most effective for male subjects, over thirty years of age, with relatively high levels of education. In addition, there is some evidence to suggest that the model does a better job of explaining importance evaluations for those with greater personal experience with the factor being evaluated (e.g., those with full-time work experience appear to have developed more cognitively-based evaluations of the importance of job-related factors). However, the superior effectiveness of the model for explaining importance of religion for the non-religious (as compared to the church attenders) requires further discussion (see Chapter V).

### Cognitive Model Components

The findings presented above suggest that the predictors which make the greatest contribution to the explanatory power of the model are 1) the centrality of the factor, 2) the degree of dependence of the primary and secondary outcomes on the factor, 3) the criticalness of the factor's contribution to the primary outcome, 4) the salience of the factor and, to some extent, 5) the centrality of the primary and secondary outcomes as measured by the degree to which the outcomes organize around themselves other cognitions. Outcome salience and the centrality of outcomes as measured by "frequency of thought, generally" appear to make little or no contribution to the overall explanatory power of the model.

The results of the comparison between the single-outcome and two-outcome model regressions indicate that a multiple context approach may significantly increase the ability of a cognitive model to explain variance in importance evaluations.

Findings obtained through a factor analysis of the importance of fourteen diverse factors support the idea that factors tend to be cognitively organized around the outcomes with which they are associated.

### Specification of Context

No evidence was found to confirm that limiting factor importance evaluations to a specific context substantially



... affects either the ratings or rankings of those factors.

Consistently lower correlations between importance rating for factors rated in an unspecified context and with specific regard to job satisfaction as compared to similar correlations for factors rated in unspecified and life satisfaction contexts suggest that the comparability of ratings given under different contexts may be reduced as the contexts become less alike.

## CHAPTER VI

### DISCUSSION OF THE RESULTS AND IMPLICATIONS FOR FUTURE RESEARCH

#### The Cognitive Nature of Importance Perceptions

The primary purpose of this study was to investigate the degree to which importance perceptions can be explained in terms of cognitive structure. It has been long held that evaluative perceptions are in part affective and in part cognitive, yet relatively little has been done to develop a comprehensive cognitive approach to importance perceptions. Employing a model which is consistent with current demand-based, need-based, and value(s)-based approaches to importance and which makes use of widely recognized theories of cognitive structure, the results of this study have given considerable support to the idea that importance perceptions may be understood in terms of the complex interdependencies of cognitions in the individual's thinking.

Significant proportions of the variances in importance evaluations were explained using the cognitive structure model presented herein across a wide variety of factors and across subjects quite likely to hold and express different views

concerning the importance of those factors. Where importance evaluations between subjects varied widely as they did for religion, and where the opinions were relatively strong (very high or low importance ratings with few subjects rating the factor as moderately important), the model accounted for 50 to 80 percent of the variance in the importance evaluations. Even for factors for which the importance ratings tended to be less polar or for which there was little variance across subjects, the model explained 32 percent of the variance. In the fourteen cases the median variance accounted for by the model was 37 percent. In addition, there was considerable evidence that, with the exception of church-attenders, for certain more homogeneous groups of people, the cognitive model examined in this study may account for much greater proportions of the variance in importance evaluations. For male subjects, for example, in ten of the fourteen cases the model accounted for more than 43 percent of the variance in the factor importance ratings, and in five of those cases explained more than 50 percent of the variance. Likewise, for those subjects most highly educated, the model explained in excess of 45 percent of the variance in importance ratings in nine of the fourteen cases. Furthermore, for those over thirty years of age, the model explained more than 40 percent of the variance in thirteen of fourteen cases and more than 50 percent of the variance in eight of the fourteen cases. These findings, taken together, provide considerable support for the idea that importance perceptions are in large part cognitive.

For subjects high in religious practice we have seen that religion is extremely high in importance and there is very little variance in the importance ratings of this subgroup. While this lack of variance in the dependent variable, in and of itself, may account for the apparently reduced potency of the model for the highly religious as compared to those relatively low in religious practice, this finding may have theoretical implications which are worthy of consideration here.

The cognitive structure approach to importance perceptions is built around the idea that cognitions are interrelated and that certain cognitions organize around themselves other cognitions. Factors which organize around themselves large numbers of other cognitions are said to be highly central. Outcomes, as used in this study, are characterized by their tendency to organize around themselves many factors and are by definition more central than the individual factors which to some degree contribute to their attainment or maintenance. However, for some people, a factor may become so central as to become more appropriately thought of as an outcome. That is, religion may be situated in the cognitive structure in such a way that factors are judged in accordance with their impacts on religious beliefs rather than religion being evaluated according to its contribution to some desired outcome. In such cases we would expect very high importance ratings and very little variance in those ratings, and we would not be surprised to find that a cognitive model which

is based upon criteria of degree of influence and criticalness of contribution to other basic outcomes would not be entirely effective in accounting for variance in the importance ratings of religion for such a group of subjects.

In other words, religion for this sub-group may not be important because it leads to some desired outcome, but rather has become the standard itself. This interpretation would suggest that certain factors may eventually become so central for the individual that they take on the characteristics of innate basic "needs" as described by Locke in Chapter II. These factors become the standards by which other cognitions are judged and cannot be themselves evaluated effectively in terms of their contribution to anything.

Similar results may be obtained in the application of the cognitive structure model to other factors and sub-groups of individuals. For example, it is possible that education could become an end in itself for certain groups of educators. Racial equality may become so central in the cognitive structures of certain people that all other cognitions are evaluated with reference to it. This is quite consistent with everyday observations that some issue has "become a religion" to a person or group of persons. We mean by this that the issue has become all-consuming, of the utmost centrality. And we frequently suspect that such issues are not always evaluated in terms of contribution to outcomes which others might use as criteria. This may explain the findings concerning the relative

effectiveness of the model for the religious practitioners and non-practitioners, though this is by no means the only possibility. However, if further research indicates that this explanation is a reasonable one, such findings would have implications for the eventual use of the model. It may be possible for researchers to identify issues which have taken on the characteristic of being so central for certain groups of subjects as to be judged important in and of themselves. Such factors would be relatively unassailable. That is, little could be done in the way of presenting new information to modify the importance of such factors. The researcher may be able to identify such factors for certain groups of individuals by looking for those factors which are consistently rated as extremely important and for which there is very little variance across the group. Then an application of some form of the cognitive structure model would help to determine the degree to which the factor is characterized as described above. Modifications of the model by systematically adjusting the outcomes used may lead to the identification of the reasons for the high importance ratings for such groups.

Given the relative crudeness of the measurement and procedures employed in these early stages of the theoretical and operational development of the cognitive structure model examined in this study, findings indicating significant explanatory power of this approach to importance perceptions may have a number of implications for research and theory

treating employee performance, motivation and attitude. If the model presented here (or in some refined version) is substantiated through replication, our understanding of employee behavioral responses to various organizational attempts to influence individual choices concerning the level and persistence of effort applied to a given task may be significantly improved. Current performance theories suggest that effort choices are in part determined by the perceived importance of rewards received for performance associated with effort. If employing a cognitive approach to importance allows us to better understand how importance evaluations are formed and develop, we may be able to better select rewards or perhaps even influence the perceptions of the importance of certain rewards. In addition, if Blood (1969) and Friedlander (1965) are correct in their contention that the strength of affective responses to job factors is determined by the importance of the factor to the individual, through an improved understanding of the nature of importance perceptions, we may be better able to predict employee responses to organizational policies and practices which affect those factors. The results of this study indicate, for example, that a particular factor may be considered important not because it has a strong influence on a valued outcome (dependence) but because the employee is aware of no available substitutes for the factor. Where this is the case, and can be identified, the organization may be able to provide a more cost-effective substitute for the

factor. As things currently stand, we would know only that the factor is important and have the definite potential of initiating actions based upon that inadequate understanding which could be useless or worse as far as effects on attitude and performance are concerned.

### Components of a Cognitive Approach

Knowing that importance perceptions are in part cognitive is of little practical use apart from some insight into what it is about the relationships between cognitions that affect these perceptions. Previous attempts to test the usefulness of cognitive models have been, on the whole, inconclusive. The approach presented and tested in this study is built on a theoretical foundation consistent with current theories of cognitive structure. Rather than relying solely upon the instrumentality of a factor in the attaining or maintenance of a single outcome, the cognitive structure approach introduces multiple contexts, the concept of criticalness, and the possible influence of temporary factor and outcome salience. In an attempt to avoid the circularity of current value(s)-based approaches which fail to adequately conceptualize the differential "value" of outcomes for which factors are instrumental, we have employed the concept of the cognitive centrality of factor and outcome(s).

The study results point to the consistently significant contributions of factor centrality, primary and secondary



outcome dependence, criticalness of contribution, factor salience, and, somewhat less frequently, the centrality of the outcome(s). The concept of dependence of an outcome upon the factor to be evaluated has been employed earlier in instrumentality theory and empirical research. Findings of this study corroborate the potential explanatory usefulness of this concept and extend the number of components relevant to a cognitive explanation of importance.

The results of this study further suggest that factor centrality - the number of other cognitions which tend to be organized around the factor - may be the best predictor of importance evaluations. This concept suggests that greater knowledge about and experience with a factor and its associates is likely to increase the cognitive centrality of the factor and thus improve the explanatory power of the model. With the exception of religious experience, for subjects we would generally expect to have more knowledge about a factor, the model explains significantly greater proportions of the variance than for those we would expect to have less personal experience with or knowledge of the factor. This is interpreted as support for the inclusion of factor centrality in the cognitive model. Likewise, the findings support the inclusion of factor salience and criticalness. The addition of these components to our methods of interpreting importance perceptions may have implications for both theory and practice of management.

We may, for example, hypothesize that sub-sets of the population who have previously had little knowledge about a given factor but who are then exposed to an increased amount of information about and experience with that factor, are likely to begin to perceive it as more important. This may mean that employees who are provided with continuous information concerning all of the issues surrounding organizational policies and practices may become more cognizant of, and concerned with, the effects of labor action on long-term organizational viability. It has already been described how an understanding of the role of criticalness may improve management's ability to respond to expressions of factor importance. In the same way, where temporary salience of a factor is the primary contributor to its importance and this is recognized, organizations may select more temporary alternatives in responding to expressions of concern over a given job factor. In addition, to the degree that importance of a factor may be used to induce increased effort and performance, the understanding manager would not attempt to generate sustained effort by employing a factor whose importance is primarily due to temporary salience. The concept of salience may also prove to be useful in helping to explain the effects of need-deficiencies on importance. It may be, for example, that needs give rise to temporary prominence which, in some cases, may result in increased importance evaluations.

The inconclusive results concerning the usefulness of outcome centrality in a cognitive explanation of importance perceptions may be largely due to the measures employed and the outcome alternatives selected for the study. The second method of operationalizing outcome centrality (frequency of thought, generally) seems to be virtually useless given the outcome alternatives. On a frequency of thought scale of from 1 to 5, the seven alternative outcomes received mean ratings of 4.0, 4.0, 3.97, 3.95, 3.92, 3.4 and 3.3 with relatively little variance between subjects. In other words, five of the outcomes (those most often associated with the factors studied) tended to be rated as very "central" by all the subjects. Therefore, it is unlikely that differences in the centrality of outcomes measured in this way would account for much of the variance in the importance of the factors. The first method of measuring outcome centrality (frequency of association with forty-five selected items) improved upon this somewhat by increasing the variance among subjects slightly. It may be that selecting outcomes which are likely to vary more in centrality across individuals will improve the relative contribution of this component. As has been suggested, the lack of variability in the centrality of religion for this sample may explain the relative inability of the model to account for importance differences for the high church attenders. Certainly, of the two methods of operationalizing outcome centrality, method No. 1 was superior. This may be in

part because it does not rely so directly upon the subjects' reported frequency of thought, but infers centrality from behavioral responses. Or, it may simply reflect the degree of reliability of the measures.

#### The Use of Multiple Outcomes

The study provided support for the use of multiple outcomes in a cognitive model of importance perceptions. In twelve of the fourteen replications of the model regressions, the addition of a second associated outcome significantly increased the variance accounted for by the model. This, too, has implications for the theoretical and practical applications of the cognitive structure approach to importance.

Generally, work factors derive their importance from their relationships with more than one outcome. Theories and empirical studies which ignore this fundamental fact are likely to be less useful in aiding our understanding of the role of importance perceptions in employee performance and attitudes. The practitioner who ignores the multiple-outcome principle is likely to make serious and costly mistakes as he/she attempts to respond constructively to expressions of factor importance. To illustrate, suppose that employees express strong dissatisfaction with the condition of the company cafeteria and indicate that the place is of considerable importance to them. Further, suppose the cafeteria is important primarily because it relates to self-image and secondarily because of health and nutritional considerations. It would be entirely possible for the unsuspecting manager to

arrange for a change in the cafeteria that thoroughly met the requirements of health and nutrition but ignored the primary outcome - self-image, and thereby accomplish very little in the way of improved attitudes. Furthermore, one of the outcomes may be strongly influenced by the factor while the other is associated with the factor due to a temporary salience, in which case focusing on one or the other outcomes may be more effective than focusing on the factor itself.

The Cognitive Structure Approach  
and Affect

The tendency for the explanatory power of the model to improve where subjects are likely to have had more information about or direct and extended experience with the factor and its associates suggests that the organization of cognitions in the mind becomes more clearly defined with knowledge and exposure over time. For example, the increased effectiveness of the cognitive model for explaining importance evaluations for both the more highly educated and older subjects in this study might be explained in terms of greater experience with or knowledge of the various factors and their respective associates. It may be possible to explain the greater effectiveness of the model for men vis-à-vis women in the same terms. Perhaps women are not given the opportunities for knowledge and experience that are afforded men in the areas of job security, retirement, comparative income, equal opportunity and leisure.

How, then, do those with less knowledge of or experience with a factor make evaluations concerning its importance? We have seen that, for most of the factors considered in this study, there were few significant differences in importance ratings when men and women, young and older and employed and unemployed were compared. We must conclude that some method of deriving an importance evaluation is being employed since it is apparent that ratings of zero (0) are not being reported by any of the sub-groups. That is, it would appear that lack of experience or knowledge concerning a factor does not prevent the individual from evaluating its importance.

It is not unreasonable to presume that, since perceptions are cognitive and affective, those who lack information or experience and yet are required to make importance evaluations must do so primarily on the basis of affect. There is a temptation to equate "cognitive" with rational and "affective" with emotional or irrational and thus to conclude that the aged, educated and male tend to be more rational than the young, less educated and female. There is, however, no conclusive evidence in this study which suggests that the cognitive evaluation is actually based upon rational considerations. It is possible, for example, that cognitions are consciously or sub-consciously organized and structured to be consistent with or rationalize prior emotional reactions (Zajonc, 1980). In that case, we would perhaps conclude that the educated, aged and male work harder and longer at rationalizing

their emotions. This issue is raised here to point out that we do not yet know, nor does this study adequately answer, whether affective responses to factors are primarily determined by cognitively-formed importance perceptions (as implied by Blood, 1969; and Friedlander, 1965) or whether cognitions are organized in support of affect. Further research is required to answer this question. If importance evaluations are fundamentally affective, then they are unlikely to be influenced by providing information or experience which alters the cognitive centrality of the factor, the dependence of a primary or secondary outcome on the factor, the criticalness of the factor's contribution to an outcome, or the cognitive centrality of the associated outcome(s). If, however, importance perceptions are substantially cognitive, as a face-value acceptance of the results of this study would indicate, we may be able to both predict and influence importance perceptions to the degree that we can bring about changes in one or more of the relevant model components. Furthermore, if affect is largely determined by importance perceptions which are cognitive, we may be better able to understand the dynamics of affective responses to work and non-work factors by giving closer heed to the components of the cognitive structure approach to importance perceptions. Finally, it is possible that both affect and cognitive structure are subject to the influence of some underlying third variable. For example, needs may be the motive force behind both the affective and

cognitive components of importance. It is not necessary that a third, underlying factor such as needs influence affect and cognitions in exactly the same way. Thus, the previously referenced incongruities in the research seeking to link importance and affect may be due to the fundamental differences in affect and cognitive structure and the different ways they relate to needs. Approaching importance perceptions from a cognitive structure point of view provides the potential for examining the influence of varying degrees of need deficiencies on each of the model components to determine the specific relationships between needs and importance. Such research may lead to a better conceptualization of the need concept as well, for there is certainly reason to speculate that needs are also perceptions which may be understood as being composed of affect and cognition.

### The Limitations of the Study and Suggestions

#### For Further Research

As indicated by the analyses of the effects of demographic characteristics of the sample sub-groups, sex, age, education, work experience and religious values may affect both the importance evaluations of subjects and the degree to which the cognitive structure approach to importance can account for differences in importance evaluations. In this study a sample was sought whose members would be likely to hold divergent views on a wide variety of issues and, to some degree, this was achieved. It would be useful, however, to



examine importance perceptions for additional sub-groups of the general population to determine whether the model consistently accounts for significant proportions of the variance in these divergent views. For example, people who hold strong political views might be examined using factors which are more political in nature, or managers' importance perceptions could be examined using sub-samples of managers who differ in management style. Perhaps one of the more interesting studies suggested by this initial research would be the examination of importance perceptions of managers, union leadership, union rank and file, and stockholders, not only to determine what is important and why, but also the extent to which the perceptions of different groups of subjects are cognitively based.

The student sample employed in this study was taken primarily from business majors. Since it was demonstrated that the level of education of subjects may affect the degree to which the model accounts for differences in importance evaluations, it is plausible that the very nature of the educational background of the subjects would also affect the findings. Therefore, it may be helpful to examine the usefulness of the model for those with liberal arts, fine arts, engineering or "hard sciences" backgrounds. In addition, the model should be tested on subjects with a broader range of educational backgrounds, comparing, for example, those with high school or less to those with increasing levels of education.

There were strong indications in this study that the age of the subjects affects the explanatory power of the model. Yet, in this study the distribution of ages was quite narrow. The same was true of job experience and tenure. It would be helpful to examine the explanatory power of the model for a wider variety of subjects with respect to age and work experience.

It was suggested in Chapter II that differences in the inclusiveness and/or dimensionability of content and context perceptions between individuals may affect importance evaluations and their interpretation. Though an attempt was made to examine differences in importance perceptions which were due to differences in content and context, the sample was too small and the content and context perceptions too similar to allow such an analysis. It remains, therefore, for the questions concerning the differential effects of content and context perceptions to be examined. It may be, for example, that the differences in the model effectiveness encountered in this study between the education levels and age levels are due in large part to systematic differences in subject cognitive complexity in some way related to these characteristics. Thus, an examination of the model on subjects of known, but differing, cognitive complexities may prove helpful.

The study has also raised the possibility that knowledge of and experience with a factor may tend to increase the extent to which importance evaluations are cognitive rather than affective. This study provides no controlled examination

of the proposition, however. Future research may be designed to select subjects in such a way as to control for levels of knowledge and experience with the factors studied.

A further limitation of this study is its inability to shed light on the extent to which cognitively-based importance perceptions influence affective responses to factors, or conversely, the degree to which affect determines the cognitive nature of importance. Most probably a longitudinal research design will be required to answer this fundamental question.

In order to test the relative effectiveness of a multiple outcome model vis-à-vis a single context approach, two outcomes were used. While the results of this study lend support to the multi-context approach to the cognitive nature of importance perceptions, they do not tell us what would happen if several associated outcomes were identified and included in the model. Perhaps if very few factors were examined, additional outcomes would not make the data-gathering task so unwieldy as to be impossible.

Related to the number of outcomes is the selection of the outcome alternatives to be used. In this study seven outcomes were selected based upon current theory and the interview process. However, the outcomes used in this study were quite general. As has been suggested, the nature of the outcome alternatives (their uniformly high cognitive centrality) may have been responsible for the failure to find conclusive support for the usefulness of outcome centrality in explaining

importance evaluations. It may be that where subjects are more homogeneous careful interviewing will yield outcome alternatives that are more specific and relevant to the particular sample. Outcome alternatives may be identified in some fashion other than providing alternatives from which the subjects are required to select. It may be that interviewing each subject will provide identification of associated outcomes that are more individually specific and which in turn may improve the explanatory power of the model. This approach, however, would be extremely burdensome if large numbers of subjects were to be included in the sample.

#### Conclusions

There were four major findings in this research: (1) the subjects' evaluations of the importance of a wide range of work and non-work factors was in large part explained by the cognitive structure approach to importance presented in the study, (2) the addition of a second factor context significantly improved the explanatory power of the cognitive model for twelve of the fourteen factors examined and in all cases increased the variance in importance ratings accounted for by the model; (3) four cognitive constructs, in addition to the previously identified instrumentality, were found to make consistently significant contributions to the explanatory power of the model. These include the cognitive centrality of the factor, the criticalness of the contribution of the factor to the primary outcome, the temporary salience of the factor and,

somewhat less consistently, the centrality of the primary and secondary outcomes as measured by the relative frequency with which diverse items from a large list of common work and non-work factors were associated with the outcome; (4) for certain sub-groups of the sample, the cognitive structure approach exhibited a strong general tendency to account for significantly greater proportions of the variance in importance evaluations than for other groups. In particular, males, the highly educated and those over thirty years of age seemed to fit the model very well.

The question of the relationship between affect and the cognitive component of importance perceptions remains unresolved. However, to the degree that the findings of this study are confirmed through further research, it is suggested that the resultant broadened understanding of the cognitive nature of importance perceptions, and in particular the identification of those components upon which such cognitive perceptions are based, may prove useful in helping to explain the development of job attitudes, the dynamics of those attitudes and may ultimately improve our ability to predict and influence employee effort choices, performance and satisfaction.

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TABLE 1

## Early Studies of Job Factor Importance

STUDY	Chant (1932)	Wyatt & Langdon (1937)	Berdie (1943)	Blum & Russ (1942)
IMPORTANCE CONCEPT	Preference	Preference	None	Preference
OPERATIONAL- IZATION	Paired Comparisons	Paired Comparisons	Rank Order	Paired Comparisons
FACTOR	RANK ORDER OF JOB FACTORS BY IMPORTANCE			
Advancement	1	5	2	1
Job Security	2	1	1	2
Creativity	3	7	4	-
Training	4	8	7	-
Job Significance	5	-	8	-
Supervisor	6	4	9	4
Pay	7	6	3	3
Co-workers	8	3	5	-
Work Conditions	9	2	11	-
Hours	11	9	6	5

TABLE 2

## Prevalent Connotations of Importance Perceptions

STUDY	CONCEPTUALIZATION OF IMPORTANCE	OPERATIONALIZATION	VARIABLES AFFECTING IMPORTANCE PERCEPTIONS	
DEMAND - BASED	*Herzberg et al(1957)	Demand, desire, want	Age, sex, educ., job level, tenure, external conditions	
	Jurgensen (1947)	Preferences (order of wants)	Age, educ., external conditions	
	*Taylor & Thompson (1976)	Preferences (wants ranking)	Age, job level, sex, educ.	
	*Alderfer & Guzzo (1979)	Strength of desires		
	Mobley & Locke (1970)	Strength of preference		
NEED -BASED	Herzberg et al(1957)	Need intensity, hierarchy	Age, sex, educ., job level, tenure, external conditions	
	Morse (1953)	Strength of need	Self-reported importance	
	Ross & Zander (1957)	Strength of need	Self-reported importance	Satisfaction
	Schaffer (1953)	Strength of need	Self-reported importance	
	Froehlich & Wolins (1960)	Need strength	Self-reported importance	
	*Aldag & Brief (1957)	Need strength	Yale Job Inventory	Age

TABLE 2  
(Continued)

	STUDY	CONCEPTUALIZATION OF IMPORTANCE	OPERATIONALIZATION	VARIABLES AFFECTING IMPORTANCE PERCEPTIONS
NEED - BASED	Friedlander (1965)	Need strength	Self-reports of importance to satisfaction	
	Smith, Kendall & Hulin (1969)	Need deficiency	JDI	
	Porter (1961, 1962, 1963) Porter & Henry (1964)	Prepotency of need	Self-reported importance	Age, Job level, satisfaction
	Alderfer & Guzzo (1979)	Need rank		
	Kraut & Ronen (1975)	Predictive validity for general satisfaction	Correlation with overall satisfaction	
	Blood (1971)	Predictive validity for general satisfaction	Correlation with overall satisfaction	
VALUE(S) - BASED	Hulin (1963)	Need deficiency + value		
	Vroom (1964)	Value of outcomes		
	Vroom & Pahl (1971)	Value	Perceptions of self as compared to peers	Age, culture

TABLE 2  
(Continued)

STUDY	CONCEPTUALIZATION OF IMPORTANCE	OPERATIONALIZATION	VARIABLES AFFECTING IMPORTANCE PERCEPTIONS
Reinharth & Wahba (1975)	Intrinsic valences and expectancies, attraction value of rewards	Outcome desirability scales	
Taylor & Thompson (1976)	Work values systems preferences, desire	Agree-disagree with statements reflecting some social value	Age, educ., sex
Aldag & Brief (1975)	Work values, ethics, ideals	Blood's protestant ethic scale	Age, educ., tenure job level
Pennings (1970)	Value systems	Ranking aspects from Herzberg (1959) and Friedlander (1964)	Promotion rate
Blood (1969)	Ethic	Protestant ethic scale	Age, educ., tenure
Cherrington et al (1979)	Work values Moral importance	Scale of Work Values (Wollack) and PES (Blood)	Sex, age, tenure, educ.
Whitely & England (1977)	Value systems Adopted, operative, intended values	Personal Values Question	Stage of Industrialization, culture
Connor & Becker (1975)	Values		
Lied & Pritchard (1976)	Belief, value	Protestant ethic Social desirability Valence of outcomes	

TABLE 2

(Continued)

STUDY	CONCEPTUALIZATION OF IMPORTANCE	OPERATIONALIZATION	VARIABLES AFFECTING IMPORTANCE PERCEPTIONS
Ondrack (1973)	Values, concern, attitude	Rank order of factors	
Hinrichs (1969)	Expectations		
Saleh & Grygier (1969)	Orientation, concern with		
Wollack et al. (1971)			

\*Occasionally study references appear in more than one concept category. This is because the authors employ more than one conceptualization of importance without clear indication that they prefer one over the other.

TABLE 3

Conceptual Clustering of the Needs Proposed by  
Murray, Maslow and Alderfer

MURRAY	MASLOW	ALDERFER
Viscerogenic Needs	Physiological Needs	
Acquisition		Existence
Conservance		Needs
Order	Safety Needs	
Retention		
Affiliation		
Similance		
Nurturance	Belongingness or	
Aggression	Love Needs	
Succorance		
Play		Relatedness
		Needs
Recognition		
Blamavoidance		
Inviolacy		
Exhibition	Esteem Needs	
Deference	Interpersonal	
Exposition		
Dominance		
Counteraction		
Autonomy	Esteem Needs	
Contrariance	Self-confirmed	
Achievement		
		Growth Needs
Construction		
Cognizance	Self-actualization	
Understanding	Needs	

TABLE 4

Demographic Characteristics of the Sample  
Frequencies and Percents

Characteristic	Category Frequencies/Percents						
	N = 270 Completed Demographic Questions						
Sex		<u>Male</u>	<u>Female</u>				
	Frequency	133	137				
	Percent	49%	51%				
Age		<u>Less than 20</u>	<u>20-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50-59</u>	<u>60+</u>
	Frequency	26	150	46	23	14	11
	Percent	10%	55%	17%	9%	5%	4%
Education		<u>Grade School</u>	<u>Some HS</u>	<u>HS Grad</u>	<u>Some College</u>		
	Frequency	3	4	21	130		
	Percent	1%	1%	8%	48%		
		<u>Vocational School</u>	<u>College Grad</u>	<u>Grad School</u>			
		9	30	73			
		3%	11%	27%			
Marital Status		<u>Single</u>	<u>Married</u>	<u>Divorced/Separated</u>	<u>Widowed</u>		
	Frequency	129	126	11	4		
	Percent	48%	47%	4%	1%		
Children		<u>None</u>	<u>One</u>	<u>Two</u>	<u>Three</u>	<u>Four or More</u>	
	Frequency	190	17	46	15	2	
	Percent	70%	6%	17%	5%	1%	
Employment		<u>Not Employed</u>		<u>Full-time</u>	<u>Part-time</u>		
	Frequency	101		100	69		
	Percent	37%		37%	26%		
Job Tenure		<u>Less than 1 yr</u>	<u>1-2 yr</u>	<u>3-5 yr</u>	<u>More than 5 yr</u>		
	Frequency	52	41	30	47		
	Percent	19%	15%	11%	17%		
Church Membership and Attendance		<u>Member</u>	<u>Non-member</u>	<u>Attendance Per Month</u>			
	Frequency	228	41	4+	1-3	Rarely/Never	
	Percent	84%	15%	51%	25%	24%	

TABLE 5

Analysis of Variance Results for Factor Importance  
Differences Between Subjects Under Thirty Years of  
Age and Over Thirty

Factor	F	p*	R <sup>2**</sup>	Under 30		Over 30	
				$\bar{X}$	STD	$\bar{X}$	STD
Education	12.79	<u>.0004</u>	<u>.05</u>	12.2	2.2	11.0	3.4
Religion	4.44	<u>.04</u>	.02	11.5	4.4	12.6	4.1
Income (compare)	.00	.96	.000	9.0	3.6	9.0	3.7
Inflation	4.73	<u>.03</u>	.02	9.3	3.0	10.2	3.2
Conserve Resources	.02	.90	.000	8.9	3.1	9.0	3.3
Job Security	4.62	<u>.03</u>	.02	10.4	3.0	9.5	3.7
Afghanistan	1.80	.18	.007	6.7	3.8	7.4	4.1
Equal Opportunity	.14	.71	.001	9.0	3.6	8.8	3.8
Home Ownership	21.98	<u>.0001</u>	<u>.08</u>	8.2	3.4	10.1	3.0
Leisure	15.11	<u>.0001</u>	<u>.05</u>	9.8	2.8	8.3	2.9
Influence Others	7.08	<u>.008</u>	.03	8.9	3.5	7.6	4.2
Retirement	8.25	<u>.004</u>	.03	5.6	3.3	6.9	3.5
Neighborhood	.07	.79	.000	7.7	3.2	7.8	3.1
Taxes	7.96	<u>.005</u>	.03	6.9	3.2	8.1	3.5

\*Probabilities less than .05 are underlined.

\*\*R<sup>2</sup> greater than .05 are underlined.



TABLE 6

Analysis of Variance Results for Factor Importance  
Differences Between Subjects with Less Than College  
Degree and Those with Undergraduate Degree or More

Factor	F	p*	R <sup>2</sup>	NON-GRADS		GRADS	
				$\bar{X}$	STD	$\bar{X}$	STD
Education	.67	.41	.0025	11.7	2.9	12.0	2.4
Religion	3.70	.06	.014	12.3	3.8	11.3	4.9
Income (compare)	.04	.84	.000	8.9	3.7	9.0	3.6
Inflation	1.51	.22	.006	9.4	3.0	9.9	3.2
Conserve Resources	.84	.36	.003	8.9	3.2	9.2	3.1
Job Security	4.45	<u>.04</u>	.017	10.4	3.2	9.6	3.3
Afghanistan	.07	.80	.000	7.0	3.7	6.9	4.2
Equal Opportunity	2.44	.12	.009	9.2	3.5	8.5	3.9
Home Ownership	4.32	<u>.04</u>	.016	8.5	3.4	9.4	3.3
Leisure	.04	.84	.000	9.2	3.0	9.3	2.7
Influence Others	.12	.73	.000	8.3	3.9	8.5	3.7
Retirement	1.76	.19	.007	6.3	3.5	5.7	3.3
Neighborhood	.30	.59	.001	7.7	3.3	7.9	3.0
Taxes	.12	.73	.000	7.3	3.3	7.4	3.4

\*Probabilities less than .05 are underlined.

TABLE 7

Analysis of Variance Results for Factor Importance  
Differences Between Males and Females

Factor	F	p*	R <sup>2</sup>	MALES		FEMALES	
				$\bar{X}$	STD	$\bar{X}$	STD
Education	.80	.37	.003	11.9	2.4	11.7	3.0
Religion	5.74	<u>.02</u>	.021	11.2	4.6	12.5	3.9
Income (compare)	.50	.48	.002	9.2	3.7	8.8	3.6
Inflation	.25	.62	.001	9.7	3.1	9.5	3.1
Conserve Resources	3.17	.08	.012	8.6	3.0	9.3	3.3
Job Security	.21	.64	.001	9.9	3.3	10.1	3.3
Afghanistan	1.12	.29	.004	7.2	4.1	6.7	3.7
Equal Opportunity	3.70	.06	.014	8.5	3.7	9.3	3.5
Home Ownership	2.97	.09	.001	8.5	3.4	9.2	3.3
Leisure	.71	.40	.003	9.4	2.9	9.1	2.9
Influence Others	.44	.51	.002	8.6	3.7	8.3	3.9
Retirement	.97	.32	.004	6.3	3.4	5.8	3.5
Neighborhood	.54	.46	.002	7.6	3.0	7.9	3.3
Taxes	.00	.98	.000	7.3	3.4	7.3	3.3

\*Probabilities less than .05 are underlined.

TABLE 8

Analysis of Variance Results for Factor Importance  
Of Job Security and Comparative Pay Across Unemployment,  
Part-time, and Full-time Workers

Factor	F	p	R <sup>2</sup>	NO JOB		PART-TIME		FULL-TIME	
				$\bar{X}$	STD	$\bar{X}$	STD	$\bar{X}$	STD
Job Security	2.11	.12	.016	10.6	3.0	9.9	3.6	9.6	3.3
Comparative Pay	2.64	.07	.020	8.9	3.6	9.8	3.5	8.5	3.7

TABLE 9

Analysis of Variance Results for Factor Importance  
Of Religion Between Practitioners and  
Non-practitioners

Factor	F	p *	R <sup>2</sup>	HIGH ATTEND.		LOW ATTEND.	
				$\bar{X}$	STD	$\bar{X}$	STD
Religion	95.5	<u>.0001</u>	.69	14.3	1.4	8.6	4.7

\* Probabilities less than .05 are underlined.

TABLE 10

Percent of Responses for Factor  
Content Selections

Factor	Content Selections <sup>a</sup>		
Comparative Income	<u>Others with Similar Jobs</u> 83%		<u>Pay Amount</u> 74%
College Education	<u>Class/study</u> 74%		<u>Diploma</u> 45%
Religion	<u>God</u> 80%		<u>Faith</u> 65%
Conserve Natural Resources	<u>Oil/Gas</u> 51%	<u>Pollution</u> 46%	<u>Environmentalists</u> 41%
Inflation	<u>Prices</u> 68%		<u>Dollar Value</u> 45%
Job Security	<u>Demand for Skill</u> 82%		<u>Permanent Employment</u> 71%
Afghanistan	<u>USSR Aggression</u> 87%		<u>Middle East</u> 47%
Equal Opportunity	<u>Jobs for Minorities</u> 68%		<u>Federal Law</u> 53%
Home Ownership	<u>A Permanent Place to Live</u> 62%		<u>The Right House</u> 59%
Leisure Time	<u>Recreation</u> 66%	<u>Family Time</u> 52%	<u>Time Alone</u> 50%
Influence Others	<u>Respect</u> 82%		<u>Persuasiveness</u> 69%

TABLE 10  
(Continued)

Factor	Content Selections <sup>a</sup>		
Retirement	<u>Old Age</u> 57%	<u>Leisure</u> 56%	<u>Social Security</u> 46%
Neighborhood	<u>Size of Homes</u> 50%	<u>Schools</u> 47%	<u>Status of Resident</u> 31%
Taxes	<u>Income Tax</u> 82%	<u>IRS</u> 59%	<u>Social Security</u> 36%

<sup>a</sup>Figures represent the percent of total sample which selected the content items as either of two content selections.

TABLE 11  
Percent of Responses for Factor Context  
Selections

Factor	Context Selections						Percents <sup>a</sup>
	Personal GROWTH and development						
	HEALTH and safety						
	RIGHT and wrong						
	My IMAGE of myself						
	NATIONAL security						
	FINANCIAL goals						
	Personal PLEASURE						
Equal opportunity for all races . . . . .	.02	.01	.13	.02	<u>.74</u>	.05	
Owning my own home. . . . .	<u>.49</u>	<u>.33</u>		.07		.04	
Leisure time. . . . .	<u>.79</u>			.01		.09	
Being able to influence others. . . . .	.08	.07	.02	<u>.47</u>	.07	<u>.24</u>	
Retirement. . . . .	<u>.39</u>	<u>.33</u>		.01		<u>.20</u>	
The kind of neighborhood I live in. . . . .	<u>.46</u>	.09		.15		<u>.26</u>	
Taxes . . . . .		<u>.37</u>	<u>.52</u>		.05	.02	
My income compared to others. . . . .	.11	<u>.44</u>	.02	<u>.27</u>	.06	.07	
A college education . . . . .	.07	<u>.22</u>		<u>.20</u>		<u>.50</u>	
Religion. . . . .	<u>.20</u>			.11	<u>.23</u>	<u>.40</u>	
Conserving natural resources. . . . .	.07	.02	<u>.44</u>	.01	<u>.20</u>	<u>.21</u>	
Inflation . . . . .	.01	<u>.52</u>	<u>.40</u>	.02	.03	.01	
My job security . . . . .	<u>.21</u>	<u>.56</u>	.02	.09	.01	.05	
Afghanistan . . . . .			<u>.74</u>		<u>.22</u>		

<sup>a</sup>Percentages occasionally do not total to 100% because some subjects selected a "none of the above" context and percentages are rounded to nearest percent. Percent over .20 are underlined.

TABLE 12

Correlations<sup>a</sup> Between Factor Importance and Model Components  
for Fourteen Factors

Factor	<u>Dependence</u>		<u>Criticalness</u>		<u>Centrality</u>		<u>Centrality</u>		Factor Central	Factor Salience	Outcome Salience
	Outcome		Outcome		Gen. Thought		Linkages				
	1	2	1	2	1	2	1	2			
College Ed.	.41	.38							.50		
Religion	.76	.74	.52	.50					.82	.43	
Afghanistan	.46	.32								.31	
Income (comp)	.43	.35	.31						.43	.30	
Equal Opport.	.35	.31							.47		
Own Home	.52	.36	.32						.45		
Leisure	.45	.35			.37				.38		
Influence	.45	.46	.31						.66	.47	
Retirement	.39	.33	.31	.33					.44	.30	
Neighborhood	.31	.33							.36		
Taxes	.36	.37							.39	.39	
Conserve Res.	.41	.51							.44		
Inflation	.45	.42							.37	.34	
Job Security	.42	.41	.49	.38					.37		

<sup>a</sup>Only correlations of .30+ and significant at  $p < .05$  are given.



TABLE 13

<sup>a</sup>Correlation Matrix for Model Components for Importance of College Education

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A*	1st Cnt B*	2nd Cnt A*	2nd Cnt B*	1st Sal	2nd Sal
Factor Centrality												
Factor Salience	.50											
First Outcome Dependence	.38											
Second Outcome Dependence			.32									
First Outcome Criticalness												
Second Outcome Criticalness					.60							
First Outcome Centrality A												
First Outcome Centrality B	.42	.33										
Second Outcome Centrality A												
Second Outcome Centrality B	.31						.37					
First Outcome Salience		.35										
Second Outcome Salience									.34	.43		

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

\*A = Method #1  
\*B = Method #2

TABLE 14

<sup>a</sup>Correlation Matrix for Model Components for Importance of Religion

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Salience	.41											
First Outcome Dependence	.66	.35										
Second Outcome Dependence	.69	.48	.73									
First Outcome Criticalness	.47		.44	.37								
Second Outcome Criticalness	.42		.32	.39	.71							
First Outcome Centrality A												
First Outcome Centrality B	.31											
Second Outcome Centrality A												
Second Outcome Centrality B								.41				
First Outcome Salience												
Second Outcome Salience										.40	.44	

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 15

<sup>a</sup>Correlation Matrix for Model Components for Importance of Afghanistan

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency												
First Outcome Dependence												
Second Outcome Dependence			.52									
First Outcome Criticalness												
Second Outcome Criticalness			.31		.65							
First Outcome Centrality A												
First Outcome Centrality B	.31											
Second Outcome Centrality A												
Second Outcome Centrality B												
First Outcome Saliency												
Second Outcome Saliency												

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 16

<sup>a</sup>Correlation Matrix for Model Components for Importance of Comparative Income

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency	.41											
First Outcome Dependence	.42											
Second Outcome Dependence			.54									
First Outcome Criticalness			.36									
Second Outcome Criticalness					.49							
First Outcome Centrality A												
First Outcome Centrality B												
Second Outcome Centrality A												
Second Outcome Centrality B								.36				
First Outcome Saliency								.33				
Second Outcome Saliency										.31	.35	

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 17

<sup>a</sup>Correlation Matrix for Model Components for Importance of Equal Opportunity

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency												
First Outcome Dependence												
Second Outcome Dependence			.32									
First Outcome Criticalness												
Second Outcome Criticalness					.44							
First Outcome Centrality A												
First Outcome Centrality B												
Second Outcome Centrality A									.30			
Second Outcome Centrality B									.31			
First Outcome Saliency												
Second Outcome Saliency												

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 18

<sup>a</sup>Correlation Matrix for Model Components for Importance of Home Ownership

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency												
First Outcome Dependence	.35											
Second Outcome Dependence			.43									
First Outcome Criticalness			.33									
Second Outcome Criticalness				.44								
First Outcome Centrality A												
First Outcome Centrality B												
Second Outcome Centrality A							.30					
Second Outcome Centrality B												
First Outcome Saliency												
Second Outcome Saliency												

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 19

<sup>a</sup>Correlation Matrix for Model Components for Importance of Leisure

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency												
First Outcome Dependence	.40											
Second Outcome Dependence	.30		.50									
First Outcome Criticalness												
Second Outcome Criticalness					.45							
First Outcome Centrality A												
First Outcome Centrality B	.47											
Second Outcome Centrality A												
Second Outcome Centrality B							.35	.39				
First Outcome Saliency		.34										
Second Outcome Saliency											.43	

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 20

<sup>a</sup>Correlation Matrix for Model Components for Importance of Influencing Others

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency	.41											
First Outcome Dependence	.49	.38										
Second Outcome Dependence	.47		.60									
First Outcome Criticalness			.30									
Second Outcome Criticalness					.50							
First Outcome Centrality A												
First Outcome Centrality B	.36											
Second Outcome Centrality A												
Second Outcome Centrality B	.35							.43				
First Outcome Saliency								.33				
Second Outcome Saliency		.30									.43	

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .



TABLE 21

<sup>a</sup>Correlation Matrix for Model Components for Importance of Retirement

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency												
First Outcome Dependence												
Second Outcome Dependence			.57									
First Outcome Criticalness			.34									
Second Outcome Criticalness				.55								
First Outcome Centrality A												
First Outcome Centrality B							.31					
Second Outcome Centrality A							.31					
Second Outcome Centrality B								.41				
First Outcome Saliency							.33					
Second Outcome Saliency										.30		

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 22

<sup>a</sup>Correlation Matrix for Model Components for Importance of Neighborhood

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Salience												
First Outcome Dependence		.30										
Second Outcome Dependence			.44									
First Outcome Criticalness			.34									
Second Outcome Criticalness				.34	.41							
First Outcome Centrality A												
First Outcome Centrality B							.35					
Second Outcome Centrality A												
Second Outcome Centrality B												
First Outcome Salience												
Second Outcome Salience										.30		

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 23

<sup>a</sup>Correlation Matrix for Model Components for Importance of Taxes

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Salience	.30											
First Outcome Dependence		.32										
Second Outcome Dependence			.47									
First Outcome Criticalness	.31		.35									
Second Outcome Criticalness					.36							
First Outcome Centrality A												
First Outcome Centrality B												
Second Outcome Centrality A												
Second Outcome Centrality B												
First Outcome Salience												
Second Outcome Salience												

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 24

<sup>a</sup>Correlation Matrix for Model Components for Importance of Conserve Resources

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Salience	.32											
First Outcome Dependence	.33											
Second Outcome Dependence	.33		.46									
First Outcome Criticalness			.39									
Second Outcome Criticalness				.37	.44							
First Outcome Centrality A												
First Outcome Centrality B							.33					
Second Outcome Centrality A												
Second Outcome Centrality B												
First Outcome Salience												
Second Outcome Salience												

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 25

<sup>a</sup>Correlation Matrix for Model Components for Importance of Inflation

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency												
First Outcome Dependence												
Second Outcome Dependence			.48									
First Outcome Criticalness												
Second Outcome Criticalness					.44							
First Outcome Centrality A												
First Outcome Centrality B	.32											
Second Outcome Centrality A												
Second Outcome Centrality B	.34								.30			
First Outcome Saliency												
Second Outcome Saliency		.30										

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 26

<sup>a</sup>Correlation Matrix for Model Components for Importance of Job Security

	FC	FS	1st Dep	2nd Dep	1st Crit	2nd Crit	1st Cnt A	1st Cnt B	2nd Cnt A	2nd Cnt B	1st Sal	2nd Sal
Factor Centrality												
Factor Saliency	.35											
First Outcome Dependence	.39											
Second Outcome Dependence	.36		.57									
First Outcome Criticalness			.39	.32								
Second Outcome Criticalness				.33	.49							
First Outcome Centrality A												
First Outcome Centrality B	.35											
Second Outcome Centrality A												
Second Outcome Centrality B								.30				
First Outcome Saliency								.32				
Second Outcome Saliency											.41	

<sup>a</sup>Only correlations of .30 or greater are reported here.  
All correlations are significant at  $p < .01$ .

TABLE 27  
Multiple Regression Results for Full Model

Dependent Variable	Standardized Beta Coefficients for Predictor Variables												
	Factor Importance	Dependence of Outcome		Criticalness to Outcome		Centrality (Gen. Thought) of Outcome		Centrality (Linkages) of Outcome		Salience Outcome	Factor Sal.	Factor Cent.	R*
1		2	1	2	1	2	1	2					
Religion	1.65	.56		.60			.27	.26		.38	1.44	.90	.81
Influence		.65	.35							.80	1.60	.73	.54
Own Home	1.32		.35			-.53					.90	.66	.43
Taxes	.36			.60			.46	.51		.60	.52	.64	.41
Job Security	.44	.51	.87	.54			-.36				.46	.63	.40
Conserve Resources	.39	.89									.92	.61	.37
Retirement	.85		.64				.39	.34		.54	.83	.61	.37
Afghanistan	1.32				.71					.79	.55	.60	.36
Income (compare)	.59	.40	.50				.56	.40		.42	.72	.60	.36
Equal Opportunity	.99		.70						.63		1.21	.60	.36
Leisure	.69	.41			.72	-.45		.56			.41	.60	.36
Education		.68	.33								1.00	.58	.34
Inflation	.47	.84								.65	.50	.56	.32
Neighborhood	.44	.59			-.36	.37	.34	-.41	.36	.68	.58	.56	.32

\*All regressions significant at  $p < .0001$ .

TABLE 28

Frequency with Which Predictor Beta  
Coefficients Appear as Largest, Second Largest  
And Third Largest Among Significant Predictors  
In Fourteen Multiple Regression Analyses

Predictor	Beta Coefficient Frequencies			
	Largest	Second	Third	Totals
Primary Outcome Dependence	4	2	1	7
Second Outcome Dependence	1	3	3	7
Dependence Total	5	5	4	14
Factor Centrality	5	4	2	11
Criticalness to Primary Outcome	1	0	4	5
Criticalness to Secondary Outcome	1	1	1	3
Criticalness Total	2	1	5	8
Factor Salience	1	3	0	4



TABLE 29

A Comparison of the Relative Ability of the Multiple Outcome Model vs. a Single-outcome Model to Explain Importance Evaluations for Fourteen Factors

Dependent Variable Importance of ...	Single Outcome Model Regression Results				Multiple Outcome Model Regression Results				Test of Significance of Improvement		
	SSE	df	F	R <sup>2</sup>	SSE	df	F	R <sup>2</sup>	R <sup>2</sup>	F	p*
Religion	860	206	103	.78	661	190	65	.81	.03	3.5	.01
Influence	1453	199	31	.52	1342	185	18	.54	.02	1.1	NS
Own Home	1507	209	19	.39	1364	197	13	.43	.04	1.7	.10
Taxes	1612	206	13	.30	963	138	8	.41	.11	1.4	.025
Job Security	1514	212	16	.35	1336	201	11	.40	.05	2.4	.01
Conserve Resources	1427	201	13	.31	1155	178	9	.37	.06	1.8	.01
Retirement	1640	204	14	.33	1427	191	9	.37	.04	2.2	.01
Afghanistan	2095	203	14	.33	1667	169	8	.36	.05	1.3	.10
Income (compare)	1726	206	15	.34	1569	194	9	.36	.02	1.6	.10
Equal Opportunity	1784	195	12	.30	1224	146	7	.36	.06	1.4	.05
Leisure	1226	213	13	.30	1051	197	9	.36	.06	2.1	.01
Education	998	212	13	.30	845	202	9	.34	.04	3.65	.01
Inflation	1419	201	10	.27	1258	181	7	.32	.06	1.2	NS
Neighborhood	1622	212	9	.24	1417	200	8	.32	.08	2.4	.01

<sup>c</sup>F-test for significance of differences in predictive power of restricted/unrestricted regression models:

$$F = \frac{SSE_r - SSE_u / df_r - df_u}{SSE_u / df_u}$$

SSE = sum of squared error.

\* p indicates the level of significance for the difference in the ability of the two models to account for variance in the dependent variable.

TABLE 30

Rotated Factor Loadings for Item Importance  
Rating/Rankings

Item	Factors				
	I	II	III	IV	V
Equal Opportunity	-.07	<u>.66</u>	-.08	-.04	.00
Home Ownership	<u>.49*</u>	-.05	.18	-.05	-.13
Leisure	.35	-.02	-.01	.26	.33
Influence Others	-.10	-.03	-.05	<u>.47</u>	.01
Retirement	<u>.47</u>	.06	.10	-.09	.02
Neighborhood	<u>.44</u>	.01	.10	.35	.00
Taxes	.12	.16	<u>.66</u>	-.05	.00
Income	.18	-.23	<u>.40</u>	.03	.22
Education	-.05	.06	.06	.02	.36
Religion	.05	.19	-.37	-.07	-.30
Conserve Resources	.10	<u>.53</u>	.16	-.14	.15
Inflation	.14	.33	<u>.66</u>	-.11	.05
Job Security	<u>.51</u>	-.03	.04	-.05	.04
Afghanistan	.00	<u>.53</u>	.20	.14	-.10

Factors are defined as:

- I. Personal Pleasure and Happiness,
- II. Right and Wrong,
- III. Financial Goals,
- IV. Self Image.

\*Factor loadings greater than .40 are underlined.

TABLE 31

Comparison of the Relative Ability of a Cognitive Model to Explain  
Factor Importance a For Male and Female Subjects

Dependent Variable Importance of ...	Full Model Regression Results For Males				Full Model Regression Results For Females				$R_2^2 - R_1^2$
	MSE	df	F	$R_1^2$	MSE	df	F	$R_2^2$	
Religion	3.5	87	39.8	.85	3.5	90	25	.77	-.08
Influence	7.4	85	8.8	.55	7.6	87	9.0	.55	.00
Own Home	7.1	95	6.4	.45	6.9	89	6.8	.48	+.03
Taxes	7.0	56	3.9	.46	7.6	69	4.2	.42	-.04
Job Security	6.6	96	7.2	.47	7.1	92	4.3	.36	-.11
Conserve Resources	5.0	80	5.0	.43	7.6	85	5.1	.42	-.01
Retirement	6.3	95	8.0	.50	8.6	83	3.3	.32	-.18
Afghanistan	11.4	79	3.6	.36	9.0	77	4.8	.43	+.07
Income (compare)	8.1	88	5.6	.43	8.2	93	4.0	.34	-.09
Equal Opportunity	8.5	61	5.4	.52	8.2	72	1.9	.24	-.28
Leisure	4.5	90	7.5	.50	6.3	94	3.1	.28	-.22
Education	3.5	92	4.9	.39	4.6	97	5.6	.41	+.02
Inflation	7.5	80	3.2	.33	6.6	88	4.9	.40	+.07
Neighborhood	6.1	92	4.4	.37	8.1	95	4.3	.35	-.02

TABLE 32

A Comparison of the Relative Ability of a Cognitive Model  
To Explain Factor Importance For Subjects of Varying Education

Dependent Variable Importance of ...	Full Model Regression Results Less Than College Grad				Full Model Regression Results For Grad or More				$R_2^2 - R_1^2$
	MSE	df	F	$R_1^2$	MSE	df	F	$R_2^2$	
Religion	2.8	107	38	.82	4.4	70	27	.82	00
Influence	7.4	100	10	.56	6.9	72	8.8	.59	+.03
Own Home	7.8	110	6.5	.41	4.6	74	10	.62	+.21
Taxes	7.6	69	4.5	.44	5.9	56	5.2	.53	+.09
Job Security	6.2	108	5.4	.37	7.4	80	5.9	.47	+.10
Conserve Resources	6.4	103	6.3	.42	6.9	62	3.2	.38	-.04
Retirement	8.0	103	5.3	.38	6.1	75	6.5	.51	+.13
Afghanistan	9.2	95	4.1	.34	10	61	5.6	.52	+.18
Income (compare)	8.1	106	4.7	.35	8.1	75	5.1	.45	+.10
Equal Opportunity	7.8	78	3.4	.34	9.4	55	4.0	.46	+.12
Leisure	5.3	105	7.6	.47	5.4	79	2.8	.30	-.17
Education	3.8	110	8.1	.47	4.9	79	2.1	.24	-.23
Inflation	7.1	96	4.2	.34	7.2	72	3.4	.36	+.02
Neighborhood	6.9	108	6.6	.42	6.8	79	3.0	.32	-.10

TABLE 33

A Comparison of the Relative Ability of a Cognitive Model to Explain  
Factor Importance For Subjects of Varying Age

Dependent Variable Importance of ...	Full Model Regression Results For Age Under 30				Full Model Regression Results For Age Over 30				$R_2^2 - R_1^2$
	MSE	df	F	$R_1^2$	MSE	df	F	$R_2^2$	
Religion	3.8	124	39	.79	3.0	53	26	.85	+.06
Influence	7.6	123	8.3	.44	6.8	49	9.5	.70	+.26
Own Home	7.0	131	9.6	.47	6.2	53	3.2	.42	-.05
Taxes	7.2	93	5.1	.40	5.8	32	4.7	.64	+.24
Job Security	5.7	133	8.8	.44	7.9	55	4.0	.47	+.03
Conserve Resources	6.4	119	6.4	.39	7.3	46	2.6	.41	+.02
Retirement	7.8	124	5.3	.34	5.4	54	7.5	.62	+.28
Afghanistan	9.7	111	4.4	.32	8.8	45	5.8	.61	+.29
Income (compare)	8.3	130	5.6	.34	7.8	51	4.3	.50	+.16
Equal Opportunity	7.8	93	5.4	.41	10.2	40	2.2	.40	-.01
Leisure	5.1	133	6.6	.37	6.0	51	2.4	.36	-.01
Education	3.3	135	5.6	.33	6.7	54	3.0	.40	+.07
Inflation	7.5	116	3.2	.25	5.3	52	6.1	.58	+.28
Neighborhood	7.6	134	5.1	.31	4.4	53	6.8	.61	+.30

TABLE 34

A Comparison of the Relative Ability of a  
Cognitive Model to Explain Importance of  
Religion for Subjects with Varying Exposure  
To Religious Practices

Dependent Variable Importance of ...	Little Religious Practice Regression Results				Much Religious Practice Regression Results				Comparison $R_2^2 - R_1^2$
	MSE	df	F	$R_1^2$	MSE	df	F	$R_2^2$	
Religion	5.4	87	22	.75	1.5	90	5.0	.40	-.35

TABLE 35

A Comparison of the Relative Ability of the  
Cognitive Model to Explain Factor Importance for  
Subjects with Varying Work Experience

Dependent Variable Importance of ...	Not Employed Model Regression Results				Full-time Model Regression Results				Comparison $R_2^2 - R_1^2$
	MSE	df	F	$R_1^2$	MSE	df	F	$R_2^2$	
Comparative Income	6.9	66	3.3	.37	9.2	59	4.1	.45	.08
Job Security	6.1	69	2.3	.28	6.6	65	6.3	.54	.26

TABLE 36

Correlations Between Unrestricted and Restricted  
Rating of Factor Importance for Selected Job-related  
And Life-satisfaction Related Factors

Unrestricted-Job Satisfaction Correlations		Unrestricted-Life Satisfaction Correlations	
Factor	r*	Factor	r*
Job Security	.67	Neighborhood	.60
Retirement	.64	Religion	.93
Fair Treatment	.46	Home Ownership	.73
Recognition and Appreciation	.64	Money	.72
Pay Compared to Others	.62	Community Health Care Quality	.69
Promotion	.56	Education	.58
Work Challenge	.57	Leisure time	.71
Ability Utilization	.60	Television	.70
Pay Amount	.72	Friends	.54
Work Variety	.64		

\*All significant at  $p < .0001$   
N = 265



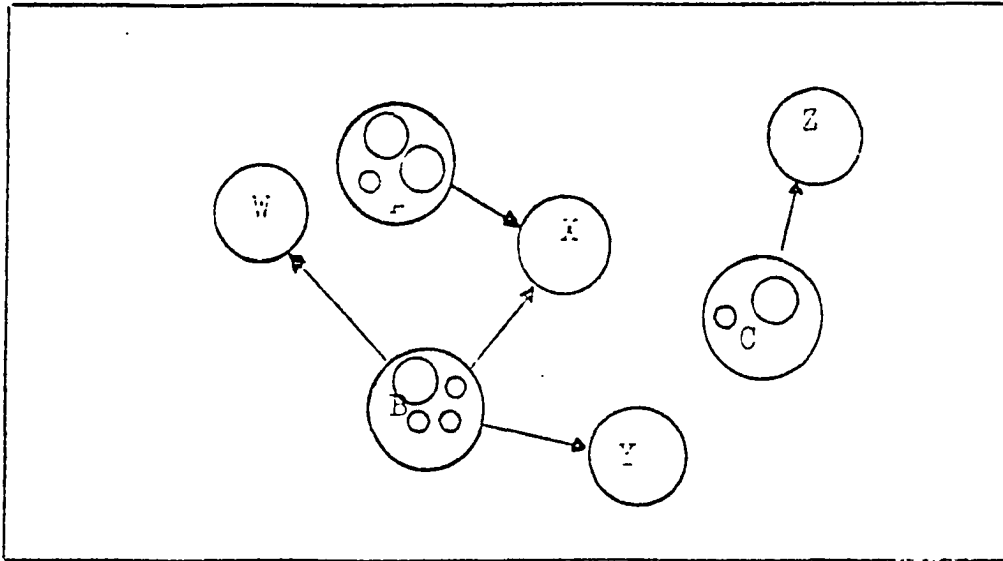


Figure 2. Context Multidimensionality. Factors A, B and C are relevant to one or more outcomes (W, X, Y, Z). If context is specified as outcome X, then Factors A and B are seen as relevant, while Factor C is not.

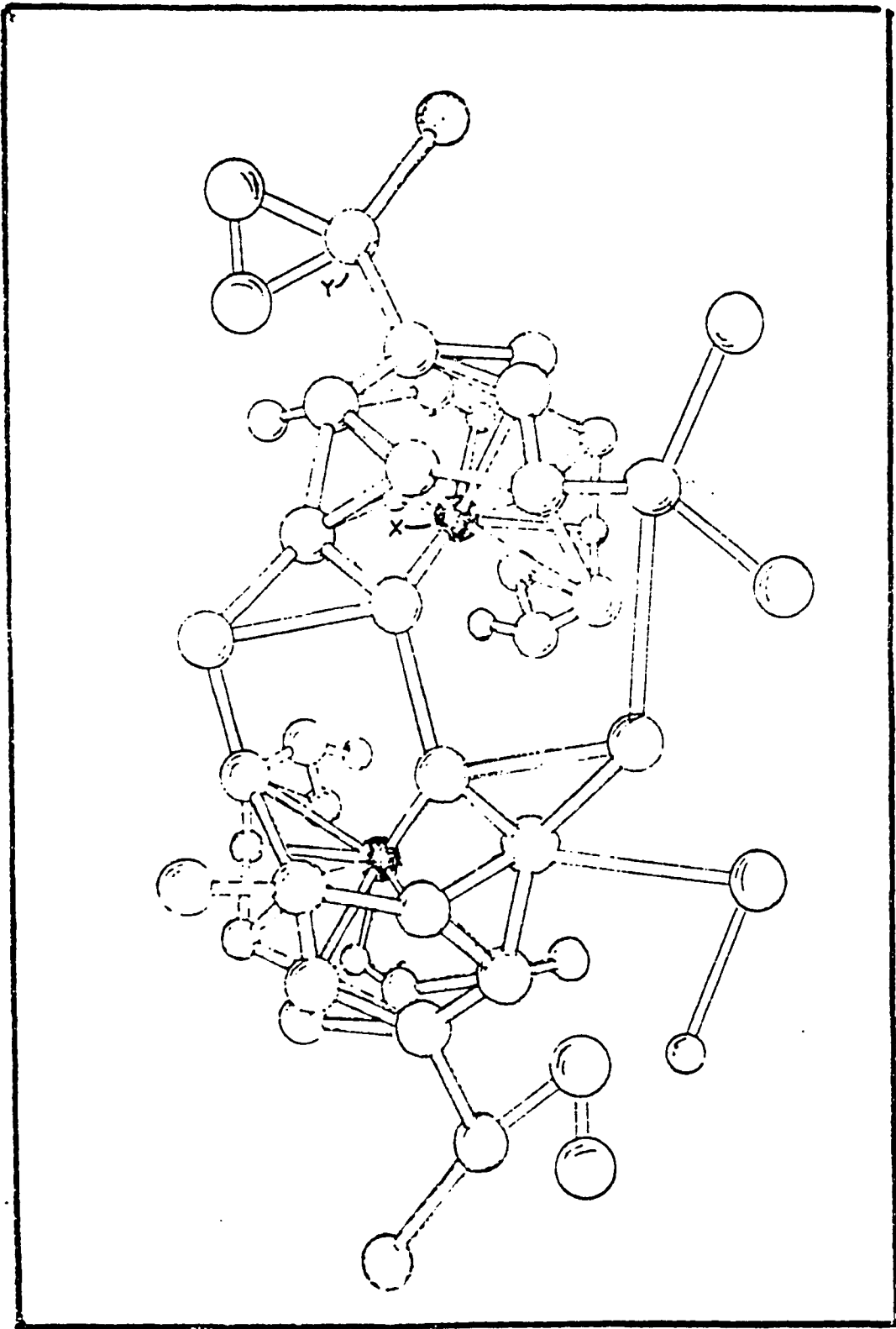


Figure 3. Cognitive Structure and Factor Centrality.

APPENDIX A

PERSONAL BELIEFS  
QUESTIONNAIRE

University of Oklahoma

March, 1980

Date: \_\_\_\_\_

Group: \_\_\_\_\_

INTRODUCTION TO THE QUESTIONNAIRE  
AND INSTRUCTIONS

Thank you for your participation in this research study. This questionnaire is part of a doctoral dissertation research project designed to find out how different groups of people look at certain common, everyday topics in our society. In the questionnaire you will be asked to express your personal beliefs about a wide variety of subjects. The questionnaire is completely anonymous - please do not put your name anywhere on the questionnaire. You are encouraged to be careful to express only your own personal views, regardless of whether or not your views are consistent with the views of others.

The questions you are asked in this survey often require some thought. You should answer each question thoughtfully, but do not spend too much time on any one question. We recognize that some of these questions will be more difficult than others for you. We have done everything possible to make the instructions and examples very clear but realize that you may still have some questions. PLEASE, FEEL COMPLETELY FREE TO CALL THE RESEARCH NUMBER GIVEN BELOW IF YOU DO NOT UNDERSTAND ANY PART OF THE QUESTIONNAIRE. WE WILL VERY MUCH APPRECIATE YOUR CALL.

The questionnaire consists of several sections. It is very important that you complete each section before going on to the next section. You should complete the entire questionnaire at one sitting. Please do not complete one section and then return later to complete the next section. READ THE INSTRUCTIONS CAREFULLY.

THIS IS NOT A TEST. There are no right or wrong answers. It is very important that you tell us how you really feel. The usefulness of this study will depend upon the frankness with which you answer the questions. REMEMBER, WHAT YOU SAY IN THIS QUESTIONNAIRE IS COMPLETELY CONFIDENTIAL. Your identity is not required and will not be known to anyone.

When you have completed the entire questionnaire, please seal it in the envelope provided and return it immediately.

THANK YOU FOR YOUR COOPERATION.

If you have questions, call: John Cragin 325-2651  
329-6307

SECTION I

General Information

Directions: Indicate your response to the questions below by putting an "X" in the space to the left of the most correct response, or by writing your answer in the blocks provided. Please use a pencil. Erase cleanly any answers you wish to change.

EXAMPLE:

1. Your present age.  26
2. Sex.  Male  
 Female

1. Your present age.
2. Sex.  Male  
 Female
3. Present classification in school.  
 Part-time student  
 College Freshman  
 College Sophomore  
 College Junior  
 College Senior  
 Graduate Student  
 No longer in school
4. How much education have you had?  
(Mark only the highest level)  
 Grade school or less  
 Some High School  
 High School Graduate  
 Some College  
 Vocational or Trade School  
 College Graduate ( 4 year)  
 Some Graduate School or  
 Advanced Degree
5. Marital Status.  
 Single  
 Married  
 Divorced or Separated  
 Widowed
6. Do you have children whom you support?  
 Yes How many?    
 No
7. Citizenship.  
 American  
 Other (specify) \_\_\_\_\_
8. Are you presently a member of any church or other religious organization?  
 Yes  
 No
9. How often do you attend religious services?  
 More than once a week  
 About once a week  
 About twice a month  
 About once a month  
 Less than once a month  
 Very rarely  
 Never
10. Are you presently employed?  
 Yes  Full-time  Part-time  
 No
11. Your occupation: \_\_\_\_\_
12. How long have you been on your present job?  
 Less than one year  
 1 - 2 years  
 3 - 5 years  
 More than 5 years

THIS COMPLETES SECTION I  
PLEASE GO ON TO THE NEXT SECTION

SECTION II

General Importance Items

Directions: In this section you are asked to indicate how important each item is to you by rating it from 0 to 15. A zero ( 0 ) means the item is not at all important to you and a 15 means that the item is extremely important to you.

After rating the item, you are asked to select the first and second most accurate descriptions of what the item means to you.

The importance scale is given on the right. The meaning descriptions are directly below the importance scale. Indicate your answer by writing the number of the importance rating and the letters of the meanings you select in the spaces provided.

ITEM	Importance Rating	1st Meaning	2nd Meaning
------	-------------------	-------------	-------------

EXAMPLE:			
Football .....	<u>3</u>	<u>B</u>	<u>H</u>
Legal Justice ....	<u>13</u>	<u>C</u>	<u>F</u>

- | ITEM                                       | Importance Rating | 1st Meaning | 2nd Meaning |
|--|-------------------|-------------|-------------|
| 1. Honesty.....                            | ___               | ___         | ___         |
| 2. The kind of neighborhood I live in..... | ___               | ___         | ___         |
| 3. Job security .....                      | ___               | ___         | ___         |
| 4. Friends .....                           | ___               | ___         | ___         |
| 5. Prestige.....                           | ___               | ___         | ___         |
| 6. Overtime work .....                     | ___               | ___         | ___         |
| 7. Ambition.....                           | ___               | ___         | ___         |
| 8. Recognition and appreciation.....       | ___               | ___         | ___         |
| 9. Religious beliefs ....                  | ___               | ___         | ___         |
| 10. Fair treatment .....                   | ___               | ___         | ___         |
| 11. Doing my best in whatever I do .....   | ___               | ___         | ___         |
| 12. Marriage .....                         | ___               | ___         | ___         |
| 13. Retirement .....                       | ___               | ___         | ___         |
| 14. Service to others ....                 | ___               | ___         | ___         |
| 15. My pay as compared to others .....     | ___               | ___         | ___         |

I. IMPORTANCE SCALE	
EXTREMELY IMPORTANT	15
	14
	13
VERY IMPORTANT	12
	11
	10
IMPORTANT	9
	8
	7
OF SOME IMPORTANCE	6
	5
	4
OF LITTLE IMPORTANCE	3
	2
	1
OF NO IMPORTANCE	0

II. MEANING DESCRIPTIONS	
A.	Financial goals.
B.	My Pleasure/happiness.
C.	Right and Wrong.
D.	Personal growth and development.
E.	Health and safety.
F.	My image of myself.
G.	National security.
H.	NONE OF THE ABOVE

ITEM	Importance Rating	1st Meaning	2nd Meaning
16. The chance to do work that is challenging..	_____	_____	_____
17. Promotion (on the job) .....	_____	_____	_____
18. Owning my own home .....	_____	_____	_____
19. The chance to try new things .....	_____	_____	_____
20. Others looking to me for direction .....	_____	_____	_____
21. Money .....	_____	_____	_____
22. Equal opportunity for all races .....	_____	_____	_____
23. Knowing important people .....	_____	_____	_____
24. Community health care quality .....	_____	_____	_____
25. Taxes .....	_____	_____	_____
26. Afghanistan .....	_____	_____	_____
27. Education .....	_____	_____	_____
28. Being able to influence others .....	_____	_____	_____
29. Television .....	_____	_____	_____
30. Contributing to society .....	_____	_____	_____
31. Variety in the work I do .....	_____	_____	_____
32. Personal morality .....	_____	_____	_____
33. Leisure time .....	_____	_____	_____
34. The opportunity to use my abilities .....	_____	_____	_____
35. The amount of my pay .....	_____	_____	_____
36. Church .....	_____	_____	_____
37. The approval and acceptance of my peers ...	_____	_____	_____
38. Company loyalty .....	_____	_____	_____
39. Inflation .....	_____	_____	_____
40. Conservation of natural resources .....	_____	_____	_____
41. Recreation .....	_____	_____	_____
42. The quality of work I do .....	_____	_____	_____
43. Federal government .....	_____	_____	_____
44. Patriotism .....	_____	_____	_____
45. Political hostages .....	_____	_____	_____

SECTION III

What does it include?

Directions: In this section you are asked to consider the primary elements you include when you think of each item. Here we are not concerned with things you think are affected by the item, but things which you think of as actually making up the item.

For each item you will be given a list of elements commonly included in what people think of when they consider that item. You are to select the two elements which you think are most representative of what you think of when you consider the item. You should indicate your choices by putting a check (✓) in the space to the left of each of your selections.

It may be that none of the items listed represents the elements you would include. Spaces are provided for you to write in ONE WORD substitutes for those provided. If you choose to write in one or more choices, use ONE WORD ONLY. Remember, DO NOT use things which are affected by the item. Use things which are actually elements of the item.

EXAMPLE:	<u>ITEM</u>	<u>ELEMENTS INCLUDED IN THE ITEM</u>
	Pets .....	<input type="checkbox"/> Cats <input checked="" type="checkbox"/> Dogs <input type="checkbox"/> Horses <input checked="" type="checkbox"/> <u>Fish</u>
	National security....	<input type="checkbox"/> The economy <input checked="" type="checkbox"/> The military <input type="checkbox"/> United Nations <input checked="" type="checkbox"/> <u>Freedom/ liberty</u>

1. My income compared to that of others
  - Amount of my pay
  - My neighbors' pay
  - Pay of others with similar jobs
  - Pay of people my age
  - \_\_\_\_\_
  - \_\_\_\_\_
  
2. A college education .....
- \_\_\_\_\_ Diploma
- \_\_\_\_\_ Classes & study
- \_\_\_\_\_ Costs
- \_\_\_\_\_ Faculty
- \_\_\_\_\_
- \_\_\_\_\_
  
3. Religion .....
- \_\_\_\_\_ Church
- \_\_\_\_\_ Faith
- \_\_\_\_\_ God
- \_\_\_\_\_ Morality
- \_\_\_\_\_ Hypocrisy
- \_\_\_\_\_
- \_\_\_\_\_



4. Conservation of natural resources.

- \_\_\_\_\_ Pollution
- \_\_\_\_\_ Environmentalists
- \_\_\_\_\_ Oil, gas
- \_\_\_\_\_ Citizenship duty
- \_\_\_\_\_
- \_\_\_\_\_

5. The rate of inflation.

- \_\_\_\_\_ Economics
- \_\_\_\_\_ Prices
- \_\_\_\_\_ Interest rates
- \_\_\_\_\_ Dollar value
- \_\_\_\_\_
- \_\_\_\_\_

6. My job security.

- \_\_\_\_\_ Demand for my skills
- \_\_\_\_\_ Firing
- \_\_\_\_\_ Layoffs
- \_\_\_\_\_ Permanent employment
- \_\_\_\_\_
- \_\_\_\_\_

7. Afghanistan.

- \_\_\_\_\_ Middle East
- \_\_\_\_\_ Muslim
- \_\_\_\_\_ Russian aggression
- \_\_\_\_\_ Iran
- \_\_\_\_\_
- \_\_\_\_\_

8. Equal opportunity for all races.

- \_\_\_\_\_ Federal law
- \_\_\_\_\_ Jobs for minorities
- \_\_\_\_\_ School integration
- \_\_\_\_\_
- \_\_\_\_\_

9. Owning my own home.

- \_\_\_\_\_ The right house
- \_\_\_\_\_ Mortgage
- \_\_\_\_\_ A permanent place to live
- \_\_\_\_\_
- \_\_\_\_\_

10. Leisure time.

- \_\_\_\_\_ Time alone
- \_\_\_\_\_ Family time
- \_\_\_\_\_ Vacation
- \_\_\_\_\_ Recreation
- \_\_\_\_\_
- \_\_\_\_\_

11. Being able to influence others.

- \_\_\_\_\_ Being the boss
- \_\_\_\_\_ Power
- \_\_\_\_\_ Persuasiveness
- \_\_\_\_\_ Respect
- \_\_\_\_\_
- \_\_\_\_\_

12. Retirement.

- \_\_\_\_\_ Old age
- \_\_\_\_\_ Leisure
- \_\_\_\_\_ Pension or social security
- \_\_\_\_\_
- \_\_\_\_\_

13. The kind of neighborhood I live in.

- \_\_\_\_\_ Size of house
- \_\_\_\_\_ Schools
- \_\_\_\_\_ Newness of homes
- \_\_\_\_\_ Social status of neighbors
- \_\_\_\_\_
- \_\_\_\_\_

14. Taxes.

- \_\_\_\_\_ Internal Revenue Service
- \_\_\_\_\_ Income tax
- \_\_\_\_\_ Social Security
- \_\_\_\_\_ Windfall profits
- \_\_\_\_\_
- \_\_\_\_\_

THIS COMPLETES SECTION 111  
GO ON TO THE NEXT SECTION

SECTION IV

Importance Rating and Ranking

Directions: In this section you are asked to both rate and rank selected items according to how important they are to you. Remember, we are interested only in your own personal views.

You should:

1. Look over the list of items to get an idea of what they are.
2. Determine which of the items is most important to you. Then write the capitalized portion of that item on the line to the right of the rating scale number which represents its importance to you. For example, if you believed that "SERVING others" was the most important item of those listed below, you would decide how important it is to you on the scale of 0 - 15. Then you write SERVING on the line to the right of that number you select (see example below).
3. Cross the first item you selected off the list.
4. Select the least important item from the list. Decide how important it is to you and write the CAPITALIZED WORD ONLY on the line to the right of the number on the importance scale. In the example below, the person thought retirement was the least important of the items and wrote it on the line next to the number 2. Cross out that item.
4. Now from the remaining list select the most important item and repeat the process. Then select the least important of the remaining items and repeat the process for that item. Do this until ALL OF THE ITEMS ARE WRITTEN NEXT TO THE SCALE AND ALL ARE CHECKED OFF THE LIST.

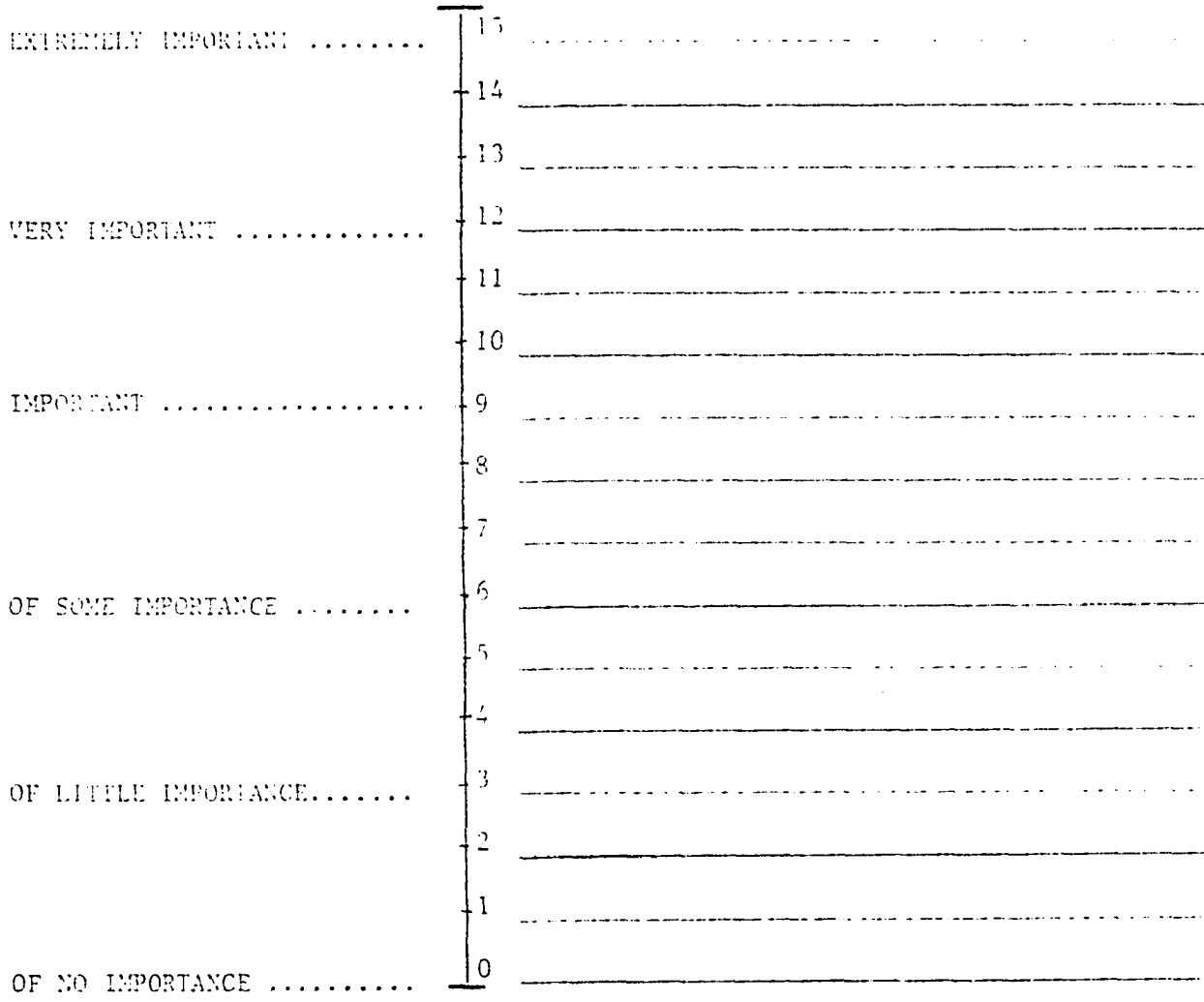
NOTE: You may choose to write more than one item on a line. If you judge that two or more items are of the same importance write the CAPITALIZED portion of both items on the same line. In the example below, the items SERVING and MORALITY were considered of equal importance.

EXAMPLE:	<u>ITEMS</u>	<u>IMPORTANCE SCALE</u>
✓	<u>Personal MORALITY</u>	EXTREMELY IMPORTANT
✓	<u>RETIREMENT</u>	
✓	<u>SERVING</u> others	
✓	<u>PRESTIGE</u>	
		15
		14
		13
		12
		:
		:
		4
		OF LITTLE IMPORTANCE
		3
		2
		1
		0

15 \_\_\_\_\_  
 14 SERVING, MORALITY  
 13 \_\_\_\_\_  
 12 PRESTIGE  
 : \_\_\_\_\_  
 : \_\_\_\_\_  
 4 \_\_\_\_\_  
 OF LITTLE IMPORTANCE  
 3 \_\_\_\_\_  
 2 RETIREMENT  
 1 \_\_\_\_\_  
 0 \_\_\_\_\_

ITEMS:

- My INCOME compared to that of others.
- A college EDUCATION.
- INFLATION.
- Conservation of natural RESOURCES.
- RELIGION.
- My JOB SECURITY.
- AFGHANISTAN.
- EQUAL opportunity for all races.
- Owning my own HOME.
- LEISURE time.
- Being able to INFLUENCE others.
- RETIREMENT.
- The kind of NEIGHBORHOOD I live in.
- TAXES.



SECTION V

Job Satisfaction & Life Satisfaction

Directions : In this section you are asked to rate the importance of several items according to how important you think each would be in determining your satisfaction with your IDEAL job - the kind of job you would most like to have. You will also be asked to rate a number of items according to how important you think each is in determining overall satisfaction with life. In each case you rate the item from 0 - 15. Write your importance rating to the left of the item in the space provided.

EXAMPLES:

FOR SATISFACTION ON MY IDEAL JOB, HOW IMPORTANT IS ...

3 1. My supervisor's technical skills.

FOR GENERAL SATISFACTION IN LIFE, HOW IMPORTANT IS ...

12 1. Personal prestige.

A. FOR SATISFACTION ON MY IDEAL JOB,  
HOW IMPORTANT IS .....

- 1. Job security.
- 2. Retirement.
- 3. Fair treatment.
- 4. Recognition and appreciation.
- 5. My pay as compared to others.
- 6. Promotion.
- 7. The chance to do work that is challenging.
- 8. The opportunity to use my abilities.
- 9. The amount of my pay.
- 10. Variety in the work I do.

B. FOR GENERAL SATISFACTION IN LIFE,  
HOW IMPORTANT IS .....

- 1. The kind of neighborhood I live in.
- 2. Religious beliefs.
- 3. Owning my own home.
- 4. Marriage.
- 5. Money.
- 6. Community health care quality.
- 7. Education.
- 8. Leisure time.
- 9. Television.
- 10. Friends.

<u>IMPORTANCE SCALE</u>	
Extremely Important	15
	14
	13
Very Important	12
	11
	10
Important	9
	8
	7
Of Some Importance	6
	5
	4
Little Importance	3
	2
	1
Of No Importance	0

THIS COMPLETES THE FIRST HALF OF THE QUESTIONNAIRE

PLEASE GO ON TO THE NEXT PAGE

SECTION VI

Why is it important?

Directions: In the section beginning on the next page you are asked to give your opinion as to the outcome or consequence with which you most associate selected items.

You will be given an item on the left and several choices on the right. We are interested in knowing to which two of the choices on the right you think the item on the left makes its greatest contribution. In other words, each item is presumed to make some contribution to one or more of the choices on the right. You are to select the two choices to which you feel the item makes its greatest contribution.

In the spaces directly below the choices you should write a number one ( 1 ) for your first choice, and a number two ( 2 ) for your second choice. As before, a blank space is provided if you feel none of the choices is the one to which the item makes its greatest contribution. You may write an alternate choice in that space. Be sure to use short phrases or one word for your alternative selections AND be sure to write the number in the space provided which indicates whether it is your first or second choice.

You will note that the items on the left are on a half sheet of this questionnaire and the choices on the right are actually located on a different page. This is as it is intended. Please mark your answers in the spaces provided on the page which contains the choices.

EXAMPLE:

		Personal <u>GROWTH</u> and development
		<u>HEALTH</u> and safety
		<u>RIGHT</u> and wrong
		My <u>IMAGE</u> of myself
		<u>NATIONAL</u> security
		<u>FINANCIAL</u> goals
	My <u>PLEASURE</u> /happiness	
THIS ITEM CONTRIBUTES MOST TO .....		
1. Ambition .....	_____ 1 _____ 2 _____	
	_____ Other: _____	
2. Automobile .....	_____ 2 _____	
	_____ 1 Other: <u>TRANSPORTATION</u>	

In this example, the person feels that Ambition makes its greatest contribution or has the greatest influence on FINANCIAL goals ( #1 ) and has the second greatest influence on My IMAGE of myself ( #2 ).

The item below contributes most to ....

( Indicate #1 and #2 choices)

1. Equal opportunity for all races .....
2. Owning my own home .....
3. Leisure time .....
4. Being able to influence others .....
5. Retirement .....
6. The kind of neighborhood I  
live in .....
7. Taxes .....
8. My income compared to others .....
9. A college education .....
10. Religion .....
11. Conserving natural resources .....
12. Inflation .....
13. My job security .....
14. Afghanistan .....

SECTION VII

Degree of Influence

Directions: In this section you are asked to rate the degree to which the attainment or maintenance of a satisfactory level of the choices you made on the right are affected or influenced by the item on the left.

You should rate the degree of influence on a scale of 1 to 5. The scale is given below.

You are to indicate how much the item influences each of the TWO choices you have marked #1 and #2. That is, your first and second choices from the previous section.

<u>SCALE OF INFLUENCE</u>	
Very strong influence	5
Strong influence	4
Some influence	3
Little influence	2
Very little influence	1

EXAMPLE:

Choice #1	Choice #2		FINANCIAL goals	PLEASURE	HEALTH
<u>5</u>	<u>3</u>	1. Ambition .....	<u>2</u>	<u>1</u>	—
<u>4</u>	<u>4</u>	2. Recreation .....	<u>1</u>	—	<u>2</u>

In the example above, the person believes that for him/her Ambition has a VERY STRONG influence on financial goals (#1 choice) and SOME influence on pleasure (#2)



HOW MUCH does the item below influence  
the # 1 choice on the right? The #2  
choice?

Choice #1

Choice #2

- \_\_\_ \_\_\_ 1. Equal opportunity for all races.
- \_\_\_ \_\_\_ 2. Owning my own home .....
- \_\_\_ \_\_\_ 3. Leisure time .....
- \_\_\_ \_\_\_ 4. Being able to influence others...
- \_\_\_ \_\_\_ 5. Retirement .....
- \_\_\_ \_\_\_ 6. The kind of neighborhood I  
live in .....
- \_\_\_ \_\_\_ 7. Taxes .....
- \_\_\_ \_\_\_ 8. My income compared to others ....
- \_\_\_ \_\_\_ 9. A college education.....
- \_\_\_ \_\_\_ 10. Religion .....
- \_\_\_ \_\_\_ 11. Conserving natural resources ....
- \_\_\_ \_\_\_ 12. Inflation .....
- \_\_\_ \_\_\_ 13. My job security .....
- \_\_\_ \_\_\_ 14. Afghanistan .....

SECTION VIII

Criticalness

Directions: In this section you are asked to indicate the extent to which there are readily available alternatives for each item which might be used to either substitute for the contribution the item makes, OR might be used to avoid or offset negative consequences of the item.

You will rate each item on the left as to the degree to which it is absolutely essential or unavoidable WITH RESPECT TO ITS INFLUENCE ON THE #1 AND #2 CHOICES ON THE RIGHT.

You should rate each item using the numbers on the scale below FOR BOTH THE #1 and # 2 CHOICES YOU MADE EARLIER.

<u>CRITICALNESS SCALE</u>	
<u>NO</u> , there are no readily available substitutes. The item is essential or unavoidable.	3
<u>YES</u> , there is one or more possible substitutes BUT they are <u>not</u> readily available.	2
<u>YES</u> , there is one or more possible substitutes which are <u>somewhat</u> available to me.	1
<u>YES</u> , there is one or more possible substitutes and they are <u>very</u> readily available to me.	0

EXAMPLE:

			HEALTH
Choice #1		FINANCIAL goals	
	Choice #2	PLEASURE	
3	0	1. Ambition .....	2 1
1	2	2. Recreation .....	1 2

To what extent are there readily available alternatives to the item's influence on

Personal GROWTH and development

HEALTH and safety

RIGHT and wrong

My IMAGE of myself

NATIONAL security

FINANCIAL goals

My PLEASURE/ happiness

Choice # 1

Choice # 2

___	___	1. Equal opportunity for all races .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	2. Owning my own home .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	3. Leisure time .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	4. Being able to influence others .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	5. Retirement .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	6. The kind of neighborhood I live in .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	7. Taxes .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	8. My Income compared to others .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	9. A college education .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	10. Religion .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	11. Conserving natural resources.....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	12. Inflation .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	13. My job security .....	___	___	___	___	___	___	___	___
		___ Other: _____								
___	___	14. Afghanistan .....	___	___	___	___	___	___	___	___
		___ Other: _____								

SECTION IX

Frequency of Thought

Directions: In this section you are asked to consider how often you have thought about the items GENERALLY (over the past year or two) and RECENTLY (over the past 3 to 4 weeks).

First you should indicate how often you GENERALLY think of the item. Indicate your choice by placing an X in the appropriate space below the column of answers labeled GENERALLY.

Next, you should indicate how much more or less you have thought about the item recently as compared to over the last year or two. You should indicate your choice by placing an X in the appropriate space below the column of answers labeled RECENTLY.

EXAMPLES:

	<u>GENERALLY</u>				<u>RECENTLY</u>				
	Generally, I tend to think about this ...				As compared to generally in the past, I have recently thought about this .....				
	Very Often	Somewhat Often	Occasionally	Very Little	Much More	Somewhat More	About the Same	Somewhat less	Much Less
1. Money .....				X					X
2. Church .....		X				X			
3. Iran .....			X						X

GENERALLY

Generally, I tend to think about this ...

RECENTLY

As compared to generally in the past, I have recently thought about this .....

Very Often,  
Somewhat Often,  
Occasionally,  
Very Little  
Not at all

Much More  
Somewhat More  
About the Same,  
Somewhat Less  
Much Less

1. Equality for all races..	_____	_____	_____	_____	_____	_____	_____	_____	_____
2. Owning my own home .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
3. Leisure time .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
4. Being able to influence others .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
5. Retirement .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
6. The kind of neighborhood I live in .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
7. Taxes .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
8. My income compared to others .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
9. A college education .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
10. Religion .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
11. Conserving natural resources .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
12. Inflation .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
13. My job security .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
14. Afghanistan .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
15. My personal growth and development .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
16. Issues of right & wrong.	_____	_____	_____	_____	_____	_____	_____	_____	_____
17. My pleasure/happiness...	_____	_____	_____	_____	_____	_____	_____	_____	_____
18. National security .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
19. Health and safety .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
20. Financial goals .....	_____	_____	_____	_____	_____	_____	_____	_____	_____
21. My image of myself .....	_____	_____	_____	_____	_____	_____	_____	_____	_____

THIS COMPLETES THE SURVEY. PLEASE RETURN IMMEDIATELY.

THANK YOU

APPENDIX B  
SCORING INSTRUCTIONS FOR  
THE PERSONAL BELIEFS  
QUESTIONNAIRE

INTRODUCTION

The following instructions are meant as a suggested guide for scoring for the purpose of data analysis.

SECTION I  
DEMOGRAPHICS

<u>Item Number</u>	<u>Scoring Procedure</u>
1. Age	Age as reported (e.g. "26")
2. Sex	Male=1 Female=2
3. Classification	Scored 1-7, top to bottom (i.e. Part-time student=1
4. Education	Scored 1-7, top to bottom.
5. Marital Status	Scored 1-7, top to bottom.
6. Children	No=0, Yes=Number reported
7. Citizenship	American=1, Other=0
8. Church Membership	Yes=1, No=2
9. Church Attendance	Scored 1-7, top to bottom (i.e. Never=7)
10. Employment	No=0, full-time=1, Part-time=2
11. Occupation	This was not used in the study, however occupation code may be employed here.
12. Job Tenure	0-3, top to bottom (i.e. more than 5 yrs.=3)

## SECTION II

Part A: Importance Rating in Unspecified Context.

Each of the forty-five factors is scored according to the rating given in the first column to the right of the factor (i.e. 0 - 15).

Part B: Outcome Centrality, Method No. 1.

Here the total number of times letter appears in either the second or third columns to the right of the factor is recorded as the relative cognitive centrality for that outcome. In other words, the total number of times a subject entered an "A" in either the 1st or 2nd meaning columns (the maximum would be 45 since the same letter would not be used for both a 1st and 2nd meaning) is recorded. I found it convenient to record these totals directly to the left of the respective letters in the "Meaning Descriptions" box. It is not necessary to record each of the individual 90 responses, only the totals.

## SECTION III

### FACTOR CONTENT

Response choices were numbered 1-5 from top to bottom for all provided responses. All response choices written in blanks by subjects were scored "0". (It may be possible to work out a coding for each of the major write-in responses, but this was not done in this study.)



#### SECTION IV

##### RATING AND RANKING

Each factor was given a score from 0-15 which corresponded to the position in which it was placed on the rating/ranking scale.

#### SECTION V

##### SPECIFIED CONTEXT IMPORTANCE RATINGS

Scores were recorded for each factor listed under Job Satisfaction (A) and Life Satisfaction (B) context ratings. As in previous sections scores could be between 0 and 15.

#### SECTION VI

##### ASSOCIATED OUTCOME IDENTIFICATION

Each of the seven outcome choices provided at the top of page 223 from which the subject made a first (1) and second (2) choice was given a value of from 1-7, left to right, i.e. Pleasure/happiness was 1 and Growth and development was 7.

Responses were then scored by giving a score of 1-7 for the first choice for each factor and a 1-7 for the second choice. e.g.:

<u>Factor</u>	<u>Score</u>	
12. Inflation first choice	2	(Financial goals)
Inflation second choice	1	(Pleasure/happiness)

Note that pages 219-222 are half pages and that the right half of page 223 should be visible under pages 219 and 221.

## SECTION VII

### DEPENDENCE OF OUTCOMES ON FACTOR

Scores were given for the dependence of choice No. 1 and No. 2 on the factor in question. The No. 1 and No. 2 corresponded to the '1' and '2' choices the subject selected in the previous section (VI) and which are visible on page 223 to the right of page 221.

Scores were given 1-5 for dependence of choice No. 1 on the factor and 1-5 for dependence of choice No. 2 on the factor. e.g.:

<u>Item</u>	<u>Score</u>
12. Inflation dependence of outcome No. 1	4 (Strong influence)
Inflation dependence of outcome No. 2	3 (Some influence)

## SECTION VIII

### CRITICALNESS OF FACTOR CONTRIBUTION

Scored in the same fashion as Section VII, except that scores run from 0-3.

## SECTION IX

Part A. Factor + Outcome Centrality (Method No. 2).

The answer choices for GENERAL thought (left-hand portion of page 225) were given values of 1-5 from left to right (i.e., "not at all" was scored 1 while "very often" was scored 5).

Each factor and outcome (item 1-14 are factors, 15-25 outcomes) received a score of from 1-5.

Part B. Factor and Outcome Salience.

The answer choices for RECENT thought (right-hand portion of page 225) were given values of 1-5 from left to right (i.e., "much less" was scored 1, while "much more" was scored 5).

Each factor and outcome received a score of from 1-5.

Employing the above scoring methods and using all 80 columns on a standard IBM computer card (i.e., no spaces between items) approximately five cards were required per subject.