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16. Abstract Although equity theory has served as a theoretical framework applying to most individuals in most situations, empirical research suggests that gender may affect the utility of equity theory in explaining organizational behaviors. Studies have indicated that men are more likely than women to distribute outcomes to individuals in direct proportion to their input. This gender difference has brought about considerable research interest and concern for implications in work groups and in supervisor-subordinate interactions. Brockner and Adsit (1986) noted an important but untested implication that the equity norm is more salient for men than it is for women. They argued that men's satisfaction with an exchange relationship should be influenced by the presence or absence of equity more so than women's satisfaction. They reported data indicating that the equity-satisfaction relationship was considerably stronger among men than among women. The Brockner and Adsit (1986) finding has an important implication for organizational theory, namely that equity perceptions may be more salient among men than women in the development of job satisfaction. Replication of their findings would suggest a need for further research in this area and a possible utility of different strategies for managing men and women for purposes of promoting job satisfaction with a focus on equity-related issues and antecedents. Contrary results, however, would suggest a need for caution in considering such strategies. The present study tested the hypothesis that the equity-satisfaction relationship would be higher for men than for women. Meta-analyses conducted on data collected from FAA personnel failed to confirm the hypothesis. However, the results reinforced the importance of equity as a correlate of job satisfaction.			
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GENDER, EQUITY, AND JOB SATISFACTION RECONSIDERED

INTRODUCTION

Much of both internal and external research on FAA employee job satisfaction has been based on the explicit assumptions that: (a) satisfaction is a potential determinant of absenteeism, turnover, in-role job performance (i.e., behaviors specified in the job description), and extra-role behaviors (i.e., discretionary helping behaviors intended to aid the organization), and (b) the primary antecedents of job attitudes are within management's ability to influence (Angle & Perry, 1983). Accompanying the latter assumption has been a notion that managers should perhaps employ different strategies to promote satisfaction among men and women, because organizational issues are supposedly differentially relevant to men and women in the development of their job satisfaction.

It should be noted that support for different management strategies is not universal. Bruning and Snyder (1983) correctly pointed out that different strategies may be useful when gender differences exist but may lead to discrimination when they do not. Toward examining the utility of such strategies for agency managers, the present study investigated possible gender differences in the relationship between equity perceptions and feelings of job satisfaction among FAA personnel. Following Deaux (1985), the non-biologically based male-female differences examined here will be discussed in terms of gender rather than sex differences.

Experimental research testing the tenets of equity theory (Adams, 1963) has primarily focused on two areas of justice behaviors, namely reward allocation and reactions to injustice (Major & Deaux, 1982). Studies investigating the former have involved a decision by subjects as to how to distribute rewards based on information about the level of effort of others in the study. The typical finding is that the equity norm guides the decision (Greenberg & Cohen, 1982). In other words, rewards are consistent with the levels of effort given and input made by the subjects. Studies examining reactions to injustice have assessed cognitive, affective, and behavioral

responses to equity (i.e., fairness), and inequity (i.e., unfairness). Results of these studies indicate that people are less satisfied with and are more motivated to redress inequitable conditions than equitable ones (Walster, Walster, & Berscheid, 1978). The bottom line of work in this area is that perceptions of equity (fairness) have led to favorable outcomes (e.g., job satisfaction, citizenship behaviors), and perceptions of inequity (unfairness) have led to unfavorable outcomes (e.g., job dissatisfaction, lack of organizational commitment).

Although equity theory has served as a paradigm applying to most individuals in most situations, empirical research (see Major & Deaux, 1982) suggests that gender may affect the utility of equity theory in explaining organizational behaviors. Studies have indicated that men are more likely than women to distribute outcomes to individuals in direct proportion to their input (Kahn, 1972; Lane & Messe, 1971; Leventhal & Lane, 1970). Indeed, the trend has been that men use the equity norm, while women use the equality norm (i.e., distributing resources equally without regard to individual efforts). Studies have provided various explanations of this gender difference. Some evidence suggests that men and women may differ in their interaction goals, with women striving for interpersonal or social success and men striving for exploitative, competitive success (see, for example, Kahn, O'Leary, Krulowitz, & Lamm, 1980). Furthermore, while men may tend to identify effort and skill as relevant inputs, women may tend to identify participation as more relevant (Walster & Walster, 1975). Kahn, Nelson, and Gaeddert (1980) argued that gender differences will most likely be found when situational demands are ambiguous or weak and that men and women will attempt to change the situation to be consistent with their interpersonal orientation. It should be noted that circumstances such as the public nature of the allocation (Kidder, Bellefleur, & Cohn, 1977) and anticipation of future interaction with the partner (Shapiro, 1975) may minimize these tendencies; these situations are present in the workplace. Nevertheless, identification of this gender difference has brought about consider-

able research interest and concern for implications in work groups and in supervisor-subordinate interactions. For example, men might be more likely than women to focus on performance of their subordinates in making promotion decisions.

Brockner and Adsit (1986) noted an important, but untested, implication that the equity norm is more salient for men than women. They argued that men's satisfaction with an exchange relationship should be influenced by the presence or absence of equity more so than women's satisfaction. Testing this supposition, they conducted a study of 51 persons in 3 clubs, 1 of which was comprised of all women ($N = 14$), another was mainly comprised of men (N of men = 16; N of women = 4), and the third had 10 men and 7 women. They reported that the equity-satisfaction relationship was considerably stronger among men than among women. The relationship was especially strong among men in the primarily male group and weak for women in the all female group.

The Brockner and Adsit (1986) finding has an important implication for organizational theory, namely that equity perceptions may be more salient in the development of job satisfaction among men than it is among women. This gender difference may be important in the management of men and women personnel. The purpose of the present study was to attempt to extend the findings reported by Brockner and Adsit (1986) to data collected from FAA personnel while using different measures of job satisfaction and perceived equity. Replication of their findings would suggest a need for further research in this area and the possible utility of different strategies for managing men and women for purposes of promoting job satisfaction with a focus on equity-related issues and antecedents. Results showing no practical gender differences, however, would favor caution in considering such strategies. Thus, the present study tested the hypothesis that gender would moderate the relationship between perceived equity and job satisfaction. Specifically, we hypothesized that the equity-satisfaction correlation would be higher for men than for women.

METHOD

Subjects and Procedure

The attitudes of FAA employees were measured as part of a multi-year evaluation of the Airway Science Curriculum Demonstration (ASCD) Project surveys (N of men = 7518; N of women = 1343), the 1988 Job Satisfaction Survey (JSS) (N of men = 4001; N of women = 1008), and the 1990 JSS (N of men = 3739; N of women = 1045). Data collection procedures for the ASCD project (Broach, 1989) and JSS projects have been described elsewhere (see Myers, Schroeder, VanDeventer, & Collins, 1988).

MEASURES

Job Satisfaction

Employees completing the ASCD project surveys responded to items used in previous Federal Government surveys (Office of Personnel Management, 1979) presented on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree; 3 = neutral). The employees indicated the extent of their agreement with 5 facet items ($M = 17.59$; $SD = 2.98$): (a) "All in all, I am satisfied with my pay," (b) "I am satisfied with the chances of getting a promotion," (c) "I am satisfied with the amount of job security I have," (d) "All in all, I am satisfied with my work group," and (e) "I am satisfied with the respect I get from the people I work with," as well as with a global, 1-item measure, "In general, I am satisfied with my job" ($M = 3.93$; $SD = .75$). Employees responding to the 1988 and 1990 JSS's completed 10 items on a 5-point Likert-type scale (1 = very dissatisfied to 5 = very satisfied; 1988: $M = 33.97$; $SD = 7.38$; 1990: $M = 33.58$; $SD = 7.6$): (a) "How satisfied are you with your pay?" (b) "How satisfied are you with your benefits?" (c) "How satisfied are you with your retirement system?" (d) "How satisfied are you with your physical working conditions?" (e) "How satisfied are you with your job -- the kind of work that you do?" (f) "How satisfied are you with your work group?" (g) "How satisfied are you with the quality of feedback you receive from your supervisor?" (h) "How satisfied are you with your immediate supervisor?" (i) "How satisfied are

you with your organization as a place to work?" and (j) "How satisfied are you with the management of your organization?" They also completed a 1-item measure, "Overall, how satisfied are you with your job?" (1988: $M = 3.60$; $SD = 1.16$; 1990: $M = 3.57$; $SD = 1.18$).

The rationale for using both total scores of multiple facet items of job satisfaction as well as one global item stems from evidence suggesting that: (a) specific satisfaction measures "better reflect changes in relevant situational factors because of the more precise referent" (Gerhart, 1982, p. 371), (b) responses to a global item (i.e., an item that does not specify with regard to what referent the rater is to express his/her job satisfaction) may more likely reflect individual differences than are responses to specific items (see Ajzen & Fishbein, 1977), and (c) single items may not be as unreliable as previously thought (Scarpello & Campbell, 1983). In other words, the use of total facet and global measures provided the opportunity to examine gender differences operating in response to both context-specific and context-free cues.

Equity

Employees completing the ASCD project surveys completed 2 items used in previous Federal Government surveys (Office of Personnel Management, 1979) presented on a 5-point Likert-type scale (1 = strongly disagree; 5 = strongly agree) in which the employees indicated their agreement with these items: (a) "Considering my skills and the effort I put into my work, I am satisfied with my pay" ($M = 3.19$; $SD = 1.09$), and (b) "Promotions here depend on how well a person performs his or her job" ($M = 2.93$; $SD = 1.13$). Employees responding to the 1988 or 1990 JSS completed 2 items on a 5-point Likert-type scale (1 = not at all; 5 = to a very great extent): (a) "To what extent does the FAA pay well, compared to other places?" (1988: $M = 2.91$; $SD = .98$; 1990: $M = 2.84$; $SD = .98$) and (b) "To what extent are promotions in your organization given to those who are best qualified?" (1988: $M = 2.67$; $SD = 1.09$; 1990: $M = 2.59$; $SD = 1.12$).

RESULTS

Correlations between perceived equity levels and job satisfaction scores were computed. As shown in Table 1, the general pattern of the coefficients suggests that perceptions of equity were positively and significantly related to job satisfaction. To test the hypothesis that the correlation would be higher among men, correlations were computed separately for men and women. Differences in the correlations were then assessed by Fisher Z transformation. As also shown in Table 1, the relationships between the equity and job satisfaction scales were essentially the same among men and women. Where statistically significant differences existed, the correlations between pay equity scores and satisfaction scores were slightly higher among men than among women in four sets of coefficients. However, there were significant differences between men and women in the ASCD project in the relationship between promotional equity scores and total facet satisfaction scores. Promotional equity scores were more strongly related to total facet job satisfaction scores among women than men.

The large sizes and number of the samples measured in the present study inflated the probability of finding statistically significant gender differences. Therefore, we employed the Hunter and Schmidt (1990) meta-analysis procedure to review the effect sizes (i.e., the sizes of the correlation coefficients) of the relationships between the measures of equity perceptions and job satisfaction. The average correlations were weighted based on each sample size. The standard deviations (SDs) for the mean correlations were corrected for the artifact of sampling error and were used to estimate credibility intervals. The credibility interval was calculated and applied as one indicator of the existence of potential moderators of the relationship between equity and job satisfaction (Whitener, 1990). The standard errors of the mean correlations were calculated using the formula (Schmidt, Hunter, & Raju 1988) for effects based on heterogeneous subpopulations. The estimations of the standard errors were not calculated using the assumption

TABLE 1: Differential Correlations Between Equity and Satisfaction Measures By Gender

Job satisfaction measure correlated with perceptions of pay equity						
	All	Men	Women	Z	p	
Sample: Airway science		N = 7518 N = 1343				
Total job satisfaction	.44	.44	.44	0.00	ns	
1-item job satisfaction	.32	.32	.26	2.21	.05	
Sample: 1988 JSS		N = 4001 N = 1008				
Total job satisfaction	.42	.43	.36	2.06	.05	
1-item job satisfaction	.26	.27	.23	1.21	ns	
Sample: 1990 JSS		N = 3739 N = 1045				
Total job satisfaction	.42	.43	.37	2.04	.05	
1-item job satisfaction	.27	.29	.22	2.14	.05	

Job satisfaction measure correlated with perceptions of promotion equity						
	All	Men	Women	Z	p <	
Sample: Airway science		N = 7518 N = 1343				
Total job satisfaction	.30	.24	.36	4.45	.01	
1-item job satisfaction	.24	.29	.26	1.10	ns	
Sample: 1988 JSS		N = 4001 N = 1008				
Total job satisfaction	.53	.53	.52	0.39	ns	
1-item job satisfaction	.40	.40	.36	1.32	ns	
Sample: 1990 JSS		N = 3739 N = 1045				
Total job satisfaction	.58	.57	.60	1.35	ns	
1-item job satisfaction	.42	.42	.45	1.05	ns	

Note: Because of the sample sizes, all coefficients were statistically significant.

TABLE 2: Meta-analysis of Relationship Between Equity Perceptions and Satisfaction Measures

Group	K	\bar{r}	SDc	Credibility interval	SE	Confidence interval
Total	24	.369	.099	.17 to .57	.020	.33 to .41
Men	12	.371	.097	.18 to .56	.028	.32 to .43
Women	12	.366	.107	.15 to .58	.031	.30 to .43

Note: K = number of correlations; \bar{r} = weighted mean correlation; SDc = corrected standard deviation of correlation coefficients; SE = standard error of the weighted mean correlation based on the assumption that moderators were present.

of homogeneous subpopulations, because the corrected standard deviations ranged from .099 to .107, and also the large sample sizes would have produced standard errors of the effect size of less than .01.

As shown in Table 2, the credibility intervals did not include the zero value, an indication that no significant moderators were probable across these studies. Confidence intervals indicated that the mean correlations were significantly different from zero based on standard errors ranging between .020 and .031. These are conservative estimates of the effect size at the lower point of the confidence interval because (a) the formula used for the standard error was based on the assumption that men and women comprised heterogeneous populations and (b) the correlations were not adjusted upward to correct for measurement error (unreliability) in the equity and job satisfaction measures.

For all 24 correlations, representing relationships across 3 samples, the gender groups, 2 different equity measures, and the 2 job satisfaction measures, the weighted mean correlation was .37 with a confidence interval of .33 to .41. When gender was analyzed as a potential moderator of the equity-satisfaction relationship, results indicated that the weighted mean correlations were very similar (.371 for men and .366 for women), as were the respective credibility and confidence intervals.

CONCEPTUAL DISCUSSION OF RESULTS

Consistent with previous research, equity accounted for a significant amount of the variance in job satisfaction. However, for the most part, the data suggested few practical gender differences in the relationships. Indeed, the results of the meta-analysis suggest that the differences observed in the present study may have been the result of sampling error. Thus, extending the literature, these data suggest no gender differences in the equity-job satisfaction relationship. Why are the present data inconsistent with the results reported by Brockner and Adsit (1986)? Answers may come from the identification of conceptual differences between the present and previous research, previous explanations of gender differences in allocations to the self, or possible differences between the present and previously measured samples.

Conceptual differences between the present study and the Brockner and Adsit (1986) study may explain differences in the results. In the

latter study, satisfaction with an exchange relationship was the criterion of interest, not job satisfaction. In addition, Brockner and Adsit (1986) operationalized equity as: (a) the difference between the other's perceived outcome and inputs and (b) the difference between one's own outcome and inputs. In the present study, equity was operationalized in more global ratings of fairness of different aspects of the individuals' respective organizations. The comparison others (i.e., individuals against whom people compare their situations), on which equity formulations were to be based, were not as explicitly identified by Brockner and Adsit (1986). Thus, individuals' comparison others may have varied significantly, as may have internal standards. However, as job satisfaction reflects the employee's satisfaction with his/her exchange relationship with the organization (see Organ, 1988), it is conceptually consistent to expect replication with the Brockner and Adsit findings. In light of the results presented here, it may be that their results reflect Type I error.

Another answer may lie in the utility of previous and perhaps outdated explanations of gender differences in allocations to the self, of which there have been several. First, some early researchers suggested that women have had lower adaptation levels for their pay; they become adjusted to lower pay levels (Smith, Kendall, & Hulin, 1969) and lower pay expectations (Sausser & York, 1978) than men because of past wage discrimination. Second, others (Berger, Zelditch, Anderson, & Cohen, 1972; Chesler & Goodman, 1976; Major, McFarlin, & Gagnon, 1984) argued that women's lower standards (which reduced the salience of equity considerations) resulted from a tendency for women to compare their out-comes with women rather to those of men, who were typically paid more (Treiman & Hartmann, 1981). A third argument suggested that gender differences in internal pay standards stemmed from women's valuing money less (Crosby, 1982) and interpersonal relationships more (Kahn, O'Leary, Krulewitz, & Lamm, 1980). Major and Deaux (1982) offered a fourth perspective: because women devalued their inputs relative to men, they tended to underreward their work. Fifth, Cailahan-Levy and Messe (1979) argued that women perceived less of a connection between their work and pay as the result of sex-role socialization. The utility of these arguments may be somewhat less than in the past, because of a narrowing of gender differences at work in recent years (e.g., Beutell & Brenner, 1986).

Alternatively, in line with Lerner's (1977)

argument that the choice of equity or equality will be based on whether the individuals see others as unique individuals or as role players, it is possible that co-workers were seen by both genders as role players or occupants of their formal positions. Thus, equity may have been salient in the development of job satisfaction for both men and women. Moreover, Bem's (1985) gender schema model suggests that persons with well developed sex-typed schemas are more likely to assess their social environment in gender-related ways. It is possible that the FAA populations tapped in the present samples may have had less well-developed sex-typed schemas than the college-age subject populations often tapped in previous equity studies.

A decade ago, Kahn, Nelson, and Gaeddert (1980, p. 748) argued that "much of the research on reward allocations has over-estimated the extent of sex differences." In studies of allocation behavior, men and women have responded differently to the same situation (Kidder, Belletrirre, & Cohn, 1977) and similarly to different situations (Kahn, Nelson, & Gaeddert, 1980). Such results suggest a lack of clarity on this issue and that not all relevant variables have been identified. As noted by Freedman and Phillips (1988), studies on gender differences in motivation and work values have failed to demonstrate that gender is the actual factor underlying observed differences. Indeed, Beutell and Brenner (1986) noted that the trend is toward similarity, rather than dissimilarity, in work values. Feingold's (1988) study of standardized aptitude tests given between 1947 and 1980 revealed a decline in gender differences, which suggests that gender differences in cognitive abilities may now be nonexistent. Perhaps gender differences in organizational behavior also may now be less significant than previously observed or thought. With the focus on controlling for variables such as organizational-level and supervisory status, we have become more sophisticated in examining the complexity of individual differences in the prediction of work behaviors. Unfortunately, studies that focus on gender and ignore other possible individual-level variables continue to be conducted.

AREAS FOR FUTURE RESEARCH

Further research may be needed to explore possible gender differences in the equity-job satisfaction relationship. To explicitly identify the actual consequences (and whether or not they are meaningful) of the very small differences reported here: (a) do men and women develop feelings of job satisfaction using different

processes, (b) do these differences have implications for work behaviors, and so forth. Although the results of the meta-analysis suggest that there were no actual differences in the present study, it is possible that other measures of the constructs described here may have yielded gender differences. Thus, research is needed to not only investigate possible gender differences but also consider the antecedents and implications of these differences.

Furthermore, future designs should explore alternative explanations of observed gender differences. For example, research is needed on the identification of comparison others and possible differences in perceptions of comparison others as unique individuals versus role players. Among married personnel, breadwinner status (i.e., whether or not the person's income is the primary income for the family unit) may account for some of the variance in the slight gender differences (see Witt, 1988). For example, equity, particularly pay equity, may be more salient in the development of job satisfaction for individuals who are the family breadwinners. Non-breadwinners, on whose income the family does not depend, may be more likely to consider intrinsic factors (e.g. satisfaction with work tasks) in developing their feelings of job satisfaction.

Lab studies using artificial organizational systems or field studies using non-essential social organizations (i.e., clubs or social groups) that do not directly affect one's ability to make a living may have limited external validity. Furthermore, meta-analyses should be employed to assess the influence of measurement artifacts when examining these issues across studies.

PRACTICAL IMPLICATIONS OF RESULTS

The data suggest that equity is an important component of job satisfaction among the FAA personnel sampled in the present study. In other words, agency employees perceiving fairness in pay and promotions were more likely to feel satisfied with their jobs than employees perceiving less fairness or unfairness. This suggests that supervisors and managers should explain personnel outcomes and, when appropriate, emphasize the fairness of those outcomes and the procedures leading to those outcomes. Supervisor articulation of how personnel decisions are made is important (see, for example, Bies, 1987). As equity is one component of job satisfaction, employees who have access to information about personnel decisions and how they are made are more likely

to be satisfied with their jobs -- if the information reveals fair practices. Of course, the positive effects of such communication and fairness are limited by individual-level dispositions that may filter their perceptions of the objective situation.

The data and results reported here suggest that caution should be used when assuming gender differences in the equity-job satisfaction relationship. In other words, the data presented here do not support the notion that different management strategies should be employed for men and women for the purposes of increasing job satisfaction via equity among FAA personnel. Extrapolating from the present data, the use of such strategies may lead to inappropriate management practices. However, additional research is needed to examine whether other issues (e.g., communication strategies) would support the implementation of different management strategies.

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