

THE PERCEPTION OF WAGE  
INCREASES

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## CHAPTER I

### INTRODUCTION

Although pay has been of interest to psychologists for a number of years, the development of a framework within which to study the psychological significance of pay has been long overdue. In 1966 Lawler wrote:

At our present state of knowledge it would be premature to expect a book that would provide a comprehensive treatment of the psychological issues involved in management compensation (pp. 238-239).

Since that time, research in some areas, e.g., the area of pay satisfaction, has increased enormously. However, other areas concerned with pay have not. One such area concerns how employees perceive changes in the magnitude of salary increments. To date, only a handful of studies have appeared in this area of research literature, yet the psychological aspects of pay increments may be of fundamental importance for both practical and theoretical reasons.

For example, from a work management perspective, there can be little doubt that pay has motivational significance. Wages serve as a source of motivation to perform effectively, and as such, have incentive properties. Money can not only satisfy basic needs such as food, shelter, and clothing, but also acquired needs such as social position



and power. Wage perceptions, therefore, project themselves into a complicated network of functional referents. For instance, an increase in pay can be viewed in terms of the access it provides to the basic requirements of life, i.e., food, shelter, etc., but it can also be viewed in terms of social meaning such as its perceived equity or its status implications. Little is known about how these different perspectives influence an individual's view of the wage increases received, and that is one of the primary concerns of the present investigation. One thing is clear, however, and that is that pay is often perceived as an important dimension of the incentive system that operates in a work environment. For example, Lawler (1971) in a review of the literature concerning the relative importance of pay compared to other job characteristics or outcomes, reported that in two-thirds of the forty-nine studies reviewed, pay was ranked in the top three. In addition, in twenty-five percent of the studies, pay was ranked first in importance. Thus, there is empirical support for the contention that pay is perceived as an important entry in the list of incentives that are available to those who work.

Another indication of the important role pay plays in the work place may be found in management's traditional reliance on wage incentives as a potent work motivator. Dating back to the "scientific management" approach to labor, economic incentives have been seen as the primary, and sometimes only means of motivating employees. The human

relations movement expanded the focus of management to consider additional factors in the work environment that have incentive properties, but the significance of financial incentives still remain very much in evidence in this broadened view of work motivation. In fact, some authors have held that the greatest contribution of Maslow's hierarchy of needs theory was that it noted that individuals in the work force have diverse motives (e.g. Luthans, 1981, p. 180). Nevertheless, piece-rate systems, profit sharing, Scanlon plans, and other systems indicate that management still places high regard for the incentive value of money. Finally, it should be noted that almost every organization utilizes periodic wage increment systems which serve to reward and motivate employees.

With the possible exception of the research done on satisfaction with wages and equity, there has not been an active research literature concerning the subjective impact of different wage amounts. As a consequence, there is little known regarding how the real size of a wage increment is subjectively translated into an internal impression of magnitude. For example, it is doubtful that a wage increase of one-hundred dollars is viewed subjectively as being twice the magnitude of a fifty dollar increase. In all probability, the subjective wage scale does not correspond in a one-to-one fashion to an increasing scale of marginal dollars. Some psychological function may describe the relationship, but unless wage increments operate in a

subjective realm that is different from many other magnitude continua, this function is probably not linear. Furthermore, the nature of the function, in all likelihood, will depend on the subjective referent, such as present salary or equity, that is adopted as a standard against which a wage increment is compared. It is the nature of this function, and some of the variables that may contribute to it, that serves as the central issue of this investigation.

The problem of establishing a relationship between a worker's internal or subjective wage increment scale and a scale reflecting increases in actual dollars suggests the use of traditional psychophysical methods. There are difficulties, however, and these can be traced to the very nature of a scale of actual dollars where the presence of wage increases, regardless of their size, can be detected with one-hundred percent accuracy. As a result, the problem of locating an absolute threshold, a problem that is of central concern in psychophysics, is solved by merely identifying the smallest wage increase possible. It is clear that modifications to both the theory and methods of psychophysics are required before one may attack the question of a threshold in the perception of increases in the magnitude of aggregate dollars.

Some progress has been made in adapting psychophysical methods to the problem of estimating the nature of the function relating subjective judgements to actual dollars. For example, both Hinrichs (1969) and Zedeck and Smith

(1968) have reported some success in applying psychophysical scaling techniques in studying worker's perception of wage magnitudes. Review of these particular studies and others will follow, but first there is a discussion of psychophysical methods as they relate to the present study.

### Psychophysical Methods

Edwards (1957) describes psychophysical methods as the relationship between the ordering of objects on a known physical scale and the ordering of the same objects on a psychological continuum established by the judgement of individuals. The present objective of scaling pay increments fits into the above description. Since there exists a known physical scale (dollars) which is ordered, the major task involves the establishment of rules of correspondence between this scale and one of subjective responses.

Still the present problem deviates somewhat from traditional scaling procedures. Traditional psychophysical scaling techniques, applied to weights for example, typically require subjects to lift a series of objects of differing weights and in some fashion express their judgement of the subjective magnitude of each stimulus with regard to a standard stimulus, e.g., lighter or heavier. A comparable task with regard to scaling pay increments would require subjects to place varying dollar increments into categories such as smaller or larger than a standard

stimulus. It is apparent that one difference which distinguishes the two tasks is that the exact weights are not known to the subject, while by their very nature, dollar amounts, hence information concerning absolute magnitude, are known to subjects. As such, even extremely small changes in stimulus intensity can be detected with absolute accuracy by respondents. Therefore, the minimum change in stimulus intensity which respondents would reliably be able to detect would be meaningless, and as a consequence the concept of absolute threshold must be altered in order to apply to the present context. Traditionally the absolute threshold is a 'noticeable' difference in stimulus magnitude. This threshold refers to a stimulus magnitude whose presence is marginally detectable by a subject. Although a dynamic concept, in that its value may change slightly from one trial to the next, the threshold is an idea that refers to emergent awareness. It concerns that level of stimulation that just comes into sentient presence; magnitudes below this threshold are reported to be absent by the subject.

When dealing with dollar amounts, a more appropriate threshold concept is one in which respondents are asked to report the presence of a 'meaningful' difference in magnitude. The term meaningful refers to the minimal dollar increment necessary to result in specific behavioral changes. Sub-threshold increases are, in fact, detectable, i.e., a worker can report awareness of even the smallest

wage adjustment, but it is not until income change reaches what now will be called threshold magnitude that the individual can articulate the specific behavioral consequences of the adjustment. From this perspective, therefore, the threshold concept is a derivative of the one that is found in traditional psychophysics. Rather than referring to an awareness of a change in stimulus magnitude, the threshold now becomes a shift in cognition; a transition point between two cognitive categories that are applied to different modes of responding to a stimulus.

There is some support in the research literature indicating that some sort of threshold concept is applicable to changes in income level. For example, Katona (1968) reported, with regard to a 1964 tax cut, that although nearly everyone acknowledged a detectable difference in take-home pay, a large majority also reported that the difference had no economic or behavioral significance. For example, one-half of the respondents reported that they used the money for "everyday expenses" and an additional one-third did not know what they did with the money. Clearly, the respondents were aware of a difference but most did not perceive the difference as being 'meaningful'. Other than increasing the aggregate dollars that are available, individuals frequently were unable to identify specific economic functions served by the added dollars. As a consequence, one half of the respondents reported that the new money led to no change in the pattern of expenditures,

but rather resulted in a larger amount of dollars being used in an already established system of money usage. Evidence such as this supports the idea that a threshold concept of a 'just meaningful difference' in dollar increments instead of the traditional psychophysical concept of a 'just noticeable difference' may be useful in scaling subjective perceptions of changes in income.

In essence, a just meaningful difference is a threshold value which is located on a scale of dollars at the place where there is a shift in the cognitive category that is applied to the increase. If an increment is sub-threshold it does not indicate that a difference is not perceived, only that the difference does not produce specific economic or behavioral changes. From this perspective the just meaningful difference can be considered to be both a derivative of and parallel to the concept of a just noticeable difference in traditional psychophysics. The primary referent distinction between the two concepts is that a just noticeable difference is basically the perception of a change in stimulus intensity or magnitude, while in contrast a just meaningful difference represents a change in cognition, a transition point that divides the response scale into segments to which different cognitive labels are applied. Further, Hinrichs (1969) suggests that the width of the cognitive categories be defined by an analog of the traditional just noticeable difference. In the present study the unit dividing subjective categories of

magnitude will be referred to as the just meaningful difference (jmd) of stimulus intensity.

Now that the just meaningful difference has been identified and defined, procedures for estimating the size of the just meaningful difference units will be described. Measurement of the just meaningful difference unit is analogous to the measurement of the just noticeable difference (jnd) in traditional psychophysics. Similar to the Method of Single Stimuli (Torgerson, 1958), respondents will be asked to indicate when an increase in stimulus magnitude (salary) is meaningful in the sense that a shift in a cognitive category occurs which would give meaning to the increase. Thus, the size of the jmd is derived from category width and each respondent provides an estimate of interval size.

#### Review of the Literature

As with all psychophysical phenomena individuals can be expected to vary with regard to their perceptions of the jmd unit. The present study attempted to look at variables which may influence the size of the jmd unit. In particular, variables such as present salary, wage expectations, and feelings of inequity concerning pay are investigated. A small number of studies in the literature have already provided some information concerning these variables.



One of the earlier studies was directly related to how individuals view salary increases, as reported by Hinrichs (1969). In this study Hinrichs sampled 1500 white collar workers to determine perceptions of small, average, and large salary increases. It was hypothesized that some form of the Weber function would be appropriate to describe the relationship between actual wage increments and the perception of wage change. Furthermore, the primary stimulus used as the standard was assumed to be present salary. Hinrichs asked his subjects to judge the magnitude of a series of wage increases, and he then plotted these changes in subjective judgements against the actual dollar amount of each wage adjustment. From these data he was able to determine whether the relationship between actual dollars and subjective judgements reflected anything that approximates the Weber ratio that has frequently been reported for other, more conventional, psychophysical data. The Weber ratio is an inexact formulation of the constant relation between changes in stimulus intensity and a just noticeable difference in subjective magnitude. The stimulus change that gives rise to the impression of a just detectable increase in subjective magnitude is thought to be a constant fraction ( $k$ ) of a standard comparison stimulus.

Although this constant fraction  $k$  may vary for different attributes and senses, it remains fairly stable for the middle range of intensity with regard to attributes and senses. The major dependent variable in the study was

recorded from a questionnaire with a listing of hypothetical salary increases per month ranging from \$1 to \$1,000. Subjects responded by dividing the above dollar amounts into five categories ranging from 'just barely noticeable salary increases' to 'extremely large salary increases'. In addition, subjects revealed their present salary and various demographic data. Hinrichs found that the rise in present salary was accompanied by a proportional rise in the dividing point between categories of responses (e.g., between small and average salary increases).

Hinrichs also reported that the dividing points between 'average' and 'small' salary increases and between 'small' and 'just barely noticeable' salary increases, etc., increase in a monotonic fashion with present salary. That is, an increase in present salary is always accompanied by an increase in the dividing point between two cognitive categories. Stability in the monotonic functions, however, decreased with regard to 'large' and 'very large' salary increases. Thus, Hinrichs results indicate that perceptions of salary increases do follow a Weber-Fechner type of lawful relationship with present salary. The results also indicate systematic deviation from the psychophysical model, especially, as noted above, with regard to 'large' and 'very large' salary increases. Part of this systematic deviation was explained by demographic variables. An analysis designed to identify optimal combinations of independent variables explaining a dependent variable, in this case the

transition point between 'small' and 'average' salary increases (referred to as an 'average' salary increase), yielded education level and age as significant. In particular, college-educated employees used higher values to identify 'average' salary increase than noncollege graduates, and younger employees applied larger dollar values to identify an "average" salary increase than older employees. Sex of subject was only significant for the young noncollege educated group, with males having higher "average" salary increase perceptions. Hinrichs suggests that education, age, and in some cases sex, significantly raise salary increase thresholds due to their affect on salary expectations. That is, employees with a high earning potential, e.g. college educated and young, have higher earnings expectations which influence threshold values.

In summary, Hinrichs' analysis revealed that two major factors, present salary and earnings expectations, significantly affect the threshold of 'average' salary increases, and that the relationships between present salary and salary increase thresholds are basically monotonic.

Although the above study added significantly to the literature of wage increase evaluation, as with much research, it raises as many questions as it answers. One such question involves the descriptive categories used in scaling the hypothetical salary increases. Hinrichs used descriptors to enhance category labels. For example, to the category 'small salary increases' was added 'I would be

somewhat disappointed'. In extending research in the area concerned with the evaluation of salary increases it would be of interest to separate these two response dimensions and study each individually since one dimension refers to a magnitude domain whereas the other refers to an affective continuum. That is, individuals may evaluate salary increases along dimensions of, e.g. magnitude, affect, economic function, and possibly others. If so, Hinrichs apparently asked subjects to evaluate salary increases simultaneously across two evaluative dimensions or frames of inference. The phrase "small salary increases" implies magnitude and "somewhat disappointed" implies affect. The extent to which these dimensions exist as separate entities is a matter of considerable importance to our understanding of dollar amounts.

Evidence has been presented that individuals do have an internal wage scale with regard to salary increases and wage satisfaction. Giles and Barnett (1971) used a magnitude estimation technique to determine the relationship between merit increases and satisfaction. Four frames of reference were utilized and subsequently fitted to power, linear, and logarithmic functions to determine the best fit. A frame of reference in the present context can best be viewed as an independent or predictor variable. That is, which of a number of ways of viewing a salary increment would result in the highest correlation with satisfaction, for example, percentage of increase or absolute value of increase.

In the Giles and Barnett study, each subject chose a "fair" merit increase then rated 13 other increases by comparing them to the "fair" increase. Thus, each subject responded to 13 hypothetical salary increases by indicating the amount of satisfaction or utility associated with each. The four frames of reference used as predictors were as follows: (1) the dollar value given to each of the 14 merit increases; (2) the percentage of the merit increase; (3) the percentage of perceived equitable increase; and (4) wealth (as a predictor of satisfaction).

The results revealed that the consistent relationship across frames of reference was best described by a function of the type found in Steven's Power Law (1957) and the percentage of perceived equitable increase best represented the data, i.e., was correlated highest with satisfaction. The power function described by the authors indicates that each dollar had increasing marginal utility for most subjects. That is, each dollar increment had more value than the previous dollar increment. However, small minority (11%), displayed a decreasing power function at the high end of the proposed merit increases. For these subjects, as the proposed merit increases reached too high a point, the value of each succeeding dollar decreased in value. Giles and Barnett labelled these subjects the equity group and suggested that equity, as outlined by Adams (1965), has a moderating influence for some subjects. The authors also reported that age and tenure did not significantly alter the

relationships between satisfaction and salary increases, although profession (engineers and nonengineers) did significantly moderate the relationship. The results of the Giles and Barnett study suggest that affect (satisfaction) is one of the dimensions along which individuals evaluate a wage increment. In addition, this internal wage scale may be moderated by a number of variables including feelings of equity. Most relevant to the present study is the finding that individuals have a mode of apprehending a change in wage level along an affective dimension. Thus, it is likely that individuals are able to respond to a change in wage level using different perceptual orientations. Each mode refers to a difference in perceptual dimension, or frame of reference, adopted by individuals in considering a wage increment. Examples of differing frames of reference with regard to wage increment perception include magnitude, e.g. small, large, etc., affect, e.g. satisfied, indifferent, dissatisfied, etc., and economic function, e.g. pocket money, change in purchasing power, etc. All three frames of reference were included in the present investigation. The rationale was that individuals generate scales that identify a response domain which maps out these three major dimensions of perceptual response according to increasing dollar amounts.

Additional studies in the area also support the proposition that some type of monotonic relation exists between salary level and perception of pay increments.

Zedeck and Smith (1968) used the psychophysical method of limits to determine the thresholds of perceived equitable payment. The method of limits is a technique which attempts to determine how small a difference in stimulus magnitude can be discriminated by a subject. In the Zedeck and Smith study the method of limits involved the presentation of nine single stimuli, consisting of salary levels, in random order. Each subject indicated whether particular salary levels were fair, more than fair, or less than fair. The point of subjective equality (PSE) and a just meaningful difference, analogous to a just noticeable difference in traditional psychophysics, were determined. The authors' main concerns were which factors determined a "fair" salary increase, what are the thresholds of a just meaningful difference in salary, and the sensitivities of workers to inequities in pay. Zedeck and Smith relied on the assumption that an individual has an internal absolute standard of equitable and inequitable payment unrelated to a comparative group or person. Three groups were studied; Group 1 (n=15) consisted of junior executives; and Groups 2 (n=7) and 3 (n=11) consisted of separate secretarial pools. The results indicated that PSE and the just meaningful difference in salary increases were significantly greater for the executive group than for either of the secretarial groups. In addition, the Weber ratios, reporting proportionately meaningful additions to base salary, were not significantly different. This latter finding indicates

that perception of equitable wages is a constant function of present salary. Although the above study is limited due to restricted sample size, the study indicates the general potential for the application of psychophysical methods to the area of wage increases and the idea that employees maintain a subjective internal wage increment scale. In addition the authors suggest that input variables, including equity, tenure, age, etc., may influence salary increment evaluation and should be investigated in future research.

The suggestion that feelings of equity influence the evaluation of salary increments, along with other input variables, is logical and was investigated in the present study. Adams' (1965) equity formulations, termed equity theory, were derived from Festinger's cognitive dissonance theory. Adams holds that individuals compare their ratio of inputs to outcomes to the ratio of inputs to outcomes of a comparative other or group. If the ratios are equal a state of balance or equity exists. However if the ratios are unequal, there is a state of inequity exists which has motivating effects and negative attitudinal outcomes such as dissatisfaction. Equity theory predicts that employees may reduce inequity by altering either the inputs or the outcomes of themselves or others. In the case of hourly and salaried employees, the most logical strategy would be to decrease one's inputs if undercompensation is perceived, or to increase one's inputs if overcompensation is perceived. Decreasing inputs have been focused upon with salaried and



hourly employees due to their perceived inability to alter outcomes, while the altering of outcomes has been studied extensively with regard to piece-rate workers (e.g. Adams and Jacobsen, 1964; Andrews, 1967), indicating that certain employees do adopt a strategy of altering outcomes under certain conditions. One method that alters outcomes is periodic wage increment procedures. Although wage adjustment outcomes are not usually under the direct control of individual employees, feelings of inequity (e.g. undercompensation) may influence the perception of the wage adjustment outcome. That is, an employee who feels undercompensated may be less satisfied (or more dissatisfied) than an employee who feels equitably treated. Put another way, an employee who feels inequitably paid may have higher thresholds of perception of pay increments, especially along the dimension of affect, since Adams proposes that inequity results in dissatisfaction, an affective response. That is, employees who feel inequitably treated with regard to compensation may have differing perceptions of wage increments than employees who feel equitably treated. This question has not as yet been addressed in the research literature, although it is of considerable importance in understanding how employees perceive wage increments. As such, the present study will investigate the influence of feelings of inequity on wage increment perception.

One additional factor, the employee's expectations, is related to most of the variables in the above discussion hypothesized to influence the perception of pay increments. An expectation is a tension state that can be resolved when the expectation is confirmed. Hence, expectancy is a concept that has motivational significance. As such, it might play a role in influencing perceptions of wage increases, a role that is similar to the roles played by equity considerations and future optimism in influencing the perception of wage increases. However, the influence of expectations on perceptions of wage increases has not been prevalent in the literature to date. Most studies in the psychological literature investigating compensation issues have focused on the relationship between actual compensation and attitudes such as pay satisfaction (e.g., Dreher, 1981; Ronan and Organt, 1976; Penzer, 1969; or Lawler and Porter, 1963). There are only a few studies dealing with the extent that past experience with salary policies affect future expectations of pay (e.g. Hinrichs, 1969; or Zedeck and Smith, 1968). The general interpretation emerging from these latter studies is that expectations of future pay, i.e. wage increases, are a function of absolute salary levels and background variables, as noted above. That is, variables such as present salary influence perception of wage increments by altering future expectations.

One method to investigate the influence of expectations on pay increment evaluation, which has yet to appear in the

literature, is to study groups hypothesized to differ with regard to the relative saliency of expectations. A logical group with which to compare present employees is future employees. Since future employees would be expected to have little or no wage history, no experience to develop feelings of equity or inequity, and no current salary level, expectancies with regard to future wage treatment would appear to be a logical referent that would serve the function of influencing perceptions of pay similar to that of present salary in employed workers. If so, it would be of interest, for both practical and theoretical reasons, to attempt to test the expectation hypothesis.

An attempt is made to clarify the relationships between expectations and other variables such as present salary by determining if future employees use future expectations of salary treatment in a manner analogous to the way present employees use present salary level in reacting to hypothetical wage increments. That is, do the expectations of future employees serve the same functions as present, real salary for employed individuals with regard to the perception of wage increments? Experiment II, designed as a partial replication of Experiment I (using full-time present employees), used MBA students who were within one year of graduation. The studies are reported separately, and their results compared.

## Statement of Objectives

Due to the complexity of the area and the exploratory nature of the research, the objectives and hypotheses were of a general type. The first objective of the study was to estimate difference thresholds (jmds) for aggregate dollars, when dollar increments are viewed from the perspective of three different frames of reference, magnitude, affect, and economic function. In order to do so, subjects were asked to respond to a series of wage increments on three separate scales, one expressing the perceived magnitude of the wage increment, a second expressing the subject's affective response to each wage increment, and a third asking the subject to indicate when an increase is large enough to enable them to use the money for specific purchases or for savings. Hypothesis 1 states that significant differences in jmd values will occur when subjects adopt different frames of reference. Each frame of reference is assumed to function as a cognitive dimension that expresses a mode of reacting to varying dollar amounts. Therefore, changing a frame of reference is expected to alter the subjective scale, i.e., alter the point on the scale that is identified with the number zero. Whether changing the frame of reference will change the size of the scale unit, i.e., the width of the judgement category, is left for empirical verification. That is, a salary increase that is perceived as large in comparison to average, may be different from one

that is perceived as resulting in satisfaction in comparison to indifference.

A second objective is to identify variables that are believed to moderate the perception of salary increases, or more specifically, the size of the jmd unit. Based on prior research and logical considerations, the following variables were believed relevant: (1) present salary; (2) feelings of equity; (3) age; (4) tenure; and (5) perceptions of economic outlook, including prospects for promotion, projected inflation rate, and regional economic prospects.

## CHAPTER II

### METHOD

#### Experiment I

##### Subjects

Fifty-nine females and fifty males (n=109) served as subjects. Subjects were recruited primarily through continuing education classes at a small midwestern college, located in a city of approximately 90,000 population, in order to achieve a reasonable sample of service employed workers (e.g. secretaries, managers, administrators, professionals, etc...). In addition, subjects were recruited from local organizations (Sioux City, Iowa) of a medical, educational and financial nature. No more than ten subjects were recruited from any one organization, in the hope of attaining some generalizability. Beside full-time employment as a criterion for inclusion in the study, each subject was required to have undergone at least one periodic wage adjustment procedure within the organization of present employment. Participation was voluntary, and due to the sensitive nature of some questions (e.g. present salary), subjects were advised that they could withdraw from participation at any time. Although no subjects explicitly

withdrew from the study, four questionnaires were unusable and were not included in the analyses.

### Criteria Measures

A test instrument was developed to generate the data for the present study. This instrument consisted of five sections (see Appendix A). Section one consisted of twenty-six hypothetical salary increases ranging from \$5.00 to \$1,000.00 per month. Subjects were instructed to divide the proposed salary increases into five categories: (1) extremely small; (2) small; (3) neither large nor small; (4) large; and (5) extremely large. This was considered to be a scale of magnitude judgements.

Section two was similar in format in that subjects were asked to divide the identical twenty-six proposed salary increases into five categories. However, this section also requested they respond as to how they would feel with regard to the increases. The five categories were labelled (1) deeply disappointed; (2) somewhat disappointed; (3) neutral; (4) pleasantly surprised; and (5) flabbergasted. This was considered to be a scale of affective judgement.

Section three also used the above mentioned twenty-six hypothetical salary increase. Subjects were asked to make two estimates, one indicating the amount of salary increase necessary for them to plan to make specific purchases, and one indicating the amount necessary to start or increase savings. This was considered to be a scale of economic

function. Subjects were informed that the same dollar increment could be indicated for both purchasing and saving if appropriate.

Section four was comprised of fifteen questions requesting demographic data, information concerning perception of equity (three types), expectations of future economic climate and prospects, and the importance of money.

Finally, section five requested subjects to indicate their monthly salary by checking the appropriate category. Monthly salary categories ranged from \$500.00 to \$3,900.00 per month and category width ranged from \$50.00 to \$100.00. In addition, subjects were given the option of listing their monthly salary if it did not appear on the scale.

#### Operational Definitions

In order to calculate the just meaningful differences in salary for Sections 1 and 2, magnitude and affective scales respectively, the method of single stimuli, as outlined by Torgerson (1958) was used. The method of single stimuli can be defined as any psychological method in which a subject reports a judgement following the presentation of each single stimulus. Although in the present investigation all twenty-six hypothetical salary increases are presented simultaneously, it is assumed that subjects judge each stimulus (hypothetical salary increments) individually and in order of presentation. Threshold values are defined as the transition point from



one cognitive category to another, i.e., the threshold value is that dollar amount which shifts an individual's evaluation from one subjective category to another. These threshold values were empirically determined by calculating the mean of the upper limit of a category and the lower limit of the adjacent category. For example, if an individual categorized \$50.00 as being an extremely small salary increase and \$60.00 (the next highest hypothetical salary increment) as small, the threshold value between category 1 and category 2 is \$55.00. These were defined as just meaningful differences (jmd's) of salary increments. As such, both the magnitude and affective scales yielded four jmds each, or eight total. Each magnitude jmd will now be referred to as jmdm and each affective jmd as jmda. In addition, the jmd between categories 1 and 2 will be referred to as jmdm1, for magnitude, and jmda1 for affect. Thus, for the magnitude scale jmdm1, jmdm2, jmdm3, and jmdm4 were calculated, and for the affect scale, jmda1, jmda2, jmda3, and jmda4 were calculated.

The just meaningful differences for the economic scale were simply defined to be the dollar increments indicated. Therefore, the jmd for making specific purchases (jmdplan) was the dollar increment indicated as necessary to plan to make specific purchases, and the jmd for saving money (jmdsav) was the dollar increment necessary to save. In all, ten jmds were calculated.

The definition of overall equity used asked employees,

on seven-point verbally anchored scales (7 indicating much more and 1 indicating much less), both how much work they accomplish and how much they are paid, with both compared to co-workers. Overall equity was calculated by subtracting how much they were paid from how much they accomplished.

Two additional definitions of equity were also used. Subjects were asked their level of agreement with a statement concerning how fairly they were being paid in comparison to employees inside (internal equity) and outside (external equity) of their organization. Both questions were of a Likert-type and were also on a seven-point scale with 1 indicating strong disagreement and seven indicating strong agreement. Thus, the more inequity experienced by the individual, the lower the score. It can be seen that internal and external equity measures do not reveal whether subjects feel overpaid or underpaid in comparison to others. Overall equity, however, does give an indication of the direction of the inequity experienced.

Subjects were asked six questions that focused upon future economic climate. Included were questions related to projected inflation rate, future regional economic climate, purchases of durable goods and expectations of improvement in standards of living due to wage increases and promotions. All of the above items used a seven-point verbally anchored scale (the higher the score the more favorable the outlook), with the exception of inflation, which simply asked subjects to indicate the projected rate of inflation over the next twelve months.

## CHAPTER III

### EXPERIMENT I

#### Results

Table I gives the demographic breakdown of the employed sample. "Tenure" indicates years of employment within an organization. Thus, tenure equal to 7.5 indicates seven years and six months employment within the organization of present employment. Although males are slightly older, have slightly longer tenure, and earn more money than females, none of the differences is significant ( $p > .05$ ). Therefore, for purposes of analysis, males and females were combined. It can also be seen that some subjects have not been with their organization of present employment for one year, however, all subjects indicated that they had submitted to at least one periodic wage adjustment procedure with their present organization. These subjects were included in the analyses.

The first phase of the analysis was carried out in order to determine whether the relationship between subjective judgements and a scale of actual wage increases displayed the consistency predicted by the Weber fraction. That is, these calculations attempted to determine whether just meaningful increases in pay were a constant fraction of

TABLE I  
 NUMBER OF SUBJECTS, MEAN, STANDARD DEVIATION,  
 MINIMUM AND MAXIMUM SCORES OF TENURE,  
 PRESENT SALARY AND AGE FOR  
 MALES AND FEMALES

VARIABLE	MALES	FEMALES	TOTAL/AVERAGE
<u>TENURE</u>			
N	50	59	109
Mean	7.5	6.9	7.2
S.D.	7.0	6.7	6.8
Minimum	0.8	0.5	
Maximum	28	25	
<u>AGE</u>			
N	50	59	109
Mean	40.3	37.7	38.9
S.D.	9.0	10.1	9.7
Minimum	23.0	24.0	
Maximum	62.0	59.0	
<u>SALARY</u>			
N	50	59	109
Mean	1720	1575	1694
S.D.	479	839	675
Minimum	800	800	
Maximum	6250	3000	

an individual's present salary. Recall that these just meaningful differences, or jmds, were determined by subtracting the upper limit of a category from the lower limit of the adjacent, higher category, dividing by two, and adding the obtained value to the upper limit of the category referred to above. Thus, since subjects divided the hypothetical salary increments into five categories for both the magnitude and affective scales, four jmds were determined for each scale, while two jmds were determined for the economic frame of reference, savings and utility jmds. The four magnitude, four affective, and two economic jmd estimates can be seen in Table II categorized by present salary intervals. Also, included in Table II are the dollar increment amounts divided by the midpoints of their respective current salary interval. These Weber-type ratios (in parentheses) are included for all jmds except the highest current salary interval. This omission is due to the inability to calculate the midpoint of the extreme interval. There appears to be a trend in these data suggesting that the ratios tend to decrease as present salary increases. Hence, to receive a raise described as large the individual earning \$2,500 a month tends to require a smaller percentage increase than does the individual earning \$1,200 per month.

To further highlight these relationships between present salary and jmds, Figures 1, 2, and 3 are plots of present, or current, monthly salary versus percentage of

TABLE II  
JUST MEANINGFUL DIFFERENCES OF MEAN MONTHLY  
SALARY INCREASES AS A FUNCTION OF  
CURRENT SALARY

<u>JMD</u>	<u>CURRENT MONTHLY SALARY</u>						
	800 n=4	801- 1200 n=25	1201- 1600 n=35	1601- 2000 n=19	2001- 2400 n=14	2401- 2800 n=7	over 2800 n=5
JMDM1	64* (8.0)	44 (4.4)	60 (4.2)	39 (2.2)	40 (1.8)	54 (2.1)	112
JMDM2	130 (16.3)	99 (9.9)	118 (8.4)	99 (5.5)	89 (4.0)	114 (4.4)	281
JMDM3	235 (29.4)	193 (19.3)	225 (16.1)	199 (11.1)	205 (9.3)	263 (10.1)	667
JMDM4	588 (73.5)	393 (39.3)	521 (37.2)	600 (33.3)	466 (21.2)	575 (22.1)	1000
JMDA1	69 (8.6)	49 (4.9)	46 (3.3)	93 (5.1)	35 (1.6)	49 (1.9)	123
JMDA2	105 (13.1)	93 (9.3)	93 (6.6)	190 (10.6)	71 (3.2)	115 (4.4)	203
JMDA3	167 (20.9)	162 (16.2)	160 (11.4)	221 (12.3)	153 (7.0)	221 (8.5)	483
JMDA4	341 (42.6)	334 (33.4)	392 (28.0)	396 (22.0)	323 (14.7)	481 (18.5)	805
PLAN	275 (34.3)	191 (19.1)	204 (14.6)	320 (17.8)	230 (10.5)	196 (7.5)	750
SAV	298 (37.2)	176 (17.6)	217 (15.5)	266 (14.8)	261 (11.9)	211 (8.1)	610

\*Indicates dollars per month.

Numbers in parentheses are percentages and indicate dollars per month divided by currently monthly salary interval midpoint.

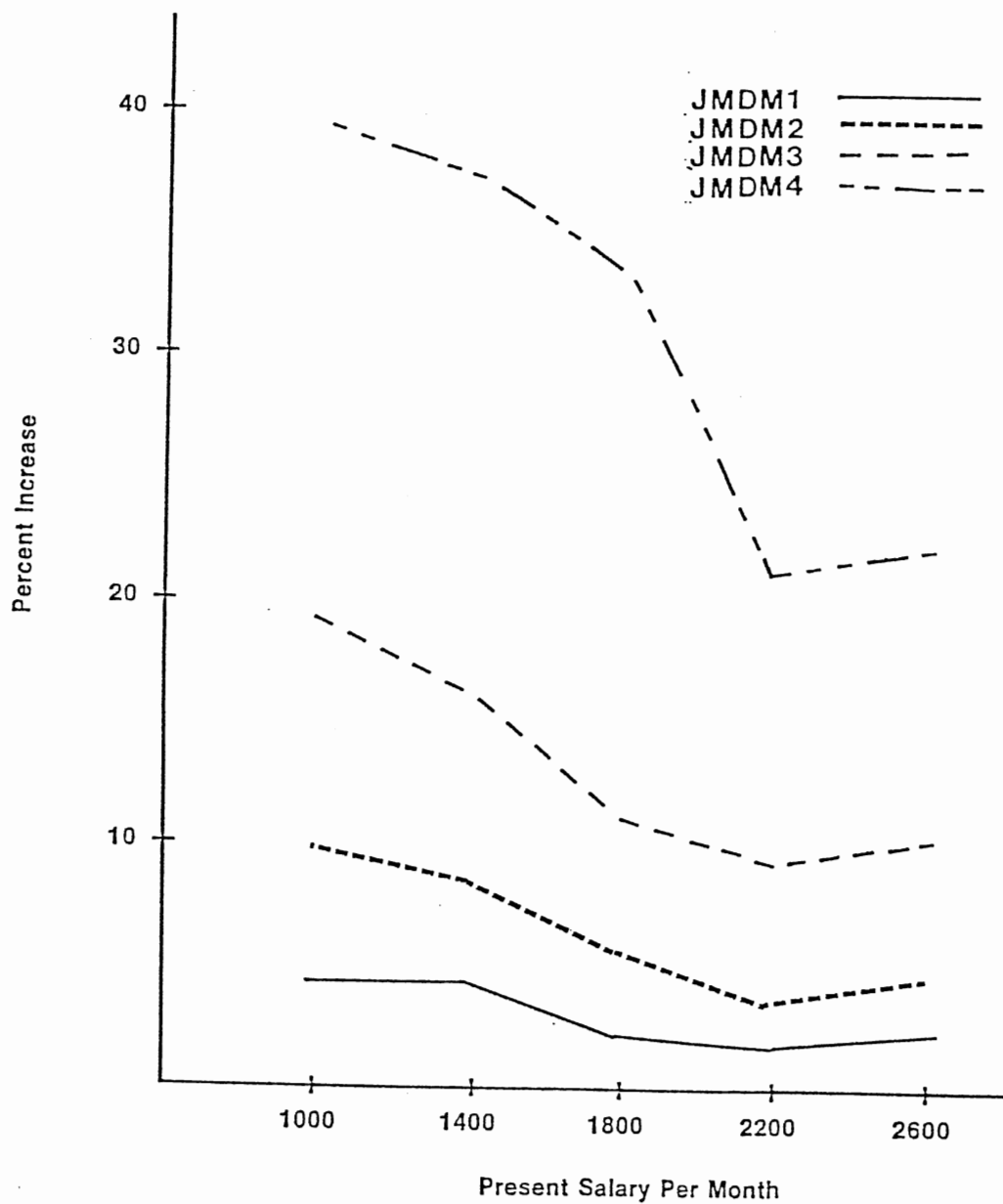


Figure 1. Perceptions of magnitude of monthly salary increments as a function of percent of present salary.

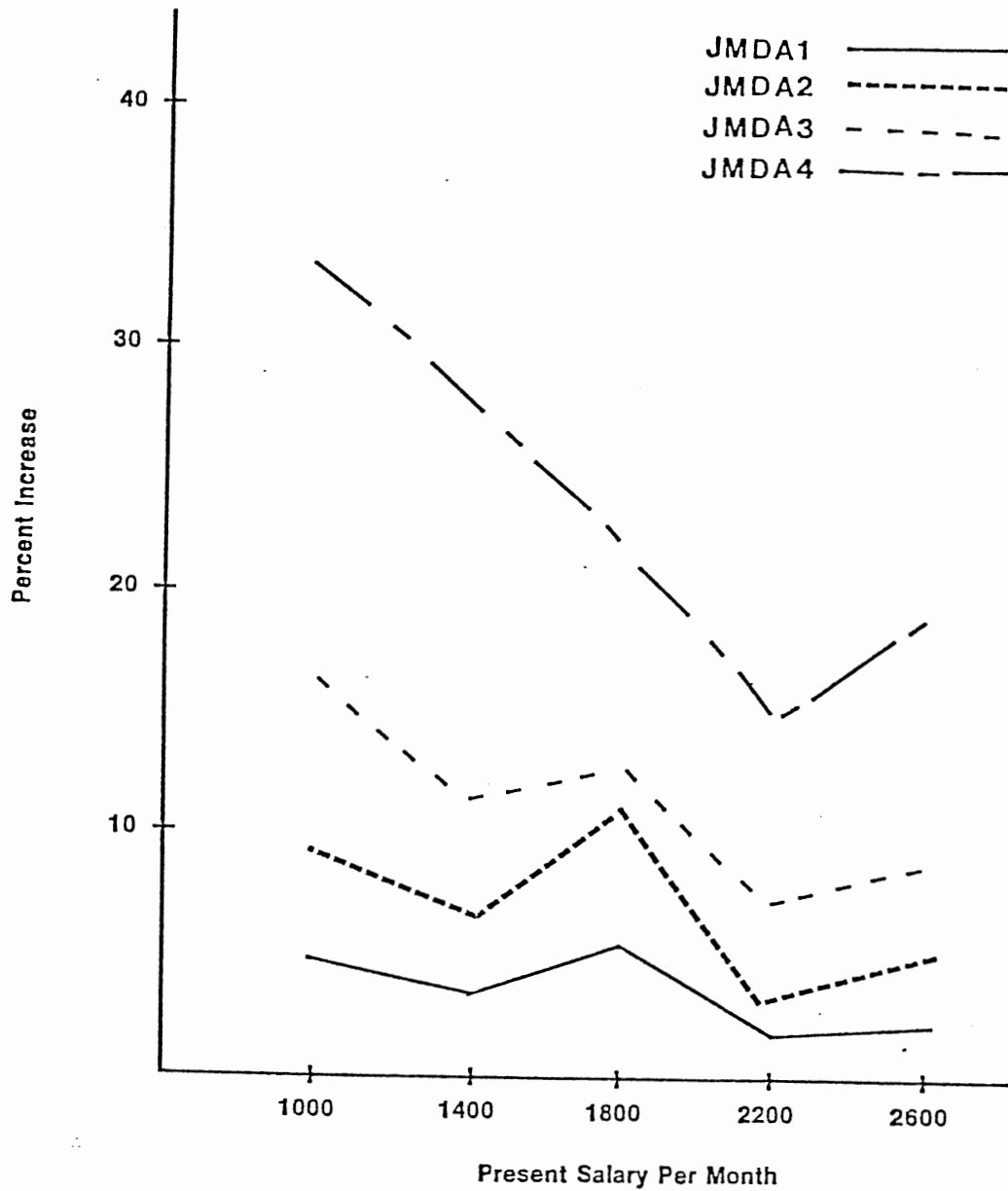


Figure 2. Perceptions of affect of monthly salary increments as a function of present salary.



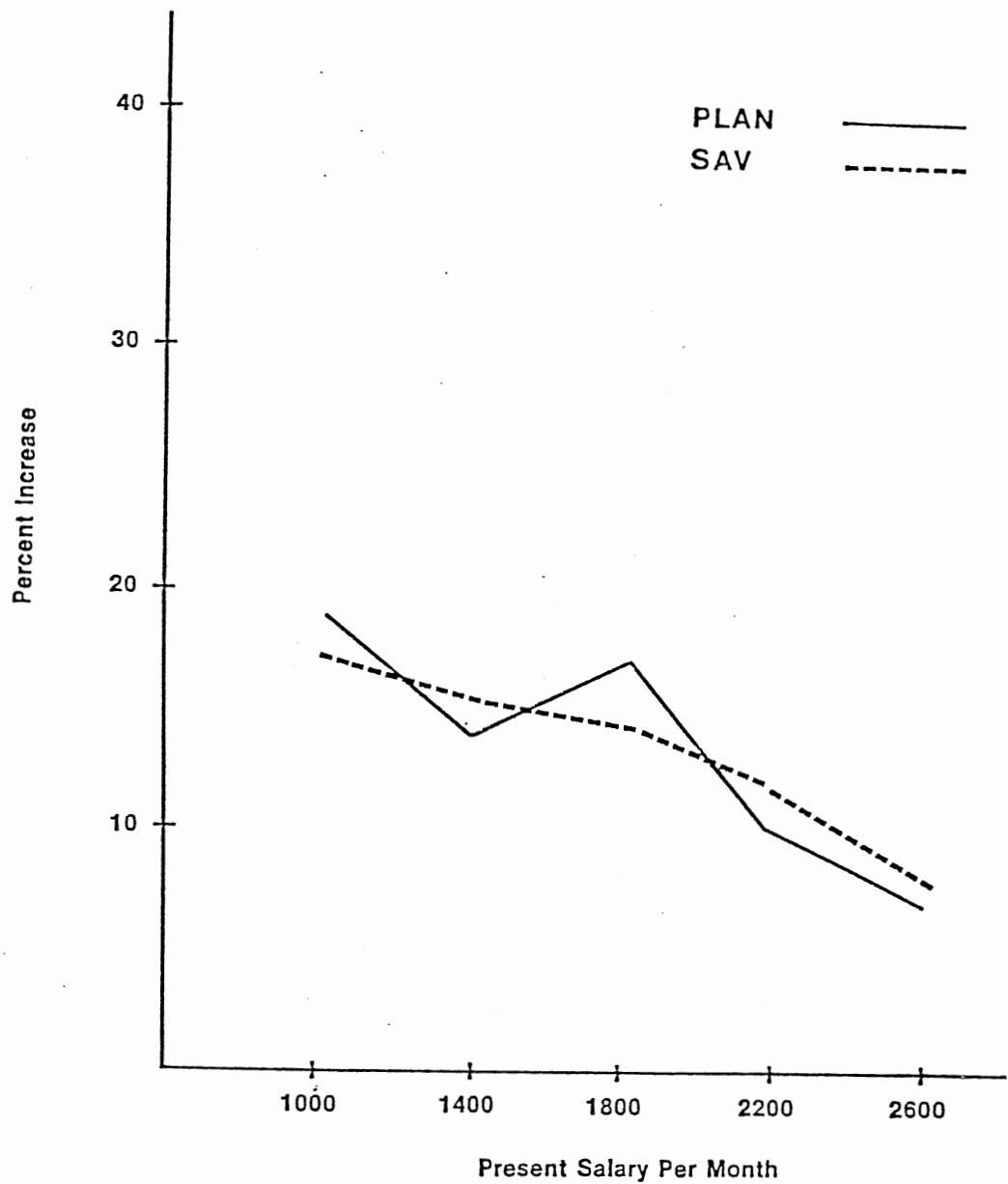


Figure 3. Perceptions of economic utility of monthly salary increments as a function of present salary.

monthly salary increases for magnitude, affect, and economic jmds respectively. The plots do not include the lowest current salary interval, due to the small number in that interval ( $n=4$ ). The plots demonstrate that jmds are not a constant function of monthly salary increase but instead decrease across current monthly salary with few exceptions. As such, the data do not confirm the accuracy of the Weber ratio as it applies to the psychophysics of dollar magnitudes. This is true even for the middle ranges of stimulus intensity, contrary to results previously reported by Hinrichs (1969).

In observing actual dollar amounts when comparing magnitude and affective jmds, the primary comparisons involved jmds 2 and 3. Jmds 2 and 3 were focused on due to the more important cognitive shifts represented. That is, jmds 2 and 3 involved salary increments that shift an individual's perception from small to neither small nor large (jmdm2), and from neither small nor large to large (jmdm3) along the magnitude scale, while along the affective scale the shifts involved changes from disappointment to neutral affect (jmnda2) and from neutral affect to pleasant surprise (jmnda3). It is these changes in salary increments that are associated with cognitive shifts directly above and below the neutral categories that were considered to be of primary importance in the present study.

The first analyses using actual dollar amounts compared jmdm2 with jmnda2, and jmdm3 with jmnda3 across all subjects.

The analyses were carried out to help determine if cognitive shifts in magnitude and affect occur at relatively the same points along the hypothetical salary increment scale. The difference between jmdm2 and jmda2 was not significant. In fact, the means are identical (\$114). However, jmdm3 was significantly larger than jmda3 (\$234 vs. \$189) ( $p < .05$ ). Thus, the cognitive shift from a small salary increment to a neither small nor large salary increment on the magnitude scale occurred at the same point as the shift from disappointment to neutral on the affective scale. However, a salary increment needed to be larger to shift a subjects perception from neither small nor large to large than to shift the same subjects perception from neutral to pleasant surprise. In both of the above comparisons a two-tailed dependent sample t-test was used.

The next analyses involved comparing magnitude with affective jmds 2 and 3 within the seven current salary level categories (Table II). Thus fourteen comparisons were carried out using separate two-tailed dependent sample t-tests. Of the fourteen comparisons carried out only one proved significant at the .05 level, specifically, jmdm2 was significantly larger than jmda2 for the \$1201-1600 current salary level interval. The other thirteen tests yielded non-significant results. Thus the general conclusion is that within current salary level intervals the shifts along the magnitude scale occur at relatively the same point as the shifts in the affective scale.

Finally, a similar series of analyses was conducted involving the utility jmds, the amount of a salary increment needed to begin planning to make specific purchases (planning), and the amount of a salary increment needed to save some or all of the increment (savings). Once again, a dependent sample, two-tailed t-test was used to analyze the data. The last analysis test compared planning with savings jmds for the entire sample. The results indicated that planning and savings jmds occur at similar dollar increment amounts. All eight t-tests yielded non-significant results ( $p > .05$ ). Seven of the eight tests conducted compared savings with planning jmds within current salary level intervals.

Table III presents the intercorrelation matrix for the ten jmd estimates. In general, the highest correlation coefficients were found to reside within frames of reference, i.e., within magnitude, affective and economic frames of reference. In addition, within each of these frames of reference, the highest correlation coefficients appeared in adjacent categories. For example, jmdm1 correlates highest with jmdm2 ( $r = .65$ ), next highest with jmdm3 ( $r = .43$ ) and lowest with jmdm4 ( $r = .21$ ). The correlation coefficients representing relationships across frames of reference present us with a somewhat more complicated picture. For example, the highest correlation coefficients between the amount of increase necessary to bring about an increase in savings and the amount necessary

TABLE III  
 INTERCORRELATION MATRIX OF TEN ESTIMATES OF  
 JUST MEANINGFUL DIFFERENCES IN  
 SALARY INCREMENTS

	JMDM2	JMDM3	JMDM4	JMDA1	JMDA2	JMDA3	JMDA4	PLAN	SAV
JMDM1	.65*	.43	.21	.24	.22	.40	.36	.11	.33
JMDM2		.76	.43	.30	.30	.56	.50	.43	.53
JMDM3			.57	.19	.19	.58	.68	.38	.29
JMDM4				.61	.60	.24	.42	.12	.13
JMDA1					.95	.40	.21	.11	.21
JMDA2						.50	.21	.09	.19
JMDA3							.65	.20	.27
JMDA4								.18	.15
PLAN									.71

\*Correlations > .19 are significant at the .05 level.

to bring about an increase in purchasing behavior, both economic utility functions, are with  $jmdm2$ ,  $r=.53$  and  $r=.43$  respectively. However, correlations between the economic utility  $jmds$  and the affective  $jmds$  are considerably lower, the highest being  $.27$ . As can also be noted, all correlation coefficients are positive.

Regression analyses were carried out in order to gather confirmation concerning variables that constitute the standard against which pay increases are perceived. Although there is evidence that present salary serves as an important part of this standard, there is little confirmation concerning the possibility that other variables contribute to a complex standard that serves to organize a person's percept of pay increases. Furthermore, there is a question whether the composition of this complex standard remains invariant when pay increases are viewed within different frames of reference and when the  $jmd$  unit is defined in different ways.

Bearing these questions in mind, the next phase of analyses involved the construction of regression equations for six selected  $jmds$ ;  $jmdm2$ ,  $jmdm3$ ,  $jmda2$ ,  $jmda3$ ,  $jmdplan$ , and  $jmdsav$ .  $Jmdm2$  and  $jmdm3$  were investigated due to the nature of their threshold boundaries.  $Jmdm2$  is the category boundary that separates wage increases judged to be smaller than usual from wage increases considered to be within the limits of usual experience. Similarly,  $jmdm3$  separates wage increases considered usual from those considered larger than

usual. These two thresholds are ones that separate the middle category, the category that represents usual or expected wage increases, from those wage increases considered large or small, two very distinctive and important perceptions in judging wage increases. The rationale for investigating jmda2 and jmda3 runs parallel to that for jmdm2 and jmdm3. Wage increments below the middle category represent wage increases that result in negative affect while wage increments above the middle category lead to positive affect. Thus, the middle category of the affect scale also separates two qualitatively different responses of an individual to wage increases. Both jmdplan and jmdsav were investigated since they represent unique thresholds, specifically thresholds related to economic utility of wage increases.

Stepwise forward solution multiple regression procedures were performed on all six jmd estimates using the SPSS statistical package. The stepwise procedures entered variables in a sequence of steps with each successive step including the variable in the remaining group that accounted for the greatest amount of variance in the dependent variable after it had been adjusted for the preceding variables that were included in the equation. The criterion used to retain an independent variable in the regression equation was that the  $F(1,108)$  ratio for that variable had to reach significance at the .05 level.

The first regression equation used `jmdm2` as the criterion or predicted variable. Three variables or predictors were significantly related to `jmdm2`. The variables in order of unique variance accounted for from highest to lowest were present salary, feelings of intra-organizational equity, and overall equity. Recall that intra-organizational equity was determined by asking respondents if they were fairly paid in comparison to others who hold comparable positions within their organizations and overall equity was determined by calculating a difference score between what respondents accomplished and what they are paid in comparison to co-workers. The combined  $R^2$  for the variables was .34. The equation suggests that present salary, feelings of intra-organizational equity, and overall equity all significantly influence an individual's perception of the magnitude threshold between small and usual hypothetical salary increase.

The regression equation that used `jmdm3` as the predicted variable yielded similar predictors. Present salary and feelings of intra-organizational equity significantly contributed to the equation accounting for 30% of the variance in `jmdm3`.

The regression equation for `jmda2` contained fewer variables. Only one variable, present salary, was significant and accounted for only 4% of the variance. As such, the analysis indicates that the factors that influence the perception of hypothetical salary increases along the affective dimension were not included in the present study



or that perceptions along the affective dimension is more unsystematic than the other two dimensions studied.

The regression equation for jmda3 yielded three variables which accounted for a significant proportion of the variance. Present salary, intra-organizational equity, and a variable dealing with whether now was a good time to make major purchases accounted for 37% of the variance in jmda3.

The next regression procedure used the amount of salary increase large enough to make plans to make significant purchases as the criterion variable. Two variables included in the analysis were found to account for a significant proportion of the variance of jmd planning, present salary and overall equity. The two variables accounted for 12% of the variance in the criterion variable.

The last regression equation used the amount of salary increase large enough to effect savings behavior as the predicted variable. The jmd savings also yielded two significant factors, present salary and overall equity, which accounted for 28% of the variance. The standardized weights of the predictors for all six regression equations are given in Table IV.

As can be noted, one predictor variable accounted for a significant proportion of the variance in all six predicted variables or jmds, present salary. Equity, of some type, did account for a significant proportion of the variance in five of the six predicted variables, jmda2 being the exception.

TABLE IV  
STANDARDIZED REGRESSION COEFFICIENTS AND VARIANCE  
ACCOUNTED FOR OF SIX JUST MEANINGFUL  
DIFFERENCE ESTIMATES

JMD	VARIABLE	BETA	R
JMDM2	Present Salary	.56	.34
	Intra-Org. Equity <sup>1</sup>	-.31	
	Overall Equity	.20	
JMDM3	Present Salary	.54	.30
	Intra-Org. Equity	-.29	
JMDA2	Present Salary	.20	.04
JMDA3	Present Salary	.56	.37
	Intra-Org. Equity	-.36	
	Good Buying Time	.21	
PLANING	Overall Equity	.30	.12
	Present Salary	.28	
SAVING	Present Salary	.45	.28
	Overall Equity	.40	

<sup>1</sup>The more inequity experienced, the lower the intra-organizational equity score. As such, the negative beta indicates higher thresholds the higher the inequity.

## CHAPTER IV

### EXPERIMENT I

#### Discussion

When calculated as a percentage of present salary, Experiment I found that the jmd tended to be a decreasing function of present salary. This finding does not support earlier research in the area (Hinrichs, 1969); if supported in subsequent research, it would cast considerable doubt on the hypothesis that wage increment perception, expressed as a percentage of present salary, adheres to a Weber-type function. This finding, that the wage increment necessary to shift psychological categories is a decreasing function of present salary, was consistent across frames of reference, i.e. jmds, and was fairly stable across salary levels. A possible explanation for the equivocal findings involves the differing samples used in the various studies, as discussed below.

The general premise, that individuals' perceptions of salary increases across differing frames of reference are influenced by differing factors, was not supported in the present study. That is, the factors that serve as a judgemental standard for these perceptions change little across frames of reference.

The perception of *jmdm2* was influenced by present salary, intra-organizational equity, and overall equity. More specifically, *jmdm2* increased in absolute magnitude as present salary increases. This finding is in line with both prior research and intuition. As noted earlier, a pay increment of \$100.00 per month has different meaning to someone making \$10,000 per year versus someone making \$100,000 per year. In addition, individuals who feel they are being inequitably treated, compared to others in the same organization, have higher thresholds of small versus neither small nor large pay increments. That is, individuals who feel unfairly paid need a larger pay increment to shift perception from small to no longer small. Thus, it suggests that feelings of inequity are related to pay increment perception and in the direction hypothesized. This finding is particularly interesting in that it suggests that the perception of pay increases involves a complex perceptual referent composed of several factors, the level of an individual's present salary being the one that accounts for the major portion of the variance. However, the direction of the above relationship is not determinable from the present research. Instead, only hypotheses for future research are appropriate. Possible directions of the above relationship can be hypothesized. One reasonable hypothesis is that individuals who have stronger feelings of inequity have higher salary increment thresholds than individuals who have weak or no feelings of inequity. One

can speculate that the reason for this relationship is that inequity implies deficit dollars that must be made up for before the individual can apply new dollars to neutral or positive thresholds. However, more definitive answers will have to wait for future research. Although both inequity measures, i.e., intra-organizational equity and overall equity, related to jmdm2 focused on intra-organizational equity, each accounts for a significant unique proportion of variance in the dependent variable, and thus can not be considered equivalent. It does indicate that for the present sample intra-organizational equity is a more potent force in influencing perceptions than inter-organizational. Confirmation of the above finding may be important in understanding the choice of comparable others, a critical variable in equity theory.

The variables found to influence jmdm3 partially coincided with those that influenced jmdm2. The one exception being that overall equity is not related to the threshold of neither small nor large versus large wage increments. Both present salary and intra-organizational equity were found to be related to jmdm3 in the same directions as jmdm2. That is, the higher the present salary, the higher the threshold, and the more the intra-organizational inequity experienced, the higher the threshold. As such, in determining the variables that influence the magnitude dimension of wage increment perception, present salary level and feelings of equity are consistent across both estimates.

Present salary is the only variable that accounts for a significant proportion of the variance of *jmda2*. Present salary influences the threshold that separates negative affect from neutral affect. Thus, a particular wage increment is perceived differently along the affective dimension dependent upon present salary level. However, the fact that no other variables can account for a significant proportion of the remaining variance is surprising, especially since three variables were included in the *jmda3* regression equation. In fact, while the regression equation for *jmda2* yielded the smallest amount of explained variance (4%), the equation for *jmda3* yielded the most (37%). Further research into the affect frame of reference may lead to a clearer understanding of the relationship between these two thresholds.

In addition to present salary, feelings of intra-organizational equity, and optimism concerning the time to make major purchases all contributed significantly to *jmda3*. The variables that influence *jmda3* are similar to variables that influence *jmdm3* with the exception being the variable concerning a good time to make major purchases. Specifically, subjects who believed that it was a good time for making major purchases had a higher threshold than subjects who believed that it was not a good time to make major purchases. One possible explanation is that since individuals who believe that it is a good time to make major purchases also plan on doing so, and so they would need a larger increment to produce positive affect. In addition,

comparison of the variables that account for a significant proportion of the variances of jmdm2 and jmdm3 with jmda3 suggests that the cognitive labeling across frames of reference are related to perceptual standards that appear to be quite similar in their makeup.

Two variables were related to jmd planning. The variable that accounted for the most variance was overall equity. That is, the higher the feelings of inequity, the higher the threshold for planning specific purchases. This relationship is particularly difficult to understand and the literature at present does not offer any reasonable explanations. In addition, present salary accounted for a significant proportion of the variance in jmd planning. The higher the present salary, the more dollars an individual needs before making plans for specific purchases.

The amount of pay increase perceived to result in an change in saving behavior was found to be related to both present salary and overall equity. Specifically, the higher an individual's present salary the higher the individual's savings threshold. As with jmd planning, feelings of inequity are positively related to jmd savings. The relationship between jmd saving and overall equity is also difficult to explain.

### Implications

In attempting to understand the present research findings in light of prior studies, a closer examination of samples used and methodologies employed is helpful. One

striking difference between prior research and the present study involves sample selection. Both Zedeck and Smith (1968) and Hinrichs (1969) sampled from one organization. Sampling from one organization could have the effect of reducing group variation for a number of reasons.

Homogeneous samples are more probable when sampling from a single organization than from the population in general. The homogeneity can be caused by employee and organizational selection. Similar past experiences with regard to salary administration could also increase stability of expectations across subjects. If so, then the hypothesis that the perception of wage increment levels is a relatively constant function of present salary referent is tenable within organizations or within certain specific job categories or professions. It may also be true that individuals begin wage increment perception in a similar mode which is altered due to organizational pay policy and that divergence from the constant function hypothesis reflects differing experiences with specific pay policy.

The present study clearly gives support to prior research findings which indicated that present salary level is the most influential factor in the perception of wage increments. However, the present findings, since additional variables were included in the design, extends the findings that were reported from the single variable analyses. Present salary was significantly related to wage increment labeling along magnitude, affect and economic function frames of reference. The present study also revealed that



an individual's feelings of equity are related to wage increment perception. Feelings of equity were strongly related to both magnitude and economic function frames of reference, and to a lesser degree the affective frame of reference. Additional research concerning strategies salaried employees use to cope with feelings of inequity and the relationship of these strategies to wage increment perception appears warranted.

## CHAPTER V

### INTRODUCTION

#### Experiment II

Experiment II was conducted in order to investigate the role of expectations in influencing an individual's perception of a wage increment. In Experiment I, one of the primary hypotheses, supported by prior research, was that present salary functions as a primary referent in considering a wage increment. Experiment II was an attempt to investigate the role played by expectations in employees' perception of a wage increment. Individuals currently employed have actual pay to use as a referent when considering a wage system. However, in the absence of an actual pay referent, an individual's expectations of future wage earnings may serve a similar function. One can hypothesize that expectations influence perceptions of a salary increment. That is, consideration of a particular wage increment is dependent, in part, upon expectations with regard to future wage levels that are held by that individual.

If expectations are the mechanism by which actual realities influence perception then one could hypothesis

that expectations should operate in a manner similar to actual pay when isolated. Pre-entry individuals who presently are not employed but who are anticipating employment would be such a group which do not have actual pay but have expectations of entry wages and future pay treatment. It is in a such a group that it would be possible to investigate more clearly the influence of expectations with regard to salary increments. Therefore, Experiment II studied MBA students within nine months of their graduation in order to investigate the role of expectations in the perception of wage increments. In such a group, it is hypothesized, anticipated earnings would serve the same role as actual salary for current employees when subjects consider a wage system and the raises it delivers. That is, when pre-entry level individuals consider wage increments we would predict that expected earnings would emerge as a significant variable in the regression analyses and serve a similar function as actual salary for current employees.

Experiment II can be considered a partial replication of Experiment I using pre-entry subjects instead of current employees. The primary difference between the two populations of interest in the present study is that pre-entry subjects are hypothesized to use anticipated earnings, i.e., expectations, when considering a pay raise, in a manner analogous to the way present employees use actual realities, i.e., present salary, as a primary referent in considering a wage increment.

## CHAPTER VI

### METHOD

#### Experiment II

##### Subjects

Fifty-one males, thirty-one females and two unidentified MBA students served as subjects (n=84). Subjects were recruited through Masters of Business of Administration graduate programs from state universities in the midwest. Criteria for inclusion in the study were that students must have been enrolled full-time in an MBA program, within nine months of graduation, and planning on obtaining a full-time job upon graduation. Method of questionnaire completion varied from university to university. In some situations the experimenter was permitted class time to administer the questionnaire. This was the typical method used and it was the method preferred since subjects could ask questions about the questionnaire and administration time was uniform. However, in other situations subjects were given the questionnaires and requested to return them within a specified time period. This method had the advantage of securing additional subjects since all potential subjects in a particular program had the opportunity to participate. The method did

suffer the disadvantage of non-uniformity of administration and time. However, this was deemed to not be critical to the present investigation. In all cases participation was voluntary and the questionnaire stressed this point.

### Criteria Measures

A test instrument that was similar to the one used in Experiment I was used in Experiment II (see Appendix B). Subjects were asked to divide hypothetical salary increments, identical to the increments used in Experiment I, into categories stressing magnitude, affect, and economic utility. It was assumed that subjects in Experiment I would use present salary level as a referent in categorizing salary increments. Of course no such assumption could be made in Experiment II since the target population was comprised of full-time students. Therefore, subjects were asked to project their expected starting salary as if they were to start work today and use that amount in assigning hypothetical salary increments to the categories of the response scale. Labels, wage increment amounts, and number of categories used in these scales were all identical to those used in Experiment I. Thus, subjects divided hypothetical salary increments into scales of magnitude, affect, and economic utility. In addition, subjects were asked to provide background information and estimates of future salary. This background information included highest salary ever earned, age, sex, type of job held by family breadwinner (e.g. parents), total income of family, the

subject's perception of the importance of money, and current marital status. Subjects were also asked how much money they would be earning today if they had starting working in their respective area of expertise five years prior. This question was viewed as an indication of a subject's expectation of future earning potential and was asked in the present tense in order to control for any effect of error due to individual differences in expectations regarding future rates of inflation.

### Operational Definitions

Just meaningful differences of salary increments were calculated in identical fashion to Experiment I yielding ten jmds per subject: jmdm1 to jmdm4, jmda1 to jmda4, planning jmd, and saving jmd. Subjects estimated total family income by checking one of eight intervals ranging from below \$10,000 to over \$50,000 per year, which best indicated family income. On an eleven point verbally anchored scale, subjects indicated the perceived importance of money. This scale was anchored from very important to not very important at the two extremes. Type of job the family breadwinner held was an open-ended question and later coded into predetermined categories. The categories were semi-skilled, skilled, semi-professional, professional, and self-employed. In addition an undefined category was used if the type of job did not fit into any of the above categories. Only the experimenter made these category assignments; hence, no reliability data are available. All

other questions concerning background information were questions that provided a series of response categories.

(See Appendix B).

## CHAPTER VII

### RESULTS

#### Experiment II

Table V gives the breakdown of the sample by sex and age. Females were significantly older than males. Two subjects did not list their sex and thus were not included in the calculations.

The initial phase of the analysis of the MBA sample was carried out to determine if the relationship between subjective judgements and a scale of hypothetical wage increases displayed the consistency predicted by the Weber fraction. The analysis was similar to the analysis carried out in Experiment I, the difference being that the calculations attempted to determine whether just meaningful increases in pay were a constant fraction of expectations for starting salary, rather than a constant function of present salary. Again, ten jmd's were calculated for each subject: four magnitude, four affective, and two utility. Table VI lists all ten jmd estimates grouped according to expected starting salary. Also, included in Table VI are the dollar increment amounts divided by the midpoints of their respective expected starting salary and expressed as a percentage. These Weber type ratios (in parentheses) are



TABLE V  
NUMBER OF SUBJECTS, MEAN, STANDARD DEVIATION,  
MINIMUM AND MAXIMUM SCORES OF AGE  
FOR MALES AND FEMALES

VARIABLE	MALES	FEMALES	TOTAL/AVERAGE
<u>Age</u>			
N	51	31	82
Mean	24.8	28.2	26.2
S.D.	3.3	5.4	4.6
Minimum	21	22	
Maximum	41	42	

TABLE VI  
JUST MEANINGFUL DIFFERENCES OF MEAN MONTHLY  
SALARY INCREASES AS A FUNCTION OF  
EXPECTED SALARY

<u>JMD</u>	<u>EXPECTED MONTHLY SALALRY</u>				
	1201- 1600 n=20	1601- 2000 n=15	2001- 2400 n=31	2401- 2800 n=15	over 2800 n=3
JMDM1	63* (4.5)	32 (1.7)	45 (2.0)	56 (2.2)	170
JMDM2	144 (10.3)	79 (4.4)	121 (5.5)	178 (6.8)	280
JMDM3	250 (17.9)	177 (9.8)	256 (11.6)	322 (12.4)	388
JMDM4	456 (32.6)	390 (21.7)	578 (26.3)	546 (21.0)	558
JMDA1	53 (3.8)	32 (1.7)	54 (2.5)	69 (2.7)	173
JMDA2	123 (8.8)	63 (3.5)	121 (5.5)	133 (5.1)	280
JMDA3	228 (16.3)	142 (7.9)	245 (11.1)	260 (10.0)	367
JMDA4	543 (38.8)	337 (18.7)	622 (28.3)	496 (19.1)	529
PLAN	187 (13.4)	148 (8.2)	218 (9.9)	267 (10.3)	250
SAV	225 (16.1)	166 (9.2)	251 (11.4)	176 (6.8)	347

\*Indicates dollars per month.  
Numbers in parentheses indicate dollars per month  
divided by projected monthly salary interval  
midpoint.

included for all jmds except the highest projected starting salary interval, due to the inability to determine the midpoint of the this extreme category. There appears no simple trend in these data. The data does not conform to prior research (e.g., Hinrichs, 1969) that reported that the Weber type ratios were a constant fraction of present salary. Nor do the jmds tend to decrease as expected starting salary increases, as was found in Experiment I when jmds were grouped according to present salary. Of particular interest is the trend that not only are jmds larger for the lowest starting salary group (\$1201-1600) in all cases, but to some extent the absolute dollar amounts for the group are larger than those of higher starting salary groups. For example, in all cases the absolute dollar amount of a meaningful salary increment is larger for the \$1201-1600 group than the \$1601-2000 group. In addition, in some cases the absolute dollar increment necessary to bring about a change in perception is larger for the \$1201-1600 group than the \$2401-2800 group.

There is nothing in the data that explains these trends, however, one may hypothesize that the perception of wage differentials takes on a different character when the individual involved views wage systems from the psychological distance of a pre-entry vantage point. For example, it may be that individuals moving into the job market at this level may fall into two different strategy orientations with regard to wage compensation. One group may expect a low starting salary in which case large salary

increments are expected, or, expectations are that starting salary is relatively high, in which case more modest salary increments are expected. If so, the perception of salary increments would be vastly different and could account for these trends in the data. However, confirmation of this hypothesis must await future research.

To further highlight these relationships between jmds and expected starting salary, Figures 1,2, and 3 are plots of expected monthly salary versus magnitude, affective and utility jmds expressed as a percentage of the expected monthly salary. As can be noted, along the magnitude and affect dimensions, jmds tend to increase after an initial decline. Along the utility dimension, jmd planning tends to increase, while jmd savings tend to decrease. The results do not conform to prior research (e.g. Hinrichs, 1969), nor do the curves support the employee sample from the first experiment that indicates a decreasing function.

The next group of analyses involved comparisons between magnitude and affective jmds. That is, this group of analyses addressed the question of whether there were significant differences between affective and magnitude jmds. Significant differences between these two dimensions would lend support to the hypothesis that individuals use different reference points across magnitude and affective frames of reference when considering a wage increment. As in Experiment I, jmds related to neutral perceptions of wage increments were focused on. That is, jmdm2, jmdm3, jmda2, and jmda3 were considered of particular importance since

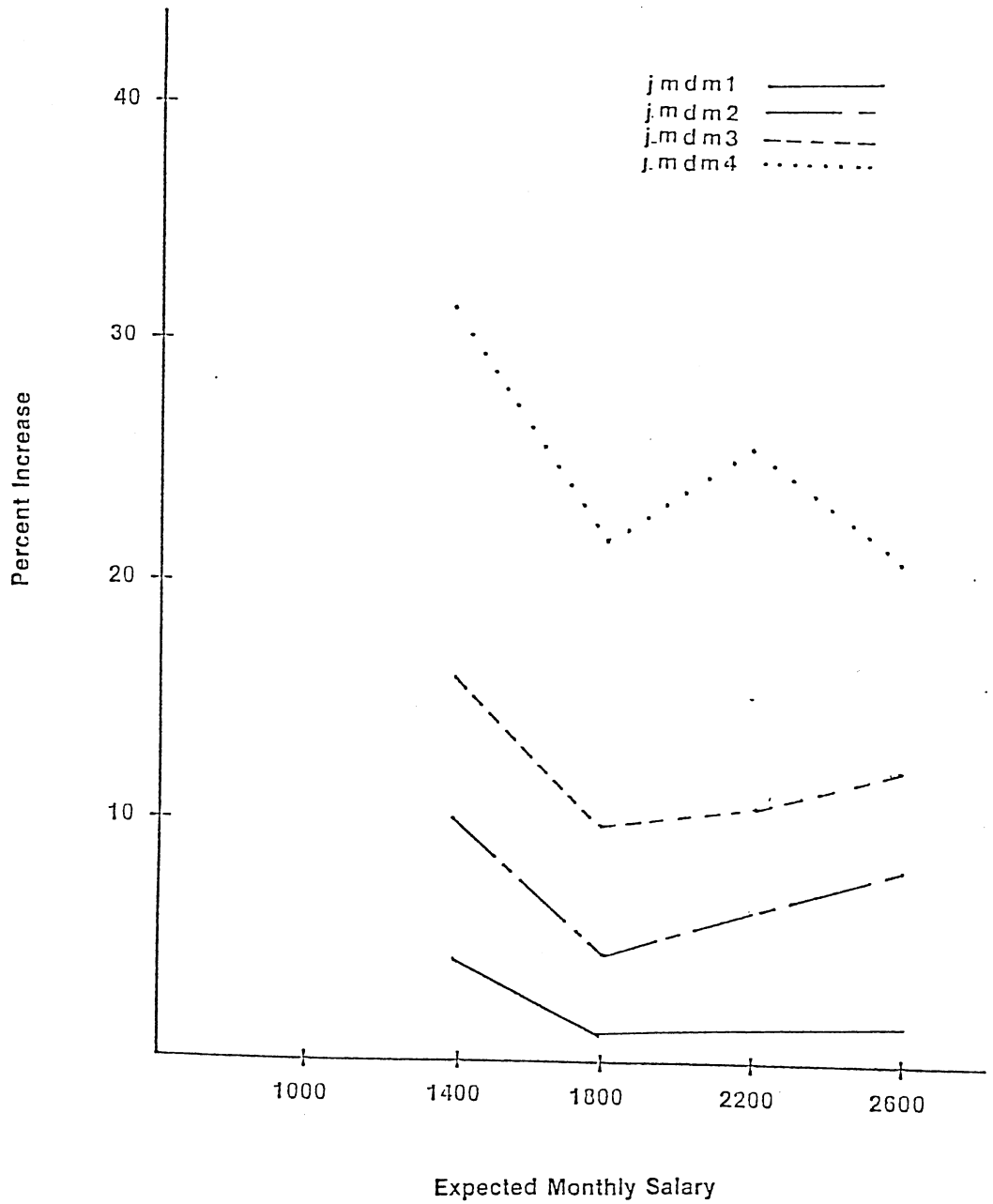


Figure 4. Perceptions of magnitude of monthly salary increments as a function of percent of expected monthly salary.

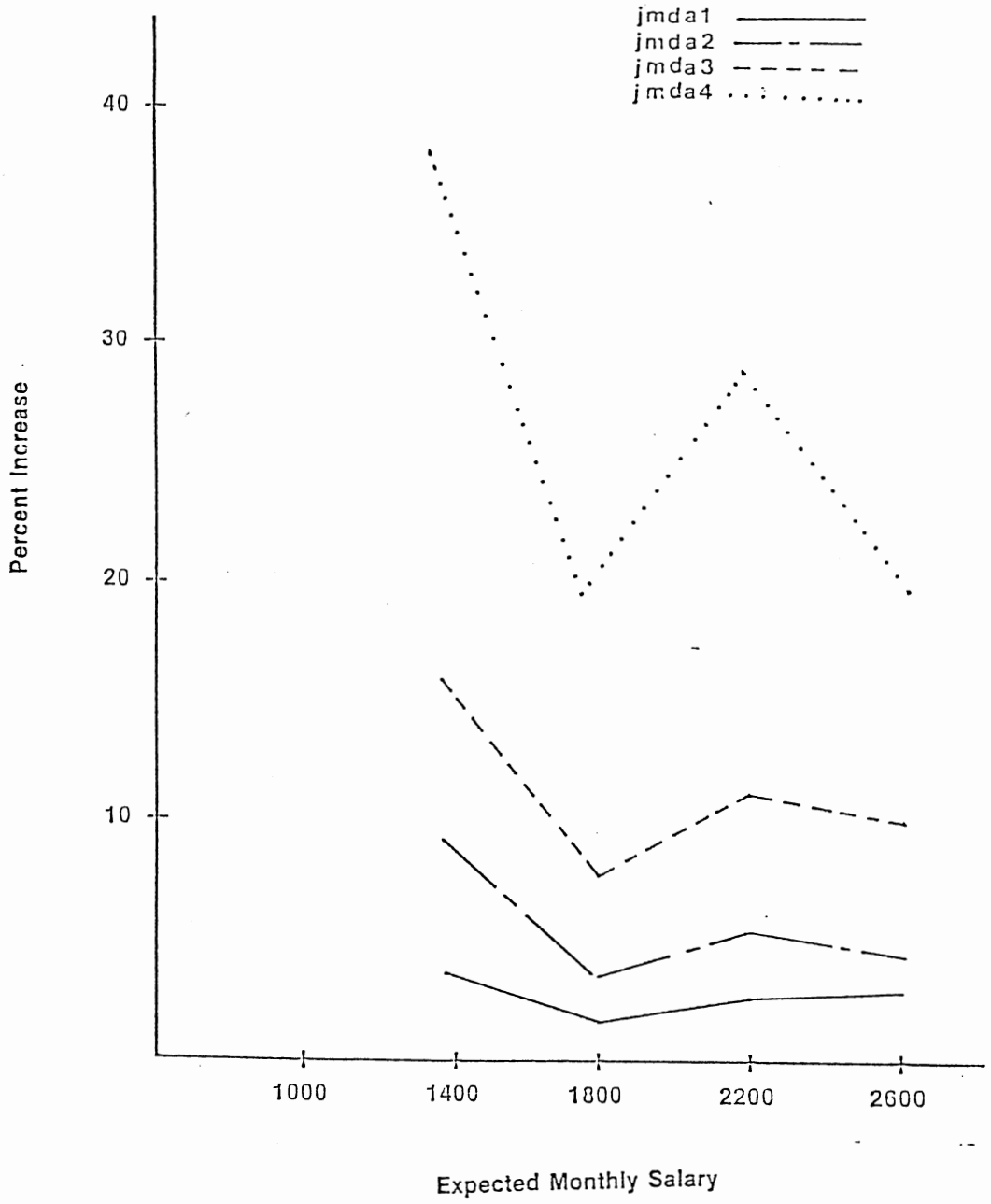


Figure 5. Perceptions of affect of monthly salary increments as a function of expected monthly salary.

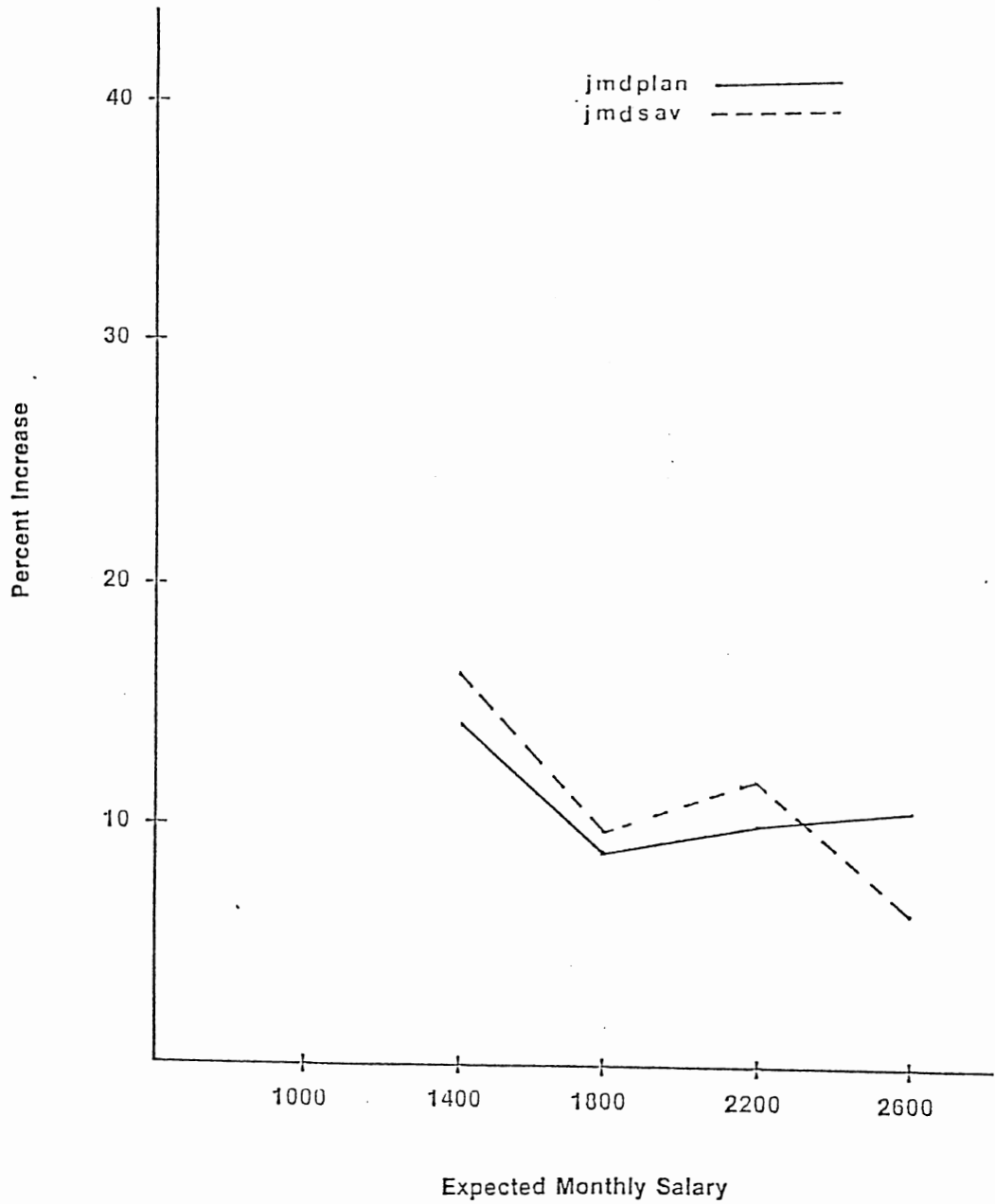


Figure 6. Perceptions of economic utility of monthly salary increments as a function of expected monthly salary.

they represent cognitive shifts directly above and below the neutral categories; neither large nor small along the magnitude scale, and neither disappointed nor pleasantly surprised along the affective scale. Comparisons were carried out within projected starting salary intervals. Ten comparisons were carried out using separate two-tailed dependent sample t-tests. Thus, jmdm2 was compared with jmda2 across the five projected salary level intervals. In an identical manner, jmdm3 was compared with jmda3. None of the ten comparisons demonstrated significance at the .05 level. Thus, shifts in perception along the magnitude and affect scales occur at the same points. Hence, the number of dollars necessary to shift an individual's perception of a salary increment from small to neither small nor large is the same as the number of dollars necessary to shift an individual's perception from somewhat disappointed to neutral. The results indicate that a distinction between magnitude and affective dimensions with regard to salary increments either are not made by individuals or that they may not be of importance on a practical level. That is, if the distinctions between the dimensions are made by individuals, they occur at the same points and thus the information gained by the two scales are redundant.

Next, a similar series of analyses were carried out comparing utility jmds. That is, for each of the expected starting salary categories, planning jmds were compared with saving jmds, thus yielding five sets of comparisons. None of the five comparisons demonstrated significance at the .05



level (two-tailed). The results indicate that perceptions of purchasing and saving behavior occur at the same point. Hence, the number of dollars necessary to reach a threshold for savings appears to be at the same point as the dollar amounts found at the threshold for planned purchases.

In order to better understand the degree of relationship among jmd estimates, all ten estimates were intercorrelated. In this way the degree of correspondence among jmd estimates within a dimension (e.g. magnitude) could be ascertained, along with the degree of correspondence across dimensions (e.g. magnitude and affective). Table VII presents the intercorrelation matrix for the ten jmd estimates. As was found with the full-time employee sample, in general, the highest correlations were found within frames of reference, although the results are not as clearly apparent. In addition, within frames of reference, the highest correlation coefficients appeared in adjacent categories.

The next group of analyses involved the construction of regression equations using jmdm2, jmdm3, jm da2, jm da3, jmdplan, and jmdsav as dependent variables. The reason for constructing the regression equations is to see what variables account for individual differences in threshold values. The rationale for selecting the above jmds is similar to that in Experiment I. That is, the middle categories for the magnitude and affective scales separate the perception of large and small increases and increases that have negative and positive affect respectively. These

TABLE VII  
 INTERCORRELATION MATRIX OF TEN ESTIMATES OF  
 JUST MEANINGFUL DIFFERENCES IN  
 SALARY INCREMENTS

	JMDM2	JMDM3	JMDM4	JMDA1	JMDA2	JMDA3	JMDA4	PLAN	SAV
JMDM1	.69*	.51	.28	.67	.60	.45	.31	.13	.17
JMDM2		.93	.57	.38	.49	.67	.47	.33	.07
JMDM3			.69	.33	.44	.75	.56	.35	.05
JMDM4				.26	.31	.61	.77	.32	.05
JMDA1					.89	.61	.23	.14	.30
JMDA2						.75	.32	.21	.33
JMDA3							.62	.29	.28
JMDA4								.17	.12
PLAN									.30

\*Correlations > .18 are significant at the .05 level.

two distinctions are of primary importance in the perception of wage increases due to the belief that the labeling of salary increases influences subsequent work behavior. The regression analyses were carried out in order to gather confirmation concerning variables that constitute the standard against which pay increases are perceived. One major question the analyses hoped to answer concerned whether expected starting salary in the MBA sample serves as a standard in the manner similar to present salary in the employee sample. The regression procedures used were identical to Experiment I. The stepwise regression procedure that was used entered variables into the equation in an order determined by the size of the partial correlation between a variable and the dependent variable after it had been adjusted for the preceding variables already included in the equation.

The first regression equation constructed used *jmdm2* as the dependent variable and age, sex, marital status, highest salary earned, projected starting salary, five year projected salary, total family income, job of breadwinner, and the importance of money were used as independent variables. The same set of independent variables were used in all six regression analyses.

The regression of *jmdm2* on the set of independent variables yielded one variable, projected starting salary, that accounted for a significant proportion of the variance ( $R^2=.08$ ). The results indicate that the higher the projected starting salary, the larger *jmdm2*.

The second regression equation constructed used `jmdm3` as the criterion variable. One independent variable, projected starting salary, accounted for a significant proportion of the variance in `jmdm3` ( $R^2=.06$ ). Again, the higher the projected starting salary, the higher `jmdm3`.

The third regression equation constructed used `jmda2` as the dependent variable. Projected starting salary and total family income both accounted for a significant proportion of the variance in `jmda2` ( $R^2=.26$ ). Specifically, the higher the projected starting salary the larger `jmda2`. Also, the higher total family income, the larger `jmda2`.

The fourth regression used `jmda3` as the dependent variable. Two independent variables accounted for a significant proportion of the variance in `jmda3`, projected five-year starting salary and total family income ( $R^2=.23$ ). Specifically, the higher the salary expected if the individual had starting working five years prior, and the higher the total family income, the larger `jmda3`.

The fifth regression equation used `jmdplan` as the dependent variable and no independent variables used in the analysis accounted for a significant proportion of the variance in `jmdplan`.

The sixth and last regression equation constructed used `jmdsav` as the criterion variable. Two independent variables accounted for a significant proportion of the variance in `jmdsav`, total family income and the importance of money ( $R^2=.15$ ). The higher total family income, the larger `jmdsav`, and the more important money was to the

individual the smaller  $j_{m,sav}$ . Table VIII lists the standardized beta weights of the independent variables which accounted for a significant proportion of variance for each regression equation constructed.

TABLE VIII  
 STANDARDIZED REGRESSION COEFFICIENTS AND VARIANCE  
 ACCOUNTED FOR OF FIVE JUST MEANINGFUL  
 DIFFERENCE ESTIMATES

JMD	VARIABLE	BETA	R <sup>2</sup>
JMDM2	Expected Starting Salary	.28	.08
JMDM3	Expected Starting Salary	.24	.06
JMDA2	Expected Starting Salary Family Income	.41 .24	.26
JMDA3	Five Year Salary Family Income	.35 .30	.23
SAVING	Family Income Importance of Money	.31 -.27	.15

## CHAPTER VIII

### DISCUSSION

#### Experiment II

The results of Experiment II indicate that, to some extent, expected starting salary for the MBA sample served as a standard in a manner analogous to actual present salary in the employee sample. Expected starting salary was found to be significantly related to three of the six jmds. In addition, expected starting salary was related to both magnitude jmds. Also of interest was the finding that total family income was related to both affective jmds. The results seem to indicate that although affective and magnitude jmds shift at the same dollar increment, differing factors are related to their perception. In Experiment I the finding that similar variables accounted for significant proportions of the variance across magnitude and affective dimensions does not support the idea that individuals use the two dimensions independently but instead incorporate them into the same framework of perceptual standards. Future investigation into the reliability of the above findings appears necessary before any firm conclusions can be drawn with regard to the independence of the affective and magnitude dimensions.

In reviewing the eight variables that were found to relate significantly to the jmds studied, four related to expectations, expected starting salary and expected five-year salary. In addition, family income, which was related to three jmds, came as close as any other variable to the actual amount of money generally available to the subject. Hence, the regression equations seem to indicate that both expectation and actual dollars available played a role in the perception of hypothetical salary increases.

In comparing the results of Experiment I with the results of Experiment II, some similarities are apparent. For example, in both sets of data actual dollars and expectations play a role in the perception of wage increments. For the employee sample, present salary (actual dollars) and equity (expectations) played a significant role in the perception of hypothetical wage increments. In the MBA sample, expected salary, both current and five-year (expectations) and family income (actual dollars) played a significant role in the perception of hypothetical salary increments.

Finally, an overriding question concerns the effects of cognitive labeling on work behavior. It is reasonable to believe that the labeling of a wage increment has behavioral significance in the workplace. That is, an individual who labels a particular wage received as small, in all probability performs under a wage incentive system that differs motivationally from the one psychologically present



in the work environment of another who labels the same increment as large. Indeed, many of the prominent theories of work motivation receiving support in the literature today focus on perceptual mechanisms as being critical to the level of motivation operating on a job. For example, expectancy theories (e.g. Porter and Lawler, 1968) and equity theory (Adams, 1965) both have received considerable research support. Both theoretical orientations highlight the role of perception as critical in determining the motivation of an employee. It is reasonable to hypothesize that the perception of wages and wage increments also have implications for motivation in the workplace. In fact, this perception of wage treatment is the focus of equity research and is also central in expectancy theories since rewards, which are critical to the theories, are often thought of in the context of financial compensation. In addition, it would seem logical that the perception of wage treatment plays an important role in the motivation of employees since many organizations rely on the wage increment procedures to maintain and support high levels of productive efficiency. The present research is important in that it demonstrates that the thresholds of cognitive labeling are related to a number of variables which can and should be studied in a systematic and scientific manner. In this manner it is hoped that a more effective system of wage incentives can be used by industry in the future.

The present study did not investigate the exact behavioral consequences of the cognitive labeling process. However, the idea that cognitive labeling has behavioral significance in the workplace is a fundamental premise of the present study.

The area of wage increments and its psychological consequences is an important area of investigation if more logical and meaningful pay procedures are to be utilized by organizations in the future. Since wage increment procedures are still the primary method used to reward and motivate employees, a better understanding of the psychological significance of wage increments is of continuing concern to those who study work behavior.

## CHAPTER IX

### SUMMARY

#### Overview

The present study attempted to locate the dollar amounts that stand at the threshold of a set of cognitive categories workers may draw on in order to give meaning to the increases they receive. Psychophysical methods were adapted to the task of locating these thresholds. This adaptation was made necessary by the fact that traditional psychophysical methods are not directly applicable to situations in which dollar amounts serve as stimuli. That is, traditional psychophysical thresholds are defined in probabilistic terms, i.e., uncertainty, whereas individuals differentiate money amounts with unfailing accuracy, no matter how small the difference separating them. In this case, discrimination involves a cognitive process in which meanings, e.g., large, unfair, etc., are assigned to dollar amounts, and psychophysical thresholds are signalled when there is a shift in cognitive label that is used to attribute meaning to the amount contained in a wage increment.

Four perceptual dimensions or frames of reference were investigated in this manner: (1) a magnitude dimension,

which involved the ordering of pay increments into five categories ranging from extremely small to extremely large; (2) an affective dimension, which involved the ordering of pay increments into five categories ranging from deeply disappointed to flabbergasted; (3) a savings dimension, a dichotomous scale asking subjects to indicate when a salary increment becomes meaningful in terms of savings behavior; (4) a spending dimension, asking respondents when a salary increment became meaningful in terms of changing spending habits. All four dimensions used were to judge the same set of hypothetical salary increments. Thus, the subjects in the studies used four frames of reference when viewing changes in income that varied over a wide range of dollar amounts.

Once threshold values were determined, the second phase of the study attempted to identify variables that influence an individual's just meaningful difference in salary increments. Prior research reported that present salary accounted for a significant portion of the variance of a just meaningful difference in pay (Hinrichs, 1969). In fact, Hinrichs reports that a just meaningful difference in pay tends to be a constant function of present salary or current pay. This finding lends support to those who would apply Weber's Law to the process involved in the perception of money aggregates. Hinrichs' data also indicate that other variables may account for additional portions of the variance of the just meaningful differences in pay. These

variables, included in the present study, were expectations of pay and perceptions of equity, variables which have been studied extensively in pay-satisfaction and pay-performance paradigms. Finally, demographic variables were also included in order to better understand the factors that contribute to the perception of this aspect of work incentive systems. Regression analyses were used to provide this information.

In the present study, ten threshold values, four magnitude, four affective, and two economic, were estimated and respondents were grouped into present salary categories as described previously. The results indicate that contrary to predictions derived from Weber's Law, jmds were not a constant percentage of present salary, but instead revealed a decreasing function. As such, there is little support for the hypothesis that a wage increment must be a constant percentage of present salary to be just meaningfully different.

The regression analyses also revealed that present salary, perceptions of equity, and in one instance, expectations for future economic outlook accounted for significant portions of the variance in jmds. Demographic variables did not enter any of the regression equations, thus indicating that respondents primarily used current referents, i.e., present salary and feelings of equity, when considering a wage increment.

A partial replication of the above experiment was designed to investigate the role expectations play in influencing the perception of a wage increment. It was hypothesized that expectations are the mechanisms by which actual realities influence perception of wage increments. In order to test this hypothesis, pre-entry level subjects (MBA students) responded to the same set of hypothetical salary increments as was used in the first experiment. They also categorized the increments in a similar manner. It was predicted that for such a group expected starting salary would emerge as the most significant variable accounting for individual differences in the the just meaningful difference in salary. Thus, respondents were asked to use expected starting salary as a referent in labeling salary increments. Although differing background variables were provided in Experiment II, calculation of the jmds and the regression equations were identical.

As was the case in the first experiment, the results of the second did not reveal Weber constants when ratios were formed from jmd's and expected starting salary. Nor did the data reveal a decreasing function as the primary trend in the data. Thus, it appears that viewing salary increments from the psychological vantage of pre-entry expectancies does change that aspect of an individual's perception. The regression equations formulated in order to gain a better understanding of the role individual differences play in labeling wage increments revealed that both expected

starting salary and family income accounted for a significant proportion of the variance in three of the jmds. Five-year expected salary and importance of money accounted for a significant proportion of the variance of only one jmd. No other variables were significantly related to the jmds investigated.

#### Limitations

The major limitations of the study primarily involve characteristics of the sample. Most notably, sample size must be considered smaller than optimal. In particular, when constructing regression equations using a large number of predictor variables, as in the present study, a larger sample would increase confidence in the results. Although no firm guidelines with regard to sample size were found in the literature, at least ten subjects per predictor variable is sometimes considered appropriate. In addition, a large sample size would enable a cross-validation procedure on the regression equations constructed and would once again increase confidence in the findings.

Another limitation of the sample is that subjects were drawn from a limited geographical area. This is especially true with regard to the employee sample, all of whom were employed in one metropolitan area. As such, the possibility exists that due to this restriction, the results may not be generalizable to different economic or cultural areas.

Finally, the employee sample used individuals from a number of organizations. This characteristic of the sample can be considered both a weakness and a strength of the present study. Using a large number of organizations may increase the variability in the data due to a wider array of salary experiences and expectations, making data interpretation more difficult. However, using employees from a large number of organizations increases the generalizability of the findings and thus can be considered an advantage.

#### Implications

The exploratory nature of the present study make recommendations premature at this time. However, a few possible implications for organizations should be noted. It should be stressed that implications drawn from the above study must be considered tentative until future research can validate the conclusions.

First, the data suggests that the perception of a wage increase is a complex matter in which there is wide variation across individuals. If we assume that these meanings assigned to wage increments affect motivational consequences with regard to job behavior, then organizations should be interested in allocating financial resources in a manner that is optimal. Although the present study does not point to procedures for carrying out such a task, it does indicate that adopting present salary as the single standard



for allocating wage increments (e.g., an 'across the board' wage increase) may be less than optimal. In addition, the data suggest that as present salary increases, the proportion of present salary necessary to give meaning to a wage increment decreases. If the above finding is supported by future research, it would seem logical that wage increment procedures used presently in many organizations would need to be reevaluated. One possible outcome would be for organizations to categorize employees not only by such variables as present salary, but also by perceptual groupings.

With regard to the pre-entry level sample, it appears that organizations may be able to classify new employees by expectation categories. That is, if future research supports the finding that entry level employees adopt different strategies for wage compensation, employees categorized by these strategies may improve the motivational properties of financial compensation systems.

#### Future Research

The results indicate that future research may be warranted in a number of areas related to wage increment perceptions. The foremost area of need concerns the behavioral implications of jmds. That is, can a relationship between the size of a jmd unit and other aspects of an employees' economic behavior be found? One possible area of investigation between these variables

involves the idea that the width of the central categories on the magnitude and affective scales reveals an individual's sensitivity to money and as such may relate to other aspects of economic behavior. The present study does give some indication that this may be a reasonable assumption. For example, if true, the size of the jmd unit should be related to an individual's threshold of savings. Specifically, an individual who displays a low sensitivity to money, as measured by the category width, would be expected to require a larger raise before perceiving an increase had economic function, e.g., savings. This was observed. Holding present salary constant, a significant partial correlation ( $r_{12,3} = .46, p < .01$ ) was obtained between the size of this jmd unit on the magnitude scale and the savings threshold. As such, further investigation as to the most functional method of defining a jmd unit is necessary. Whether this, or any other definition of the jmd unit, will provide a measure that relates to the motivational dimensions of financial incentives must await additional research.

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APPENDIX A

EMPLOYEE SURVEY QUESTIONNAIRE



## Survey of Attitudes Toward Wage Increases

Not all people view money in the same way, and in this survey we are trying to obtain a better understanding of this important aspect of behavior. To help us do this, we will ask you to respond to questions that deal with instances in which you receive an increase in your pay. In addition, you will be asked to supply some information about yourself that will help us understand how people's backgrounds influence their view of money. To complete this survey go through the pages of this booklet, read the instructions for each set of questions, and answer each in the best way you can. Remember, for many of these questions there is no right or wrong answer; we are merely interested in how you would view a raise in pay. Therefore, do not spend too much time mulling over your answers, but respond in a way that seems reasonable at the moment.

Be assured that the information you give will be held in the strictest confidence. Your anonymity will be guaranteed by the fact that you will not put your name on the booklet. Therefore, there will be absolutely no way of determining how you as an individual have responded. Your responses will be combined with those of a large group of people who will participate in the survey, and the information obtained will be analyzed in terms of groups. No separate analysis will be made of the responses you make to these questions, but your booklet will contribute to the general picture we hope to obtain concerning how people view wage increases.

If after looking through the booklet you wish to refrain from participating, please feel free to do so, we don't want you to feel pressured to take part in the project.

AFTER YOU HAVE COMPLETED THE BOOKLET, PLACE IT IN THE ENVELOPE PROVIDED, SEAL IT, AND TURN IT IN WHEN YOU ARE ASKED TO DO SO.

Nearly everyone would agree that \$1500.00 per month would be an "extremely large" salary increase. At the same time, an increase of \$5.00 per month would be viewed as an "extremely small" salary increase. Somewhere between these extremes people would view different dollar amounts as representing "extremely large", "average", "small", or "extremely small" increases in salary.

To give us information on how people look at their wages, we would like you to think about how you would view different salary increases (please think realistically). We would like you to divide the following list of dollar amounts into five (5) segments representing dollar increases in monthly salary which you would tend to view as falling in each of the following categories.

Assign each salary increase to one of the above five categories by writing the appropriate category number in the space beside each dollar amount.

1. Extremely small salary increases
2. Small salary increases
3. Neither large nor small increases
4. Large salary increases
5. Extremely large increases in monthly salary

Salary Increases:

\$5._____	\$120._____	\$350._____
\$10._____	\$140._____	\$400._____
\$20._____	\$160._____	\$450._____
\$30._____	\$180._____	\$500._____
\$40._____	\$200._____	\$600._____
\$50._____	\$225._____	\$750._____
\$60._____	\$250._____	\$1000._____
\$80._____	\$275._____	\$1500._____
\$100._____	\$300._____	

Now we would like you to consider the same set of salary increases, but this time we would like to know how you would feel about receiving each of them. Below is another set of five categories and we would like you to divide the list of dollar amounts into five segments representing your personal reaction to each raise. To do this, assign each monthly salary increase to one of the five categories listed below by writing in the category number judged to be appropriate in the space beside each dollar amount.

1. I would be deeply disappointed
2. I would be somewhat disappointed
3. I would not react one way or the other - neutral
4. I would be pleasantly surprised
5. I would be flabbergasted

Salary Increases:

\$5. _____	\$120. _____	\$350. _____
\$10. _____	\$140. _____	\$400. _____
\$20. _____	\$160. _____	\$450. _____
\$30. _____	\$180. _____	\$500. _____
\$40. _____	\$200. _____	\$600. _____
\$50. _____	\$225. _____	\$750. _____
\$60. _____	\$250. _____	\$1000. _____
\$80. _____	\$275. _____	\$1500. _____
\$100. _____	\$300. _____	

People who receive an increase in pay sometimes report that they do not know what they did with the extra money; they used it for what they call "pocket money" or "everyday expenses". In other instances people report that they received a raise that was large enough for them to plan to make specific purchases. What we want to find out is how much of a monthly salary increase would be required before you would start planning to make specific purchases rather than using the money for general, day-to-day expenditures. Put an X beside that amount.

\$5. _____	\$120. _____	\$350. _____
\$10. _____	\$140. _____	\$400. _____
\$20. _____	\$160. _____	\$450. _____
\$30. _____	\$180. _____	\$500. _____
\$40. _____	\$200. _____	\$600. _____
\$50. _____	\$225. _____	\$750. _____
\$60. _____	\$250. _____	\$1000. _____
\$80. _____	\$275. _____	\$1500. _____
\$100. _____	\$300. _____	

Next, put an O beside that amount that you believe would enable you to save some or all of the salary increase rather than using the money for unplanned, day-to-day purchases. (If this amount is the same as the one that you have put an X beside, just draw a circle around the X like this, X .



9. About things people buy for their house - things like furniture, household goods, refrigerators, stoves, televisions and the like - do you think now is a good time or bad time to buy such large household items?

I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_  
 good don't bad  
 time know time

10. Over the next twelve months, what do you think the rate of inflation will be? \_\_\_\_\_%

11. Have you been through a wage increment procedure (a raise) since joining your present organization?

\_\_\_\_\_yes \_\_\_\_\_no

12. To what extent do you expect your present job to provide you with future wage increases that will improve your standard of living?

I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_  
 very not very  
 pessimistic certain optimistic

13. To what extent do you expect that promotions and job changes will be able to move you into higher income levels in the future?

I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_  
 very bit very  
 pessimistic certain optimistic

14. To what extent do you agree or disagree that you are fairly paid relative to others who hold comparable positions in your organization?

I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_  
 strongly uncertain strongly  
 disagree agree

15. To what extent do you agree or disagree that you are fairly paid relative to people in other organizations who have comparable training, skills and job duties?

I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_ I \_\_\_\_\_  
 strongly uncertain strongly  
 disagree agree

So that people can evaluate people's responses to the previous questions in light of their present economic circumstances, we will ask you for information about your present income. Please remember that we have no way of associating your name with this questionnaire, your data will be pooled with others to obtain group averages.

Check the category that comes closest to your monthly pay.

\$500.	___	\$1000.	___	\$2000.	___	\$3000.	___
\$550.	___	\$1100.	___	\$2100.	___	\$3100.	___
\$600.	___	\$1200.	___	\$2200.	___	\$3200.	___
\$650.	___	\$1300.	___	\$2300.	___	\$3300.	___
\$700.	___	\$1400.	___	\$2400.	___	\$3400.	___
\$750.	___	\$1500.	___	\$2500.	___	\$3500.	___
\$800.	___	\$1600.	___	\$2600.	___	\$3600.	___
\$850.	___	\$1700.	___	\$2700.	___	\$3700.	___
\$900.	___	\$1800.	___	\$2800.	___	\$3800.	___
\$950.	___	\$1900.	___	\$2900.	___	\$3900.	___

Other \_\_\_\_\_ (Specify)

APPENDIX B

MBA STUDENT SURVEY QUESTIONNAIRE



### Survey of Attitudes Toward Wage Increases

Not all people view money in the same way, and in this survey we are trying to obtain a better understanding of this important aspect of behavior. To help us do this, we will ask you to respond to questions that deal with instances in which you receive an increase in your pay. In addition, you will be asked to supply some information about yourself that will help us understand how people's backgrounds influence their view of money. To complete this survey go through the pages of this booklet, read the instructions for each set of questions, and answer each in the best way you can. Remember, for many of these questions there is no right or wrong answer; we are merely interested in how you would view a raise in pay. Therefore, do not spend too much time mulling over your answers, but respond in a way that seems reasonable at the moment.

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To give us information on how people look at their wages, we would like you to think about how you would view different salary increases (please think realistically). Using your response to question #6 on the previous page (expectation of present starting salary) as a referent, we would like you to divide the following list of dollar amounts into five (5) segments representing dollar increases in monthly salary which you would tend to view as falling in each of the following categories.

Assign each salary increase to one of the above five categories by writing the appropriate category number in the space beside each dollar amount.

1. Extremely small salary increases
2. Small salary increases
3. Neither large nor small increases
4. Large salary increases
5. Extremely large increases in monthly salary

Salary Increases:

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\$40. _____	\$200. _____	\$600. _____
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\$60. _____	\$250. _____	\$1000. _____
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\$100. _____	\$300. _____	

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1. I would be deeply disappointed
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\$10._____	\$140._____	\$400._____
\$20._____	\$160._____	\$450._____
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\$100._____	\$300._____	

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✓  
VITA

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