

The Effect on Organization Members of Discrepancy Between Perceived and Preferred Rewards Implicit in Work¹

Arnold S. Tannenbaum²

Institute for Social Research, The University of Michigan

Walter J. Kuleck, Jr.

Center for Creative Leadership

Several current theories predict the psychological effect of a discrepancy between the reward persons receive from their job and the reward they would like to receive. Data from 1,750 persons in 52 industrial plants of five countries are analyzed to explore some conflicting implications of these theories. For example, researchers dispute the assertion that obtaining more than one wants can be as dissatisfying as obtaining less than one wants. The analyses reported here suggest a formula that helps to explain the conditions under which overcompensation may or may not be dissatisfying.

INTRODUCTION

This analysis concerns the effect of discrepancy between the reward persons perceive themselves to get from aspects of their job and the reward they would like to receive. Theories of person–environment fit (Caplan, Cobb, French, Van Harrison, & Pinneau, 1975) are concerned with the implications of such a discrepancy. Presumably, persons will be satisfied (or

¹This research was funded by the National Science Foundation under the Grant No. GS-39751. The authors would like to thank John R. P. French, Jr. for his suggestions, as well as Bogdan Kavčič, Menachem Rosner, Mino Vianello and Georg Wieser who were responsible, along with Tannenbaum, for the original study that provided the data analyzed here.

²Requests for reprints should be sent to Dr. Arnold S. Tannenbaum, Survey Research Center, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48106.

dissatisfied) to the extent that the amount of reward or "value" they receive corresponds (or fails to correspond) to the amount they want. Yet there are disagreements about the details of this relationship between reward and satisfaction. One hypothesis, for example, suggests that reward that exceeds a preferred level will be as dissatisfying as reward that does not reach that level. Adams (1963) implies a qualification to this proposition by suggesting that the threshold for the feeling of inequity (and presumably of dissatisfaction) is likely to be higher in cases of over-reward than in cases of under-reward, since persons are better able to tolerate and rationalize the latter. On the other hand, Morse (1953) and Katzell (1964) have proposed formulas that imply increasing satisfaction with increasing reward above a preferred value, contrary to the idea that such discrepancies are dissonant and dissatisfying. Locke (1969) has attempted to explain the conflict between such views by suggesting, among other things, that the shape of the discrepancy-satisfaction function may be different for different persons and for different rewards or "values." Some persons can never get "too much" of certain values.

In any event, all of these theories agree that under-reward is dissatisfying and that the larger this discrepancy between preference and reward the greater the dissatisfaction. Thus the failure of some change programs that are designed to increase job satisfaction through participative procedures or through job enrichment is sometimes explained by the aspirations concerning rewarding aspects of the work situation which are said to increase through these programs at a greater rate than the rate at which the rewards themselves increase.

We examine in this paper data that are relevant to aspects of the above arguments. We consider two forms of reward that a number of authors have found to be related importantly to job satisfaction. (For a review of studies concerning the determinants of job satisfaction see Locke, 1976.) One is implicit in the authority and influence that members perceive themselves to exercise in their work situation. Most, if not all, organization members indicate that they would like to have more authority and influence in their work situation than they see themselves having, and we assume that such authority and influence is rewarding directly or indirectly for most persons. The second form of reward includes "job enriching" opportunities that members perceive in their work such as the opportunity to use one's skills, to employ one's own ideas, to set one's own work pace, and to learn new things. In general, these are viewed as desirable qualities of work; most members want more than they perceive themselves to get.

METHOD

The data of this study were collected in 52 industrial plants in five countries. The plants are reasonably well matched between countries in size

and technology. Ten plants are located in Israeli kibbutzim and ten in Yugoslavia. These plants illustrate a formally participative decision-making structure and a relatively equalitarian distribution of authority and reward. The remaining plants, located in Austria (11 plants), Italy (10), and the United States (11), illustrate decision-making and reward systems of the more conventional industrial bureaucracy. Thirty-five persons including members at all levels and connected hierarchically were selected in each plant, creating a sample of about 350 persons per country and 1,750 persons all together.

Data were collected through questionnaires administered to all of the selected persons. (For a more detailed description of the research methodology see Tannenbaum, Kavčič, Rosner, Vianello, & Wieser, 1974.) Questions were asked to measure (a) the amount of authority and influence perceived and preferred by each respondent, and (b) the level of opportunities perceived and preferred by these respondents. Brackets in the following questions indicate the form of the question for obtaining the respondent's preference:

1. Authority and Influence
 - a. In your work, to what extent can you [would you like to] . . . have authority over other people?
 - b. How much influence do [should] you personally . . . actually have on what happens in this plant?
2. Opportunities Provided by the Job
In your work, to what extent can you [would you like to]:
 - a. Learn new things?
 - b. Use your own ideas?
 - c. Do interesting work?
 - d. Use your skills, knowledge, and abilities?
 - e. Talk with other people during work time?
 - f. Decide your own pace of work?

The dependent variable, job satisfaction, was measured through the following questions:

1. Do you like working for this company?
2. Do you like the work you are doing in this plant?
3. How much satisfaction do you get from your job in the plant compared to what you can do after leaving the plant?

Each question was answered on a five-point scale, and the items under each heading were averaged to comprise indexes, each of which proves reasonably reliable in each country (the average intercorrelation between items being about .60 to .70), with the exception of the index of authority-influence in Yugoslavia, where the intercorrelation between the two sub-items is very low (.16). Two of the three items in the job satisfaction index have scales that are opposite in direction from the scales of all of the other measures in order to eliminate a possible effect of response set on the correlations between the independent and dependent variables.

RESULTS

Figure 1 shows the relationship between job satisfaction and the discrepancy concerning authority and influence in each country separately. The number of cases at the tails of the respective curves is exceedingly small and we must therefore interpret these curves cautiously. Nonetheless, barring Yugoslavia, the patterns look remarkably alike among countries. The Yugoslav data concerning authority and influence are not very reliable (see Tannenbaum et al., 1974), and the exceptional Yugoslav pattern shown in the figure may be attributable to this methodological limitation and/or to the very small number of cases at the tail ends of the distribution. Excepting Yugoslavia, then, the results look very much like those to be expected by the theory of person-environment fit described by Caplan et al. (1975), and because the distributions are so much alike, we assume that the dynamics implied by these curves are the same in all countries. We therefore combine them in Figure 2. The numbers in parentheses indicate the number of cases at each point on the curve.

Figures 3 and 4 show comparable data for the effect on job satisfaction of discrepancy between perceived and preferred opportunities. Considering the consistency among countries in Figure 3, Figure 4 combines the data from all countries, providing what is probably a general picture of the relationship between the discrepancy and job satisfaction. (We have eliminated from this curve one point at the extreme right that defines a dis-

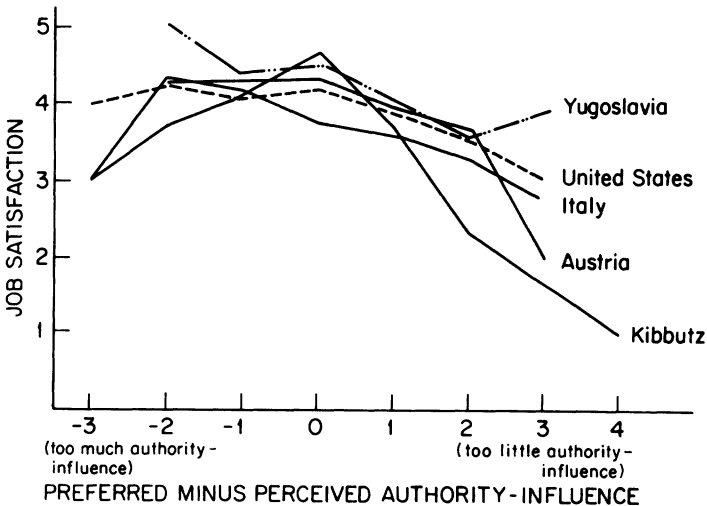


Fig. 1. Relationship between job satisfaction and the discrepancy between perceived and preferred authority-influence in each of five countries.

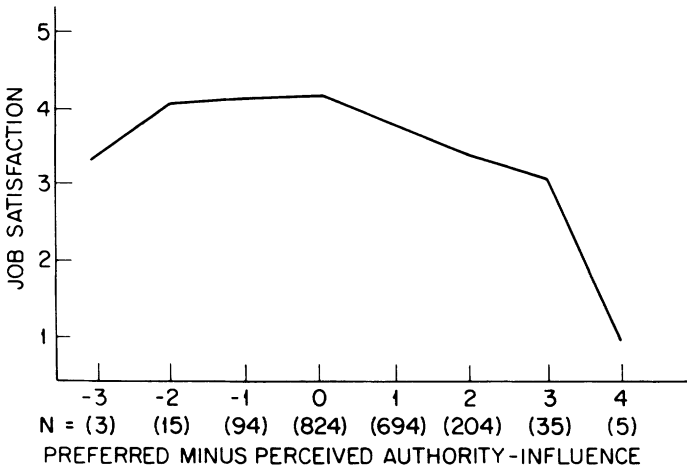


Fig. 2. Relationship between job satisfaction and the discrepancy between perceived and preferred authority-influence—all countries combined.

crepancy score of 4, since this point is based on only two cases in one country and these cases imply a very improbable discontinuity in the curve.)

The number of cases, which are shown near the bottom of the graphs of Figures 2 and 4, indicate that the bulk of the data fall within a fairly narrow range of discrepancy scores—from about 0 to 2. Within this range, the results do not depart very much from the simple model of increasing

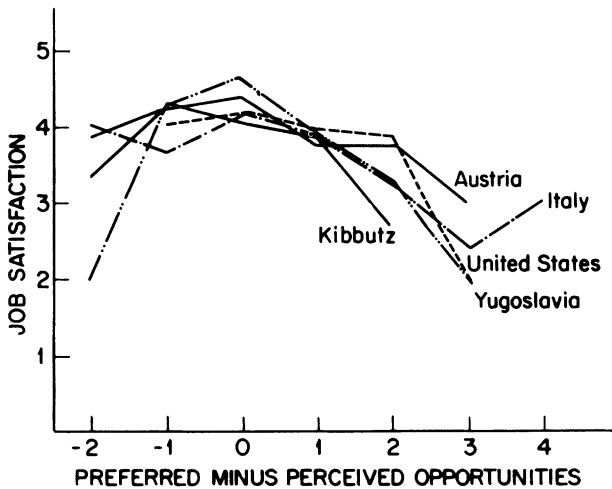


Fig. 3. Relationship between job satisfaction and the discrepancy between perceived and preferred opportunities in each of five countries.

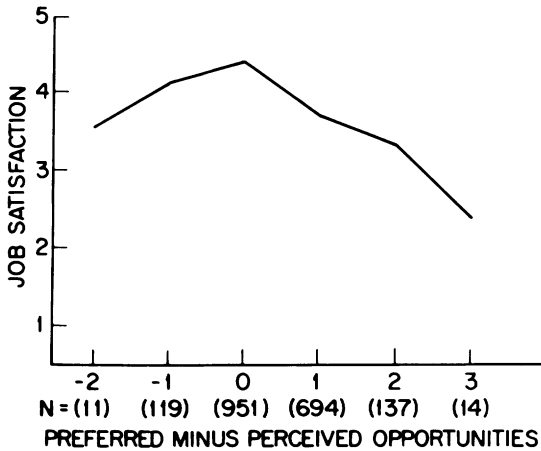


Fig. 4. Relationship between job satisfaction and the discrepancy between perceived and preferred opportunities—all countries combined.

satisfaction with decreasing discrepancy. Nonetheless, within their full range the curves seem curvilinear and they appear consistent with the notion that overreward may be dissatisfying. But there is a hint in these data of something that may be important and that is not entirely accounted for by the simple notion that discrepancy per se explains satisfaction, viz., that negative discrepancies are less dissatisfying than positive discrepancies of equal magnitude. For example, a discrepancy of -3 , -2 , or -1 corresponds to a little higher level of satisfaction than does one of $+3$, $+2$, or $+1$, respectively.

In fact, Adams (1963), in discussing the issue of equity offers a suggestion that is relevant to these data, viz. that "the thresholds for inequity [and for the feeling of dissatisfaction] are [probably] different . . . in cases of under and overcompensation. The threshold would be greater presumably in cases of overcompensation, for a certain amount of incongruity in these cases can be acceptably rationalized as 'good fortune.'" The above figures seem in accord with Adams' suggestion, yet they do not indicate so much a shifting threshold as they do an asymmetry in the degree of the relationship between discrepancy and satisfaction. The greatest satisfaction occurs at zero discrepancy, but the effect of increasing discrepancy is less marked to the left of the zero point, where discrepancy defines over-reward than to the right where it defines under-reward.

Figures 5a and 5b help further to explain this asymmetry, but they suggest that the shape of the curves shown in Figures 3 and 4 may after all be more accidental than essential as descriptions of the relationship between

discrepancy scores and satisfaction. The curves in these figures are drawn for all countries combined on the basis of data standardized by country. The results are divided in each figure into five groups of as nearly equal size as possible according to the amount of authority-influence or opportunities reported by members. Each curve in the graph is therefore based on a narrow range of authority or opportunity. For example, the curve of Figure 5a labeled first quintile defines the relationship between preference concerning authority-influence and job satisfaction *for persons who are in the lowest 20% of the authority-influence distribution in their respective countries*. The curve labeled fifth quintile defines the relationship for persons who are in the highest 20% of the authority-influence distribution. Authority-influence is therefore relatively low for all persons in the first group and it is relatively high for all persons in the second group.

The scale points on the horizontal axis refer to quintiles divided from low to high on the basis of standardized scores of *preferred* authority-influence. Thus the first group is composed of the lowest 20% of scores in each of the countries. A point joined to the curve by a dashed line means that the point is based on fewer than ten cases but more than five. The curve is not drawn to a point for which only five or fewer cases are available.

Several facts are suggested by these figures. First, the relationship between job satisfaction and preferred level of authority-influence is different where the amount of authority-influence is low compared to where it is high. Under the former condition (first or second quintile of authority-influence), an increasing level of preference is associated with decreasing satisfaction, but under the latter condition (fourth or fifth quintile), increasing level of preference is associated with increasing satisfaction. Thus preference concerning amount of authority-influence or amount of opportunities provided by a job may have a substantial effect on satisfaction, although the effect is different under different conditions.

Second, it is apparent from these figures that the more consistent effect on job satisfaction derives from the amount of authority or of opportunity that persons perceive themselves to have rather than from their preference concerning authority or opportunity. For example, increasing *preferred* authority or opportunity may have the effect of increasing *or* decreasing satisfaction; increasing *perceived* authority or opportunity, however, almost always has the effect of increasing satisfaction. But the magnitude of this major effect of varying reward also depends on conditions. For example, if desire concerning authority and influence is low (as, for example, among the persons in the lowest quintile of preferred authority), variation in the amount of authority organization members perceive themselves to have is likely to have little or no effect on their job satisfaction. On the other hand, if their expectation is high, variation in the amount of authority they perceive themselves to have will affect their job satisfac-

tion substantially. In any event, the effect of authority or of opportunity, *where an effect is felt*, is not likely to be negative in these data, unlike the effect of expectation where, depending on conditions, the effect may be positive or negative. This contradicts the argument that dissatisfaction may increase as a result of increasing reward that exceeds the preferred amount (while holding amount that is preferred constant). Perhaps such effects do occur under extreme conditions of reward or preference, but they do not seem to occur within the (rather broad) range of conditions defined by this research, suggesting that conditions for these effects, if they occur, are rare.

Third, Figures 5a and 5b demonstrate some features consistent with current theories about the effect of the reward-preference discrepancies; they also demonstrate several clear contradictions to these theories. The curve describing respondents with the lowest level of authority-influence (first quintile, Figure 5a) shows how satisfaction decreases as the magnitude of the discrepancy between actual and preferred authority increases. The lowest discrepancy, which is at the left of the curve, corresponds to the highest degree of satisfaction while the largest discrepancy, which occurs at the right end of the curve, is associated with a very low level of satisfaction. (We can probably assume that the odd turn of the curve at this end is a chance fluctuation attributable to the small number of cases, 11 and 12, upon which the last two points, respectively, are based.) The curve describing respondents with the highest level of authority-influence (fifth quintile) also shows a relationship between the magnitude of discrepancy and satisfaction. The lowest level of satisfaction occurs at the left end of the curve, again where the discrepancy is greatest, and the highest degree of satisfaction is at the right end, where the discrepancy is the smallest. Furthermore, the increasing discrepancies that correspond to decreasing satisfaction in the first curve are primarily positive, i.e., preferred level of authority exceeds perceived level of authority. In the case of the second curve, discrepancies are negative; perceived authority exceeds preferred authority. Thus both increasing positive and negative discrepancy are associated with decreasing satisfaction.

Yet the size of the discrepancy alone is not a sufficient basis for predicting satisfaction. The discrepancy at the right end of the curve based on the fifth quintile is approximately zero and is approximately equal to the discrepancy at the left end of the curve of the first quintile, but the satisfaction levels are quite different at these points, contrary to the simple notion that does not distinguish between a discrepancy for which perceived and preferred reward are high and for which perceived and preferred reward are low.

The variation in satisfaction that may be associated with a constant level of discrepancy can be seen more clearly in Figure 6, which is an attempt to describe mathematically the data of Figures 5a and 5b. The

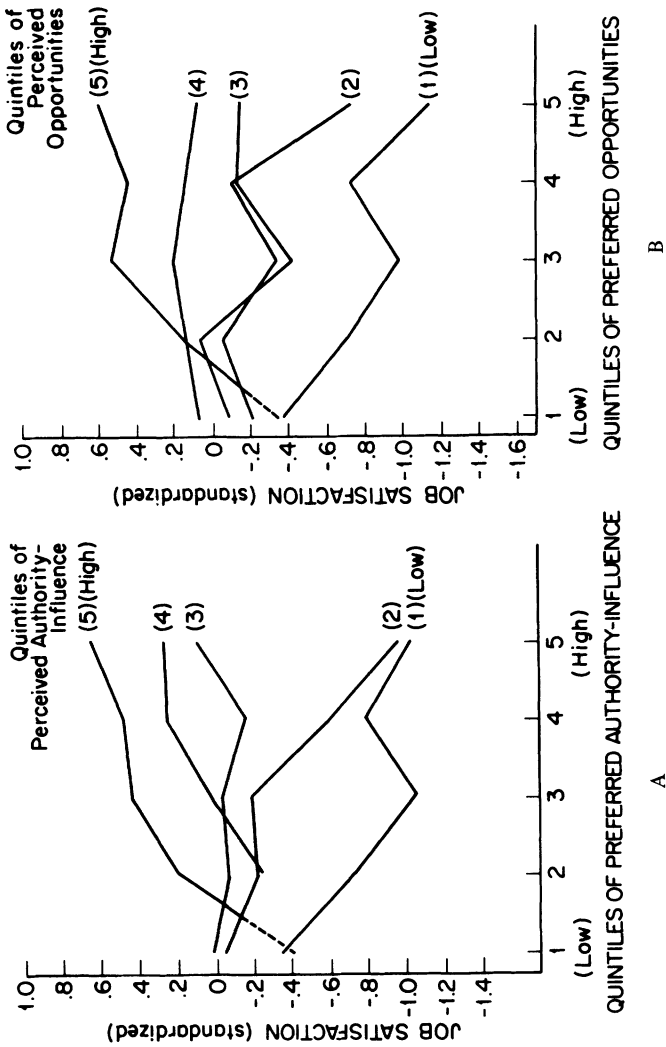


Fig. 5a. Relationship of preferred authority-influence and job satisfaction for persons with different levels of perceived authority-influence.

Fig. 5b. Relationship of preferred opportunities and job satisfaction for persons with different levels of perceived opportunities.

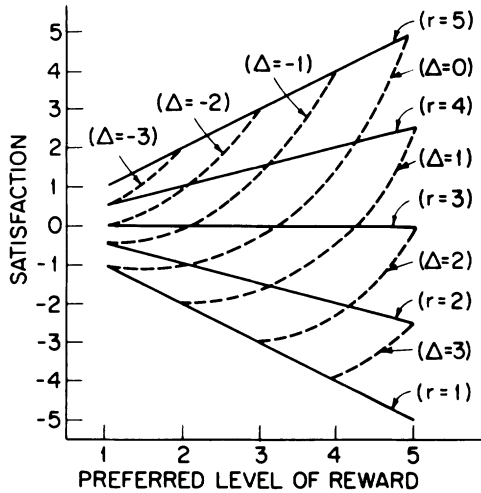


Fig. 6. Relationship of preferred level of reward and satisfaction for persons with different levels of perceived reward, as defined by the formula $S = [(r-3)/2] \cdot e$.

curves in this figure are based on the formula $S = [(r-3)/2] \cdot e$, where S is the amount of job satisfaction, r is the amount of reward, and e is the “expected” or preferred amount of reward. Assuming 5-point scales, the constants 3 and 2 create a maximum slope of +1 or -1 for the line defining the relationship between S and e , depending on whether the level of reward is 5 or 1 respectively.

The dashed lines in Figure 6 describe parameters, each of which defines a given magnitude of discrepancy between perceived and preferred reward. For example, the curve labeled $\Delta = 0$ connects the points 5, 5; 4, 4; 3, 3; 2, 2; and 1, 1 of perceived and preferred reward, respectively. The discrepancy between perceived and preferred reward is zero for all points along this curve. Similarly, each of the other dashed curves demonstrates varying levels of satisfaction that may be associated with a constant level of discrepancy. Parameters above and to the left of the one labeled $\Delta = 0$ define primarily negative discrepancies ($r > e$), while those below and to the right define primarily positive discrepancies ($r < e$). In general, the negative discrepancies correspond to higher levels of satisfaction than do positive discrepancies, although some negative discrepancies show lower satisfaction than do the positive discrepancies. Thus, the level of satisfaction associated with a given value of discrepancy depends on the specific values of e and r .

The discrepancy when e and r are relatively large does not have the same effect as does an identical discrepancy when e and r are small.

The asymmetry of Figures 2 and 4 can now be understood not as a differing reaction threshold to positive and negative discrepancies, nor as an inherent asymmetry in the relationship between discrepancy and satisfaction, but rather as a result of a difference in the way discrepancy is defined on the left and on the right side of the zero point. On the left, a discrepancy occurs when reward is relatively high; on the right, a discrepancy occurs when reward is relatively low. Furthermore, the amount of reward implicit in the discrepancies of Figures 2 and 4 increases on the average with increasing negative discrepancy, while it decreases on the average with increasing positive discrepancy. Hence the positive effect of increasing reward that accompanies increasing discrepancy counteracts the negative effect of increasing discrepancy to the left of the zero point. That is why the curve is less steep to the left than to the right.

The formula of Figure 6 may be made more general and perhaps more realistic by adding two constants: $S = C + [(r-3)/2] (e + D)$. C determines the general height of the curves on the S axis and D defines the displacement of the curves to the left or right. It determines where along the e axis the curves defining constant levels of reward converge and therefore where the relationship between r and S turns from positive to negative. This point is the key to whether increasing reward can have a negative effect on satisfaction. The relationship is negative to the left of this point and positive to the right. The relationship cannot be negative if the point is at the extreme left end of the graph. But if this point is shifted to the right, then the curves begin to define cases where the relationship between reward and satisfaction is negative. These constants, as well as the constants 3 and 2 in the above formula (which determine the slopes of the curves) may be different for different sets of persons (or cultures) or for different types of reward and they may therefore be the bases for following Locke's suggestion that the effect of a discrepancy between reward and preference will indeed be different for different people and for different rewards.

SUMMARY AND CONCLUSIONS

Several theories predict the psychological effect of a discrepancy between the reward persons receive from their job and the reward they would like to receive. The results of this analysis are consistent in some ways with the predictions suggested by these theories but the data suggest several modifications.

1. Persons' satisfaction with their job is a negative function of the discrepancy between the reward (in the form of authority and influence or opportunities) the persons perceive themselves to obtain from their job and the reward they would like to obtain. Furthermore, reward that exceeds preference may be as dissatisfying as preference that exceeds reward. This negative implication of over-reward contradicts the Morse (1953) and Katzell (1964) formulas.

2. However, the effect of a discrepancy depends upon the absolute level of reward (or the absolute level of preference). A given amount of discrepancy is less dissatisfying when the amount of reward (or preference) is high than when the amount is low. This finding is consistent, in principle, with the Morse (1953) and Katzell (1964) formulas.

3. The negative effects of over-reward may not be as apparent as those of under-reward for two reasons. (i) Over-reward is rare. Most persons feel insufficiently or only adequately rewarded; very few persons perceive that they receive more than they want from their jobs. (ii) Reaction to over-reward (like reaction to under-reward) is a function of two things: (a) the discrepancy per se between what a person wants and what a person gets, and (b) the absolute level of what the person gets. A given magnitude of over-reward is usually found to be less dissatisfying than is the corresponding magnitude of under-reward because over-reward is usually associated with a higher absolute level of reward than is the same magnitude of under-reward. Thus over-reward per se may not be different in its effect than under-reward, but over-reward is usually associated with a higher level of reward than is the same magnitude of under-reward, and for this reason over-reward is usually associated with less dissatisfaction than is under-reward. Our results therefore suggest an interpretation that differs from the view of Morse (1953) and Katzell (1964), who argue that over-reward is satisfying, and from the view of Adams (1963), who suggests that the reaction threshold to over-reward is different from that to under-reward.

4. We have proposed the formula $S = f[e(r-3)/2]$ as a way of predicting job satisfaction from perceived reward and preferred reward. It is clear from this hypothesized relationship that a given discrepancy may be associated with different values of satisfaction, depending on the absolute level of reward (or expectation). The most satisfied persons are not simply those who get what they want; they are persons who want a great deal and get what they want. In fact persons who experience some discrepancy between perceived and preferred reward while having a very high level of preference may be more satisfied than those who experience no discrepancy at all under conditions of a low level of preference.

Furthermore, the curves that define overcompensation ($\Delta = -$) are in general above those that define undercompensation ($\Delta = +$). Nonetheless, some cases of overcompensation are actually below cases defining an equal

magnitude of undercompensation. But because most cases of overcompensation happen to occur when reward is relatively high, overcompensation will ordinarily be associated with less dissatisfaction than will an equal magnitude of undercompensation.

5. The data suggest that change programs that increase at the same rate both aspiration concerning reward and reward itself will result in increased satisfaction even though the discrepancy between reward and aspiration for reward does not change. Increasing aspirations at a faster rate than reward, however, may not lead to satisfaction; it may lead to dissatisfaction, depending upon how much the increase in aspiration exceeds the increase in reward.

The data also support the argument proposed by Hulin and Blood (1968) that alienated persons (for example, those with very low expectation or aspirations for reward) will not react positively to job enrichment or to participative schemes that increase their authority—unless these programs somehow increase the aspirations of the participants. Very few persons in the culturally diverse sample of this study appear sufficiently alienated that an increase in authority or in opportunities provided by the job will not have some positive effect on their job satisfaction. Nonetheless, the data suggest that change programs addressed to highly alienated groups must be concerned as much with increasing the aspirations of participants as with increasing the rewards implicit in the work these persons perform. Such change could backfire, however, unless a proper balance between reward and aspiration is maintained.

REFERENCES

- ADAMS, J. S. Toward an understanding of inequity. *Journal of Abnormal and Social Psychology*, 1963, 67, 422-436.
- CAPLAN, R. D., COBB, S., FRENCH, J. R. P., JR., VAN HARRISON, R., & PINNEAU, S. R., JR. *Job demands and worker health*. Washington, D.C.: National Institute for Occupational Safety and Health, 1975.
- HULIN, C. J., & BLOOD, M. R. Job enlargement, individual differences, and worker responses. *Psychological Bulletin*, 1968, 69(1), 41-55.
- KATZELL, R. A. Personal values, job satisfaction, and job behavior. In *Man in a world at work*. Boston: Houghton Mifflin, 1964.
- LOCKE, E. A. What is job satisfaction? *Organizational Behavior and Human Performance*, 1969, 4, 309-336.
- LOCKE, E. A. The nature and causes of job satisfaction. In *Handbook of industrial and organizational psychology*. Chicago: Rand McNally, 1976.
- MORSE, N. C. *Satisfaction in the white-collar job*. Ann Arbor: The University of Michigan, 1953.
- TANNENBAUM, A. S., KAVČIČ, B., ROSNER, M., VIANELLO, M., & WIESER, G. *Hierarchy in organizations: An international comparison*. San Francisco: Jossey-Bass, 1974.

BIOGRAPHICAL NOTES

ARNOLD S. TANNENBAUM is a Program Director in the Organizational Behavior Program at the Survey Research Center, Institute for Social Research, and Professor in the Department of Psychology at The University of Michigan. He holds a degree in electrical engineering from Purdue University and PhD degrees in psychology from Syracuse University and Gothenburg University (honorary).

WALTER J. KULECK, JR. is a consulting psychologist with the firm William, Lynde and Williams, Inc. of Painesville, Ohio. He holds a BS and an MS degree in aeronautical engineering from the Massachusetts Institute of Technology and an MS and a PhD in psychology from the University of Michigan. He was recently the first Postdoctoral Fellow at the Center for Creative Leadership in Greensboro, North Carolina.