

## Work Force Size and Multifaceted Job Satisfaction: A Cross-National Study

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**ABSTRACT.** The relationships between work force size and multiple facets of job satisfaction were examined, using data from 2 national surveys in the United States and Canada. The number of benefits offered by an organization was tested as a possible mediator of these relationships. As predicted, work force size was positively and significantly related to satisfaction with job security, pay, and promotion opportunities in the U.S. sample. When the effect of benefits was controlled for, however, these relationships were no longer statistically significant, suggesting that benefits had a mediating effect. Work force size was negatively and directly related to satisfaction with supervisor competence and having the opportunity to do one's best. These results were replicated in a representative Canadian sample. Thus, benefits had a mediating effect on the relationship between work force size and those facets of job satisfaction over which the organization had the most control (e.g., promotion, pay). Work force size had a direct effect on those facets of job satisfaction over which the organization had less control (e.g., co-workers).

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THE TOPIC OF JOB SATISFACTION has long been popular in organizational research (Locke, 1983; Staw, 1984). Researchers have found a consistent correlation between organizational size and global measures of worker satisfaction (Free, 1990; Hodson, 1984; Talacchi, 1960; Zipp, 1991), but attempts to account for this relationship have been inconclusive. In the present studies, we used data from two national surveys, the National Longitudinal Survey of Youth (NLSY; Wolpin, 1987) and the General Social Survey, Cycle 4, Education and Work

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(GSS4; Statistics Canada, 1989), to examine the relationships between work force size and several dimensions of job satisfaction. We also examined the possible mediating role of level of benefits in these relationships.

Size has been operationalized as an independent variable in various ways, including number of employees, log number of employees, capital intensity, assets, profits, and capacity (Gupta, 1980; Hopkins, 1988; Kimberly, 1976; Milet, Gillespie, & Eitzen, 1981). Researchers continue to debate the suitability of such measures and the relationship between them (Agarwal, 1979; Gupta, 1980; Hopkins, 1988; Kimberly, as well as the parameters for size groupings, hindering the development of a meaningful body of knowledge regarding possible effects of organizational size. In the present study, we chose to focus on the most frequently used index of organizational size, number of employees (Free 1990; Hodson, 1984; Talacchi, 1960; Zipp, 1991).

In research on the effects of work force size on job satisfaction, job satisfaction has invariably been treated as a unidimensional construct, and the relationship between organizational size and unidimensional job satisfaction has generally been found to be negative (Free, 1990; Hodson, 1984; Talacchi, 1960). We extended this research in the present study by concentrating on the influence of the macrolevel variable of organizational size on the microlevel variable of job satisfaction. Previous researchers attempting to explain the effects of organizational size have focused on lines of communication, bureaucratic control and formalization, and size-related differences in the division of labor as possible mediators (Hall, Haas, & Johnson, 1967; Indik, 1963, 1965), but the results of this research have been inconclusive.

In light of recent research that indicates a positive correlation between organizational size and the provision of material rewards, opportunities for promotion, and job security (Dekker & Barling, 1995; Miller, 1992; Zipp, 1991), we decided to concentrate on the level of benefits organizations offer to their employees. Larger organizations generally offer their employees better pay, fringe benefits, and job security, whereas smaller organizations may offer their employees more interesting jobs and more opportunities to use their skills. The level of benefits that is offered by an organization is closely associated with various aspects of job satisfaction (Locke, 1983).

These findings point not only to the potential mediating effect of the level of benefits that is offered by an organization but also to the diversity of the effects of work force size and the importance of a multidimensional approach to job satisfaction. Thus, we predicted that the benefits offered by organizations would mediate the relationship between work force size and areas of job satisfaction that are influenced by material rewards. To test for the mediation effect, we partialled benefit level out of the correlations between work force size and job satisfaction. If benefits function as a mediator, then the partial correlation coefficients will be nonsignificant and the zero-order coefficients will be significant. Conversely, in areas in which an organization (a) has little direct control (e.g., inter-

personal relations) or (b) chooses to exert less control (e.g., job variety and challenge), work force size will be negatively and directly associated with relevant aspects of job satisfaction.

We explored the relationship between size and job satisfaction in two samples of employees, one from the United States and one from Canada. Replication of the results would provide strong support for their validity, and the differences between the two samples were sufficient to justify this condition. In addition to the regional differences between the two countries, there are substantial differences in working conditions and government (Barling, Fullagar, & Kelloway, 1992; Thacker, Tetrick, Fields, & Rempel, 1991), illustrated, for example, by disparate levels of unionization. There were also substantial age differences between the two samples; the U.S. sample was relatively young, whereas the Canadian sample was representative of the national population. This difference in age was important, because age has been associated with job satisfaction (Warr, 1992).

## Study 1

### *Method*

*Participants.* The present data were drawn from a series of interviews of the National Longitudinal Survey of Youth (NLSY), conducted in 1988, at which time the respondents' ages ranged from 23 to 30 years. The survey initially included a cross-sectional sample ( $n = 12,686$ ) that was nationally representative as well as a supplementary oversample that was representative of Black, Hispanic, and low-income White youths (see Chase-Lansdale, Mott, Brooks-Gunn, & Phillips, 1991; Wolpin, 1987). The 8,428 respondents who were included in the present study were those who were employed at the time of the interview.

*Measures.* The respondent provided information about size—the number of persons working at the current job location. The mean size of the organizations was 472 employees (minimum = 1, maximum = 90,000).

The 15-item benefits measure included medical, life, disability and dental insurance, paid sick leave, paid vacation, maternity/paternity leave, retirement plan, stock options, profit sharing, training and education opportunities, child care subsidies or provision, free meals, free transportation, and free housing. The respondents answered yes (1) or no (0). The scale had good internal consistency ( $\alpha = .88$ ).

The job satisfaction items assessed satisfaction with pay, promotion opportunities, job security, physical surroundings, supervisor competence, and co-workers. In addition, the participants rated items concerning the amount of exposure to danger and unhealthy conditions on the job, the value of their present job experience to future employers, and the extent to which their present job allowed

them to do their best. Responses were provided on a 4-point scale that ranged from *not true at all* (1) to *very true* (4).

### Results

Descriptive statistics and correlations are reported in Table 1. To minimize statistically significant but conceptually meaningless correlations that might result from the large sample size, we considered only those correlations that reached the .01 level of significance, throughout the present research.

Work force size was significantly and positively correlated with pay satisfaction ( $r = .05, p < .001$ ), satisfaction with opportunities for promotion ( $r = -.04, p < .01$ ), exposure to unhealthy conditions ( $r = .05, p < .001$ ), and job security ( $r = .06, p < .001$ ), as well as with number of benefits offered ( $r = .17, p < .001$ ). Work force size was negatively correlated with the opportunity to do one's best ( $r = -.04, p < .01$ ) and supervisor competence ( $r = -.04, p < .01$ ). Work force size was not significantly related to satisfaction with co-workers, physical surroundings, or value of experience gained ( $p > .01$ ).

We tested for a possible mediating effect of benefits on the relationship between size and job satisfaction by partialing out the effect of benefits. The correlations between work force size and satisfaction with pay, promotion opportu-

**TABLE 1**  
Correlations of Study 1 Variables

Variable	<i>M</i>	<i>SD</i>	Size	Size/ benefits <sup>a</sup>
Organization size	472	2,267	—	—
Benefits	5.82	3.93	—	—
Satisfaction with				
Supervisor competence	3.44	.77	-.04*	-.04*
Co-workers	3.58	.60	-.03	-.04*
Opportunity to do one's best	3.28	.81	-.04*	-.06**
Value of experience	3.23	.90	-.01	-.04*
Surroundings	3.21	.82	-.03	-.04*
Pay	2.91	.87	.05**	.01
Promotion opportunities	2.74	1.03	.04*	-.01
Job security	3.10	.94	.06**	-.01
Exposure to				
Danger	1.95	1.06	.00	.02
Unhealthy conditions	1.79	1.00	.05**	.06**

<sup>a</sup>Partial correlations, controlling for the effect of benefits.

\* $p < .01$ . \*\* $p < .001$ .

nities, and job security were no longer significant, and three correlations between size and satisfaction variables that had been nonsignificant became significant: satisfaction with co-workers ( $r = -.04, p < .01$ ), surroundings ( $r = -.04, p < .001$ ), and value of experience gained ( $r = -.04, p < .01$ ). The correlations between size and satisfaction with supervisor competence, having the opportunity to do one's best, and exposure to danger and unhealthy conditions remained significant.

## Study 2

### Method

*Participants.* The data were drawn from the General Social Survey, Cycle 4, Education and Work (Statistics Canada, 1989), which comprised a nationally representative sample of 9,388 Canadian residents who were at least 15 years old. The data that were used in the present study were from 5,468 individuals who were full-time employees at the time of the data collection.

*Measures.* Size, which was assessed using respondents' reports of the number of individuals employed by their organization in all its locations, was described in the following categories: < 20 employees ( $n = 1,717$ ), 20–99 employees ( $n = 935$ ), 100–499 employees ( $n = 815$ ), and 500 employees ( $n = 1,969$ ).

The benefits measure was based on four items that assessed the availability of a company pension plan, medical insurance, dental insurance, and paid maternity leave and had acceptable internal consistency ( $\alpha = .86$ ). Each of the four items was rated on a 3-point scale (*yes* = 2, *don't know* = 1, and *no* = 0).

We analyzed only those items about job satisfaction that were also available from the NLSY data set: satisfaction with pay, opportunities for promotion, and physical work environment. Each item was rated on a 4-point scale that ranged from *strongly disagree* (1) to *strongly agree* (4).

### Results

Because the information concerning work force size was collapsed into four groups in the GSS4 data, we used analyses of variance (ANOVAs) to assess the relationships between work force size and (a) multidimensional job satisfaction and (b) benefits offered.

Work force size was significantly associated with satisfaction with pay,  $F(3, 5127) = 28.23, p < .001$ ; opportunities for promotion,  $F(3, 5127) = 11.03, p < .001$ ; and physical work environment,  $F(3, 5463) = 45.20, p < .001$ ; and substantially associated with benefits offered,  $F(3, 5149) = 203.81, p < .001$ . To assess the possible mediating role of benefits, we computed analyses of covariance, with the effects of benefits held constant; work force size no longer influenced satisfaction with pay,  $F(4, 5126) = .81, ns$ ; or promotion opportunities,

$F(4, 5126) = 3.76, p > ns$ ; but remained associated with satisfaction with physical work environment,  $F(4, 5462) = 26.28, p < .001$ .

### Discussion

In the present studies we isolated one explanation for the differential effects of organizational size on multiple facets of job satisfaction. In the NLSY data, there were significant correlations between work force size and six aspects of job satisfaction, but the relationships between work force size and satisfaction with pay, job security, and opportunities for promotion were no longer significant after the effect of benefits had been partialled out. The relationships between work force size and satisfaction with co-workers, supervision, physical work environment, exposure to danger and unhealthy conditions, and value of experience gained remained significant when the effect of benefits was controlled for. These findings refute the negative image that is associated with large, bureaucratic organizations (Campbell, Daft, & Hulin, 1982).

The results for the younger U.S. participants indicated a similar pattern. Work force size was significantly and positively correlated with level of benefits and with satisfaction with pay and opportunities for promotion and negatively related to satisfaction with physical work environment. After the influence of benefit level had been partialled out, work force size no longer affected satisfaction with pay and opportunities for promotion.

Thus, the mediating role of benefits was replicated in two separate samples that were nationally representative. As predicted, the level of benefits offered by an organization mediates the relationship between work force size and aspects of job satisfaction that concern material rewards. The results of the partialing procedure suggest that level of benefits does not mediate all aspects of job satisfaction, however; some aspects of job satisfaction are influenced directly by work force size or are mediated by different factors. Whether benefits has a mediating role is determined by the nature of the facet of job satisfaction being considered; when this area is under the control of the organization and can thus be influenced by benefits, job satisfaction will be indirectly related to job satisfaction, but when an organization has little control over a particular area (e.g., satisfaction with co-workers), job satisfaction will be directly related to work force size.

Three variables in the NLSY data were significantly related to work force size only after the influence of benefits had been controlled for, indicating that benefit level might suppress the relationship between work force size and job satisfaction. However, these diverse relationships might be best explained in future research focusing on other possible organizational mediators of the relationship between work force size and job satisfaction.

There are two possible limitations in the interpretation and the comparison of the present samples. First, because we measured the variables differently in each study, the direct comparison of data across the two studies is limited. Of

primary importance, size was measured as a continuous variable in the NLSY data set but as a grouped variable in the GSS4 data set; the number of items in the benefits measure as well as its response format also differed across the two samples. Second, the NLSY sample consisted of participants who were relatively young, and minorities and low-income Whites were somewhat overrepresented—characteristics that probably affected the results, because job satisfaction has been found to be correlated with age and tenure. Although these differences between the studies limit comparisons, they also serve to emphasize the robust nature of the results, which were replicated. In any case, the results of studies using very large data sets, such as those in the present research, must be interpreted cautiously.

The present results support the use of a multidimensional approach in the study of the relationship between work force size and job satisfaction and suggest that further investigation of the organizational processes mediating this relationship is necessary.

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