

## DISTRIBUTIVE JUSTICE AND PAY SATISFACTION: A FIELD TEST OF AN EQUITY THEORY PREDICTION

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**ABSTRACT:** Equity theory predicts that one's inputs and outcomes are evaluated in relation to the inputs and outcomes of others. Inequity can result from getting fewer outcomes or more outcomes than relevant others. For example, workers may feel dissatisfied with their wages if they are either overpaid or underpaid relative to their coworkers. Although the "underpaid" hypothesis has received a good deal of research support, the "overpaid" hypothesis has not. In fact, research on the latter prediction has been confined almost exclusively to laboratory experiments. This paper presents the results of three field tests of the overpaid/underpaid predictions of equity theory. Three national probability samples, involving many different kinds of workers and companies, show a curvilinear relationship between perceptions of equity and pay level satisfaction. The data show that both being underpaid and overpaid relative to comparison standards results in greater pay dissatisfaction than those who are compensated equitably. As predicted by Adams (1965), however, the threshold for overpayment inequity is higher than that for underpayment. Results are consistent across different measures within and across studies. Implications of the results are discussed.

The perception of fairness is an important concept in work settings. For workers, unfairness has been linked to a variety of important behaviors, including dissatisfaction with rewards, reduced effort on the job, and willingness to leave the organization (Mowday, 1987). Equity theory (Adams, 1965), among others, attempts to account for the perceptions of fairness that may cause these and other behaviors. Equity theory asserts that workers compare the inputs they invest into their job with the outcomes they receive. The critical factor that determines a worker's sense of fairness or unfairness is the comparison they make with a relevant person or group. As is well known, if one's input-outcome ratio is equal to that of the comparison other, equity—or a sense of fairness—results. If the ratios are unequal, inequity and the pressure to restore equity increases. That is, both under-reward and over-reward are predicted sources of inequity.

The research on equity theory has been reviewed several times (Carrell & Dittrich, 1978; Lawler, 1968; Mowday, 1987; Pritchard, 1969), and the data generally support the notion that inequity results in dissatisfaction, and that this feeling impacts on work behavior. A good deal of this research that is relevant to work has studied reactions to pay. For example, people who feel underpaid have been found to decrease the quantity or quality of their work, while those who are overpaid often do the opposite (Mowday, 1987). The available evidence tends to support many equity theory predictions, especially those dealing with under-compensation for work.

Interestingly, most of this support for equity theory is based on laboratory research (see Carrell & Dittrich, 1978; Mowday, 1987; Pritchard, 1969). Typically, college students are "paid" for participating in a short-term work situation. Subjects are then told that they are equitably paid or underpaid relative to a comparison other in the same situation. Then, satisfaction ratings and work behavior is assessed. Although some notable field studies of equity have been completed (e.g., Berkowitz, Fraser, Treasure, & Cochran, 1987; Goodman, 1974; Hills, 1980; Klein, 1973), review after review has called for more studies of equity in a realistic situation (see Carrell & Dittrich, 1978, p. 207; Goodman & Friedman, 1971, p. 280; Lawler, 1968, p. 608; Mowday, 1987, p. 107; Weick, 1966, p. 439).

In addition to a continued need for more field research on equity theory, studies on the effects of inequity based on *over-reward* also appear to be needed. Adams (1965, p. 281) predicts, for example, that feeling underpaid or overpaid relative to a comparison standard will result in dissatisfaction. Although he also maintains that the threshold for perceptions of inequity is higher when a worker is over- rather than underrewarded (p. 282), both states of inequity are predicted to result in dissatisfaction. Interestingly, my literature search resulted in only one study that has examined the impact of overpayment inequity on actual employees. Vecchio (1984) examined the curvilinear hypothesis of Adams by surveying 145 M. B. A. students who were employed full-time. Vecchio sought to compare three different mathematical models of inequity. He asked respondents to rate inputs and outcomes that might be relevant to compensation on their jobs. They were also asked to provide the same ratings for a comparison other. On the basis of these ratings, groups were formed that represented overcompensated, undercompensated, and equitably compensated respondents. A trend analysis of these data on various measures of job and pay satisfaction, however, revealed few effects. In fact, although he found suggestive trends, in no case did Vecchio (1984) find a significant curvilinear effect of perceptions of equity on satisfaction.

Given that this study is the only one of its kind in the literature,

and that the predicted curvilinear effects were not found, the issue of over and under-compensation equity probably deserves further examination. It is not clear why Vecchio (1984) was unable to find significant curvilinear effects. It could be that the nature of his sample may explain the null effects. Vecchio's M. B. A. respondents were relatively young ( $M = 38$  years), and probably very upwardly mobile in their organizations. These characteristics might have made this group less susceptible to perceptions of inequity since they may have been doing relatively well in their companies. Also, the occupational distribution of this sample was weighted very heavily toward educational and health care institutions (61% of the sample). Clearly, it would be valuable to test the curvilinear hypothesis using a sample that included a larger range of occupational types.

In this research, the results of several studies are presented, each of which surveyed actual employees who vary in terms of their perceptions of equity regarding pay on their jobs. These studies were based on large national probability samples that allow for wide generalizations of the results to many different types of workers. I predict, in accordance with Adams (1965), that across studies, a curvilinear effect of fairness ratings on pay level satisfaction will be found. That is, I expect that dissatisfaction with pay will result when pay is perceived as more or less fair than deserved. Satisfaction should be highest when compensation is approximately equal to what is deserved.

## STUDY 1

### *Method*

*Subjects.* The data for this study resulted from the "Economic incentives, values, and subjective well-being" research project of the Survey Research Center of the Institute of Social Research, the University of Michigan. The data were collected in October and November of 1973 using a multistage, area probability sampling procedure that represented all Americans age 18 and over.<sup>1</sup> In all, 1297 persons participated in the survey. Subjects who did not work, were retired, or were currently unemployed were eliminated from the analysis. This left a total of 712 subjects who could provide a test of the predictions regarding over and underpayment equity and satisfaction.

*Measures.* Four measures were especially relevant to the predictions in this study. To assess self-reported *income*, respondents were asked "To get an accurate picture of people's financial situations, we need to know the income of all people we interview. How much did you earn from your job last year before taxes?" Responses were placed into

18 income categories, ranging from "under \$2000" all the way to "\$30,000 and over." Second, *pay level satisfaction* was measured by asking subjects "How do you feel about your income? How satisfied are you with the income you have (1 = terrible, 2 = unhappy, 3 = mostly dissatisfied, 4 = mixed, 5 = mostly satisfied, 6 = happy, 7 = delighted).<sup>2</sup>

Third, respondents were asked to evaluate the equity of their income relative to two standards. The first question asked respondents to make a fairness judgment relative to a specific person or set of persons that were similar to themselves. This *social* comparison variable was indexed by the following question: "How fair is what you earn on your job in comparison to others doing the same type of work you do? Do you feel that you get much less than you deserve, somewhat less than you deserve, about as much as you deserve, somewhat more than you deserve, or much more than you deserve in comparison with others? (1 = much less, 5 = much more)".<sup>3</sup> Subjects also responded to a question that dealt with a comparison to *personal* standards, essentially the degree to which they felt that their recent pay raise was deserved: "Was your last pay increase less than you deserved, about as much as you deserved, or more than you deserved? (1 = less than deserved, 2 = about as much as deserved, 3 = more than deserved)?"

### Results

The central hypothesis tested in this paper is that judgements of fairness are curvilinearly related to pay satisfaction. In order to address this nonlinear hypothesis, a vector of product terms was created. These vectors were created by squaring the values for both of the predictor variables, the social and personal equity measures. This vector when entered into a regression equation after the main effect, carries the information that is unique to quadratic effects (Cohen, 1978).

To test this hypothesis, two hierarchical multiple regression analyses were conducted—one for each of the two equity variables. Three steps were employed for each analysis. At step 1 of the equation, self-reported income was entered. Researchers in the pay satisfaction literature have recommended this procedure (Heneman, 1985) because they believe that the simple model of actual pay leading to pay satisfaction should be tested prior to examining more complex models. At step 2 of the equation the main effect due to perceived equity was entered, and at step 3 the quadratic term that was constructed to test our hypothesis was then entered.

It is worth noting that quadratic terms, when computed as the square of the subject's scores on the equity variables, are highly correlated with the main effect (as is usually the case with product vectors). To combat the multicollinearity that might result, the independent vari-

ables were centered on their sample means and expressed in standard deviation units to facilitate comparison and interpretation of any significant effects (see Allison, 1977; Smith and Sasaki, 1979). This transformation reduces multicollinearity and makes the interpretation of partial regression coefficients more straightforward.

Table 1 presents the intercorrelation matrix and descriptive statistics for each of the three studies. The first two columns of Table 2 summarize the results of the regression analyses conducted in Study 1. In

**Table 1**  
**Intercorrelations and Descriptive Statistics for Studies 1-3**

| <i>Study 1</i>   |     |   |      |      |       |       |       |       |      |
|------------------|-----|---|------|------|-------|-------|-------|-------|------|
|                  |     | 1 | 2    | 3    | 4     | 5     | 6     | M     | SD   |
| Income           | (1) | - | .177 | .088 | -.028 | .095  | .012  | 6.85  | 3.82 |
| Pay Satisfaction | (2) |   | -    | .365 | -.197 | .342  | -.061 | 4.58  | 1.24 |
| Personal Equity  | (3) |   |      | -    | -.341 | .421  | -.055 | 2.03  | .99  |
| Quad. Term for 3 | (4) |   |      |      | -     | -.232 | -.010 | .99   | 1.19 |
| Social Equity    | (5) |   |      |      |       | -     | .156  | 2.47  | .91  |
| Quad. Term for 5 | (6) |   |      |      |       |       | -     | 1.00  | 1.64 |
| <i>Study 2</i>   |     |   |      |      |       |       |       |       |      |
|                  |     | 1 | 2    | 3    | 4     | 5     | 6     | M     | SD   |
| Income           | (1) | - | .281 | .079 | .008  | .141  | .037  | 7.78  | 3.88 |
| Pay Satisfaction | (2) |   | -    | .384 | -.017 | .306  | -.076 | 4.38  | 1.43 |
| Personal Equity  | (3) |   |      | -    | -.174 | .447  | -.059 | 2.51  | .82  |
| Quad. Term for 3 | (4) |   |      |      | -     | .426  | -.022 | .99   | 1.81 |
| Social Equity    | (5) |   |      |      |       | -     | .008  | 2.48  | .86  |
| Quad. Term for 5 | (6) |   |      |      |       |       | -     | 1.05  | 1.72 |
| <i>Study 3</i>   |     |   |      |      |       |       |       |       |      |
|                  |     | 1 | 2    | 3    | 4     | 5     | 6     | M     | SD   |
| Income           | (1) | - | .335 | .214 | -.016 | .010  | .011  | 14.58 | 4.73 |
| Pay Satisfaction | (2) |   | -    | .475 | -.094 | .322  | -.071 | .04   | 2.04 |
| Personal Equity  | (3) |   |      | -    | -.056 | .400  | -.064 | 2.39  | 1.07 |
| Quad. Term for 3 | (4) |   |      |      | -     | .286  | -.007 | .99   | 1.10 |
| Social Equity    | (5) |   |      |      |       | -     | .066  | 2.40  | .83  |
| Quad. Term for 5 | (6) |   |      |      |       |       | -     | 1.07  | 1.78 |

*Note:* Decimal points have been omitted in the intercorrelation matrices.

**Table 2**  
**Prediction of Pay Satisfaction by Equity Variables For Studies 1 to 3**

| Step                      | Study 1<br>(Personal) | Study 1<br>(Social) | Study 2<br>(Personal) | Study 2<br>(Social) | Study 3<br>(Social) |
|---------------------------|-----------------------|---------------------|-----------------------|---------------------|---------------------|
| 1<br>(Income)             | .18***                | .25***              | .28***                | .31***              | .34***              |
| 2<br>(Main<br>Effect)     | .35***                | .33***              | .36***                | .27***              | .42***              |
| 3<br>(Quadratic<br>Trend) | -.08*                 | -.11**              | -.09**                | -.09**              | -.07**              |
| R <sup>2</sup>            | .16                   | .18                 | .22                   | .17                 | .29                 |
| F                         | 37.90***              | 50.64***            | 61.99***              | 51.57***            | 123.64***           |
| n                         | 712                   | 707                 | 733                   | 722                 | 927                 |

*Note:* 1) These values are standardized partial regression coefficients, and 2) p-values are \*\*\* ( $p < .001$ ), \*\* ( $p < .01$ ), and \* ( $p < .05$ ).

both equations, actual income alone accounted for a significant amount of the variance in pay satisfaction. Not surprisingly, higher levels of pay are associated with higher pay satisfaction. Table 2 also shows that the main effects of both equity measures added significantly to the prediction of pay satisfaction beyond actual income. Inspection of these regression coefficients shows that pay satisfaction increased as did perceptions of equity. Finally, Table 2 also shows that the quadratic term for both equity measures added significantly to the prediction of pay satisfaction. To examine these trends, the mean pay satisfaction scores for each level of the equity dependent measures were calculated. The data show that satisfaction peaks when personal-based equity is perceived ( $M = 5.11$ ), whereas level of pay satisfaction is significantly lower when workers think they have been undercompensated for their work ( $M = 4.12$ ). In contrast, workers who perceive themselves to be overcompensated were not dissatisfied with their pay ( $M = 4.98$ ). The pattern of means for the social-based equity measure was nearly identical: the means for the 1, 3, and 5 points of this dependent measure were 3.72, 5.08, and 5.02, respectively.

### *Discussion*

Consistent with past research, the data showed that the main effects due to both personal and social-based equity are directly related to pay satisfaction. In addition, however, a quadratic trend in perceptions of equity on pay satisfaction was also found. This finding is interesting because, as far as we know, no field study other than Vecchio (1984) has directly examined this curvilinear hypothesis. Of course, the overpayment hypothesis is the more controversial portion of equity theory predictions, and this hypothesis has rarely been examined. Among these subjects however, this hypothesis received support: satisfaction reached an apex when equity was perceived. Overpayment and especially underpayment result in less satisfaction with pay than when equity is reached.

## STUDY 2

There are at least two reasons why one should be cautious about firm generalizations from Study 1. First, to my knowledge, there is only one study of this curvilinear effect in a field setting. Thus, it would be useful to show that the effect can be replicated with another group of workers. Second, single item measures of the constructs of interest were used in Study 1. Considerable measurement error, therefore, might exist in those measures. Although significant effects were found, this measurement error may lead one to underestimate the magnitude of effect. Although I do not have estimates of reliability for the measures in either Study 1 or Study 2, confidence could be added to the results if similar patterns of effects across studies are found. Thus, this second study serves as an attempt to replicate the pattern of effects found in Study 1.

### *Method*

*Subjects.* The data for this study also came from the "Economic incentives, values, and subjective well-being" research project at the University of Michigan. This survey, conducted in October and November of 1974, however, used a completely different sample of Americans age 18 and over. Again, a multistage, area probability sampling procedure was used. As before, respondents who did not work, were retired, or were currently unemployed were eliminated from the analysis. Data from a total of 722 subjects were used in this study.

*Measures.* The measures used in this study were identical to those employed in Study 1 (please see earlier section).

### *Results*

The same 3-step regression procedure employed in Study 1 was used again. The results are presented in columns 3 and 4 of Table 2. This table shows that income level significantly predicted pay satisfaction, with those of higher income reporting greater satisfaction. The results also show in each equation that the main effect of personal and social-based equity added significantly to the prediction of pay satisfaction. More importantly, however, Table 2 also shows that the quadratic trend also added to the prediction of pay satisfaction. For the personal equity measure, the data showed that undercompensation leads to dissatisfaction ( $M = 3.33$ ), whereas the equitably compensated group ( $M = 4.79$ ) and the overcompensated group ( $M = 4.39$ ) were relatively satisfied with their pay. Although the satisfaction of the latter group tailed off (accounting for the nonlinear effect), the equity and overcompensation groups did not differ significantly from one another. For the social equity measure, the means showed the same pattern as the earlier reported effects: undercompensated  $M = 3.76$ , equity  $M = 4.71$ , and overcompensated  $M = 4.67$ .

### *Discussion*

The curvilinear effect found in Study 1 was replicated in this second study. In a different sample at a different point in time, very similar effects were found. In this third study, the impact of perceptions of equity on a two-item pay satisfaction dependent measure was examined using yet a different sample of workers.

## STUDY 3

### *Method*

*Subjects.* The data for this study came from the Quality of American Life 1978 research project, conducted by the Survey Research Center of the Institute for Social Research, University of Michigan. The data were again collected using multistage area probability sampling. The sample represents Americans, 18 years of age and older, who live in households within the coterminous United States. Interviews were conducted with 3692 persons during June, July and August, 1978. Once again, subjects who did not work, were retired, were currently unemployed or were self-employed were eliminated. These criteria, in addition to a listwise deletion procedure, resulted in a total of 927 persons who were used in our analyses.



*Measures.* The *income* variable was measured with the following question: "In this survey of families all over the country, we are trying to get a clear picture of people's financial situations. How much did you personally earn, before taxes, in 1977?" Responses to this question were coded into one of 26 separate categories of income that ranged from a low of \$1.00-\$1,999 all the way to \$80,000 and over. *Pay satisfaction* was measured with two items. These items were recoded such that larger numbers reflected higher pay satisfaction. The items were also standardized and added together ( $\alpha = .83$ ):

1. "Please tell me how true this statement is of your job: The pay is good; Is this very true, somewhat true, not very true, or not at all true of your job (1 = very true, 4 = not at all true)."
2. "Considering everything, how satisfied are you with the part of your family's income that you earn? (1 = completely satisfied, 4 = neutral, 7 = completely dissatisfied)."

Finally, *equity* was measured with one question that asked "Relative to other people, would you say that your income is less than you deserve, about what you deserve, or more than you deserve? (1 = less, 3 = about right, 5 = more)." Unlike the equity questions used in the first two studies, this question allows more flexibility for choice of comparison other by respondents. This questions also recognizes that there are many relevant others with which we could choose to compare (see Hills, 1980; Scholl, Cooper, & McKenna, 1987).

## RESULTS

Table 2, column 5 shows the results of a hierarchical multiple regression analysis conducted on the data from this study. The self-reported income predictor, entered on the first step, was quite large and significant. Also, at step 2 the main effect of the social comparison-based equity measure proved to be a strong predictor of pay satisfaction. Finally, the quadratic term entered on step 3 was also a significant predictor of pay satisfaction. The means for the 1 (undercompensated), 3 (equity), and 5 (overcompensated) groups are  $-.34$ ,  $.26$ , and  $.20$ , respectively. This is the same pattern that was observed in the earlier two studies.

## GENERAL DISCUSSION

Across three studies that used different samples and different operationalizations, similar results were found. First, income level was

found to be a significant predictor of pay satisfaction. Not surprisingly, as level of income increased so did pay level satisfaction. At the second step in the regression equations perceptions of equity were consistently found to be linearly related to pay satisfaction. In four of the five analyses reported, the equity evaluation was more strongly related to satisfaction than the income level of respondents, and in all cases equity perceptions accounted for a significant amount of variance.<sup>4</sup>

Overriding this main effect, however, I also found in step 3 of the equations that perceptions of equity were curvilinearly related to pay level satisfaction. Workers who perceived that their level of pay was about or nearly what they deserved to receive were relatively satisfied with their pay. Workers who perceived that they were paid less than they deserved were relatively dissatisfied with their pay. And, finally, workers who thought they were paid more than they deserved also reported less satisfaction with pay than the equity group, although not significantly so. In other words, receiving a relatively high amount of pay or pay increase does not necessarily lead to even more satisfaction with pay. In these data, employees' satisfaction with pay reached an apex when that pay level was perceived as deserved. An even higher amount of pay that is perceived as undeserved does not lead to higher pay satisfaction. These results suggest that it is not necessarily true that workers are out to get as much compensation as they possibly can; instead there seems to be a limit beyond which one might feel guilty or undeserving, resulting in a leveling off or decline of pay satisfaction.

This research adds to what we know about equity theory. In particular, as reviews of the literature have noted, field studies of equity theory are still needed. This study of satisfaction with pay level certainly falls into this category. Second, this study represents one of the very few field tests of the curvilinear hypothesis specified by equity theory. Although there are many laboratory investigations of reactions to under- and overpayment, I was able to locate only one field test of this hypothesis that studied real workers. Furthermore, few if any studies—laboratory or otherwise—*directly* tested the curvilinear hypothesis. As mentioned, the one study that did examine these issues is by Vecchio (1984). Although there were several suggestive effects, Vecchio did not find any significant nonlinear effects. It is not completely clear why the results consistently supported the nonlinear effects specified by Adams (1965), although several features of this research are among the possible explanations. First, each of the three samples used here was much larger than the sample of Vecchio (1984). Thus, the increased power available in our research may have amplified the suggestive trends identified by Vecchio. Second, my samples were composed of many different types of workers from many different organizations. This large pool of different perceptions might also have made it easier to find sig-

nificant effects. Whatever the reason may be, I was able to replicate the results across: a) a several year period, b) different measures of equity and c) different samples of workers.

Several interesting implications can be drawn from these results. First, if both perceptions of under- and overpayment affect level of pay satisfaction, then presumably they should also have an impact on the known effects of pay satisfaction. For example, Heneman (1985) reviews research that shows pay satisfaction affects absenteeism, turnover, and the amount of effort exerted on the job. Interestingly, however, the effect of inequity resulting from overpayment does not always produce these effects, although underpayment does so much more consistently (Mowday, 1987). It is interesting to speculate on the relation between these findings and our results. One way to integrate these results may be to consider the issue of time frame in equity theory (Dosier & Dalton, 1983). Perhaps time influences over- and undercompensation differently. As time passes, the inequity felt as a result of overcompensation may abate, whereas the bad feelings caused as a result of under-reward may actually increase over time. Future research might deal with this issue (cf. Cosier & Dalton, 1983). Second, the issues of over- and underpayment that equity theory raises might be usefully applied to some contemporary trends in organizations. Dual-tier wage structures, for example, are becoming increasingly common, and they raise important equity concerns (Martin & Peterson, 1987). Both under- and overpayment issues are raised by such systems, and it might be important for research to examine how those who are "overcompensated" feel and act in organizations, and how they are treated by others—especially those on the short end of the stick. Also, given the recent trends toward participation and teamwork in the workplace (Lawler, 1986), these issues loom especially large. Studies of these effects and others in a field setting would be valuable additions to the literature.

## NOTES

1. Although these three data sources were collected in the early to late 1970's, age of data is not seen as a major drawback to a test of the curvilinear hypothesis. Clearly, it is possible that the grand means of the measures may be inflated or decreased by events that were occurring in the 1970's. On the other hand, the equity approach is not a model for the 1970's or 1960's only. These models—and management theory in general—presumably have features that do not restrict their explanatory power to a particular decade. The equity model, for example makes predictions about the relative influence of our main effect and the quadratic term, not necessarily the grand mean. Thus, despite their age, I believe these studies provide useful information about this model. Nevertheless, for the reasons mentioned, I would caution against directly comparing the *absolute* level of our means with those collected more recently.
2. Although I recognize that pay satisfaction is multidimensional (Heneman & Schwab, 1985), my focus on pay *level* satisfaction is consistent with previous investigations in

- equity theory (e.g., Berkowitz et al., 1987; Sweeney, McFarlin, & Inderrieden, 1989). Also, the hypothesis is specific to the pay level satisfaction dimension discussed by Heneman and colleagues.
3. Please note that this measure is predicated on the results of the Vecchio (1984) study. His primary interest was in testing the most appropriate model of combining the inputs and outcomes. His data showed that a power function might best characterize the process of combining inputs and outcome to reach a judgment about equity or inequity. He then related this equity variable (over-, under-, and equitably-compensated) to measures of satisfaction. The questions used in this study directly asked respondents about their judgments of equity or inequity, since the main concern is how this perception is related to satisfaction ratings. It is assumed that the process of reaching the equity judgment was that which was identified by Vecchio.
  4. Although common method variance can be a problem in studies like these, curvilinear effects cannot be easily explained by such a consideration.

## REFERENCES

- Adams, J. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 267-299). New York: Academic Press.
- Allison, P. (1977). Testing for interaction in multiple regression. *American Journal of Sociology*, 83, 144-153.
- Berkowitz, L., Fraser, C., Treasure, F. P., & Cochran, S. (1987). Pay, equity, job gratifications, and comparisons in pay satisfaction. *Journal of Applied Psychology*, 72, 544-551.
- Carrell, M. R., Ditttrich, J. E. (1978). Equity theory: The recent literature, methodological considerations, and new directions. *Academy of Management Review*, 11, 202-210.
- Cohen, J. (1978). Partialled products are interactions; partialled powers are curve components. *Psychological Bulletin*, 85, 858-866.
- Cosier, R. A., & Dalton, D. R. (1983). Equity theory and time: A reformulation. *Academy of Management Review*, 8, 311-319.
- Goodman, P. S. (1974). An examination of referents used in the evaluation of pay. *Organizational Behavior and Human Performance*, 12, 170-195.
- Goodman, P. S., & Friedman, A. (1971). An examination of Adams' theory of equity. *Administrative Science Quarterly*, 16, 271-288.
- Heneman, H. G. (1985). Pay satisfaction. In K. M. Rowland & G. R. Ferris (Eds.), *Research in personnel and human resources management* (Vol. 3, pp. 115-139). Greenwich, CT.: JAI Press.
- Heneman, H. G., & Schwab, D. P. (1985). Pay satisfaction: Its multidimensional nature and measurement. *International Journal of Psychology*, 20, 129-141.
- Hills, F. S. (1980). The relevant other in pay comparisons. *Industrial Relations*, 19, 345-351.
- Klein, S. M. (1973). Pay factors as predictors to satisfaction: A comparison of reinforcement, equity, and expectancy. *Academy of Management Review*, 16, 598-610.
- Lawler, E. E. III (1968). Equity theory as a predictor of productivity and work quality. *Psychological Bulletin*, 70, 596-610.
- Lawler, E. E. III (1986). *High involvement management*. Jossey-Bass: San Francisco.
- Martin, J., & Peterson, M. M. (1987). Two-tier wage structures: Implications for equity theory. *Academy of Management Journal*, 30, 297-315.
- Mowday, R. T. (1987). Equity theory predictions of behavior in organizations. In R. M. Steers & L. W. Porter (Eds.), *Motivation and work behavior*. McGraw-Hill.
- Pritchard, R. D. (1969). Equity theory: A review and critique. *Organizational Behavior and Human Performance*, 4, 176-211.
- Scholl, R. W., Cooper, E. A., & McKenna, J. F. (1987). Referent selection in determining equity perceptions: Differential effects on behavioral and attitudinal outcomes. *Personnel Psychology*, 40, 113-124.

- Smith, K. W., & Sasaki, M. S. (1979). Decreasing multicollinearity: A method for models with multiplicative functions. *Sociological Methods and Research*, 8, 35-56.
- Sweeney, P. D., McFarlin, D. B., & Inderrieden, E. (1989). Using relative deprivation theory to explain income and pay level satisfaction: A multi-study examination. *Academy of Management Journal*, in press.
- Vecchio, R. P. (1984). Models of psychological inequity. *Organizational Behavior and Human Performance*, 8, 35-56.
- Weick, K. (1966). The concept of equity in the perception of pay. *Administrative Science Quarterly*, 11, 414-439.