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**Modelling the Role of
Organizational Justice: Effects on
Satisfaction and Unionization
Propensity of Canadian Managers**

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Modelling the Role of Organizational Justice: Effects on Satisfaction and Unionization Propensity of Canadian Managers^{*}

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Résumé / Abstract

Cette recherche explore l'influence directe des référents salariaux et de la justice procédurale sur la satisfaction à l'égard du salaire, du travail et de l'organisation, et le rôle intermédiaire de ces trois aspects de la satisfaction entre la justice déclinée sous ses différentes formes et la propension à se syndiquer. Afin de tester l'importance et la direction de ces relations, nous avons utilisé la méthode d'équation structurelle sous LISREL. Les résultats ont montré que les trois référents (interne, externe et individuel) reliés à l'équité étaient liés à la satisfaction à l'égard du salaire et que la justice distributive est un meilleur prédicteur de la satisfaction du salaire que les perceptions de justice procédurale. En revanche, la justice procédurale est un meilleur prédicteur de la satisfaction à l'égard de l'organisation et du travail que les perceptions de justice distributive. Par ailleurs, le modèle final suggère que la satisfaction à l'égard du travail et de l'organisation joue un rôle plus déterminant dans la propension à se syndiquer que les perceptions de justice organisationnelle (distributive et procédurale). L'article identifie les principales limitations de l'étude ainsi que les implications pratiques.

This research explores the direct influence of pay referents and procedural justice on pay satisfaction, job satisfaction and organization satisfaction, and the intermediary role of these three aspects of satisfaction between justice in its various forms and unionization propensity. To test the importance and directions of these relations, we used a LISREL-type structural equation model. The findings showed that the three equity referents of organizational justice (internal, external and employee) are linked to pay satisfaction, and that distributive justice is a better predictor of pay satisfaction than procedural justice perceptions. In contrast, procedural justice is a better predictor of organizational satisfaction and job satisfaction than are distributive justice perceptions. Moreover, the final model suggests that job satisfaction and organization satisfaction play a more significant role in propensity to join a union than do organizational justice perceptions. The paper also sets out the limitations of the study and its practical implications, and makes some suggestions for future research.

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Introduction

Recent research has shown that organizational justice perception provides a very useful framework of analysis for explaining attitudes to and behavior at work. Studies on justice in the workplace have been dominated by two perspectives: **distributive** and **procedural justice**. Distributive justice seeks to explain how people react to the various rewards they receive, whereas procedural justice is concerned with individual reactions to the processes of establishing the rewards (Greenberg, 1990, 1996). The former is therefore concerned with “ends”, and the latter with “means” (Sweeney & McFarlin, 1993).

The scientific community has concentrated its efforts on the consequences of distributive justice (Greenberg, 1987). In most cases, researchers have sought to test the foundations of Adams' (1963, 1965) theory of equity and Crosby's (1976) theory of relative deprivation. Field research has shown that individuals who perceive their overall situation to be equitable tend to exhibit higher levels of pay satisfaction and job satisfaction, and adopt better behavior at work than do individuals who feel they are paid unfairly (Sweeney et al., 1990; Berg, 1991; Witt & Nye, 1992; Agho et al., 1993, Covin et al., 1993).

Following work by Goodman (1974) and Schwab & Wallace (1974), attempts were made to define the role of referents in the social comparison process. Although emphasis was placed mainly on pay satisfaction (Hills, 1980; Ronen, 1986; Scholl et al., 1987; Berkowitz et al., 1987; Capelli & Sherer, 1988; Summers & DeNisi, 1990; Sweeney, 1990; Lee & Martin, 1991; Taylor & Vest, 1992; Blau, 1994), some authors also examined the role of pay referents on other affective components (Dittrich & Carell, 1979; Ronen, 1986; Johnson & Johnson, 1991; Roussel, 1996) and behavior at work (Dittrich & Carell, 1979; Scholl et al., 1987). These empirical studies demonstrated that referents play a key role in understanding the attitudes and behavior of employees. Other advocates of distributive justice have attempted to explain the links in the equity perception chain of consequences and to elucidate the mediating role of certain variables between equity perception and its presumed outcomes. For example, Summers & Hendrix (1991) explored the mediatory role of pay satisfaction, job satisfaction, organizational commitment and intention to leave in equity perception and staff turnover on the one hand, and performance at work on the other. Moreover, Berg (1991) studied the mediatory role of job satisfaction on intention to leave, while Ried & McGhan (1987) examined the way in which pay satisfaction mediates job satisfaction, and Witt & Wilson (1991) the moderating role of job satisfaction on extra-role behaviors. For their part, Barling, Laliberté, Fullagar and Kelloway (1992) investigated the mediatory role of extrinsic job

satisfaction between pay equity and intention to vote for a union. These authors all observed that the relationship between justice perception and its presumed consequences is much more complex than equity theories and pay satisfaction models would suggest.

Subsequent to research by Thibault & Walker (1975), Greenberg (1987), Sheppard & Lewicki (1987) and Lind & Tyler (1988), it became obvious that the understanding of justice was incomplete if it did not encompass the notion of justice at the procedural level. These authors' contributions led to the emergence of a body of work on the influence of distributive justice and procedural justice on a variety of attitudes and behavior at work (Alexander & Ruderman, 1987; Folger & Konovsky, 1989; Fryxell & Gordon, 1989; Moorman, 1991; Citera et al., 1992; Dailey & Kirk, 1992; Sweeney & McFarlin, 1993; Lee, 1995; Lowe & Vodanovich, 1995; Scarpello & Jones, 1996). These empirical studies provided substantial evidence to support the claim that our understanding of human motivation could be improved through consideration of these two dimensions of justice.

Although research has furthered our knowledge of the determinants of organizational justice and its consequences in the compensation context, very little attention has been paid to the role of referents and procedural justice in the chain of attitudes and behaviors. To our knowledge, no study to date has tested the direct effect of pay and procedural justice referents on satisfaction. The present research extends the study of Summers & Hendrix (1991) by exploring the direct influence of pay referents, along with that of procedural justice on pay satisfaction, job satisfaction and organization satisfaction. It also builds upon the findings of Barling et al. (1992) by investigating the intermediary role of pay, in addition to job and organization satisfaction, between distributive and procedural justice and unionization propensity. To test the importance and direction of these various relations, we used a LISREL-type structural equation modeling (Joreskog & Sorböm, 1989). The initial hypothesized model presents all associations tested (Figure 1). This research model was formulated based on the hypotheses presented after Figure 1.

Distributive justice and its consequences

Theories associated with distributive justice have sought to understand and explain how individuals react to an unfair distribution of rewards and resources (Greenberg, 1990). The explanatory approach cited most often in the literature is Adams' theory of equity (1963, 1965). According to this theory, individuals

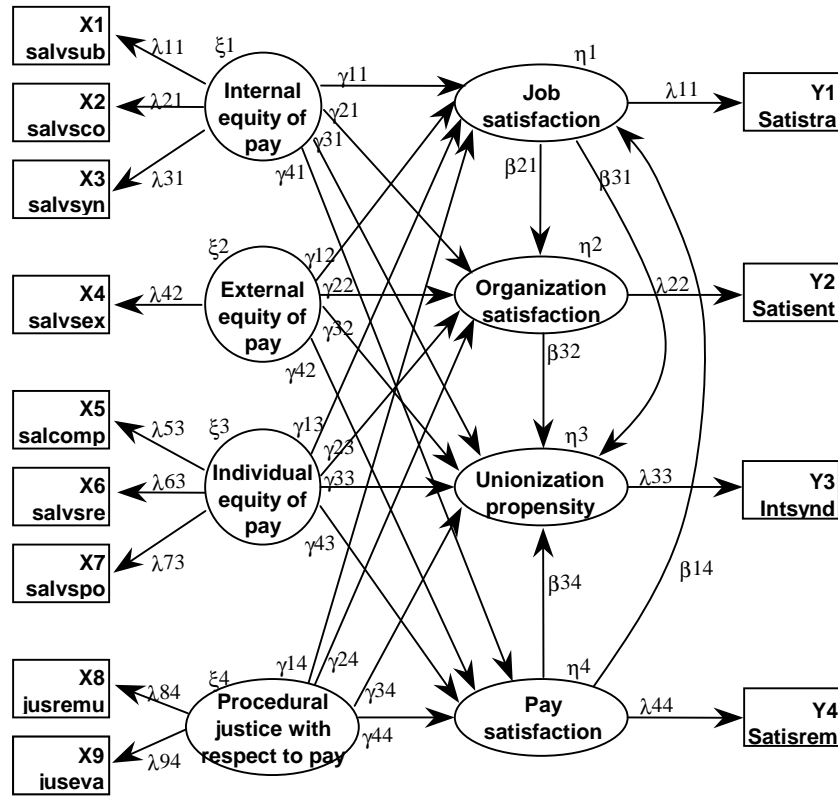


Figure 1
Initial Research Model

personally calculate their ratios by comparing their contributions with their outcomes, and then do the same for other individuals, known as “referents”. However, little is known about the issue of social comparison, especially with respect to the choice of referents (Pinder, 1984; Scholl et al., 1987; Tremblay et al., 1997). Although a number of taxonomies of referents have been proposed, a great deal of evidence has been found to suggest that individuals base their equity perceptions on more than one referent (Fin & Lee, 1972; Goodman, 1974; Dyer & Thériault, 1976; Dittrich & Carrell, 1978; Hills, 1980; Lee & Martin, 1991). Our research uses the common classification of social referents found in the literature on organizational justice (Greenberg, 1996) and compensation (Milkovich & Newman, 1993; Hills, Bergmann & Scarpello, 1994; etc.). Three

classes of referents have been identified and largely used by compensation practitioners: internal, external and employees referents. Internal equity refers to comparisons with other people holding comparable or different jobs within the same organization. External equity denotes comparisons with people holding jobs outside the organization. Employee or individual equity entails self-comparisons based on the individual's own contributions, results or past experience.

The relationship between justice perception and pay satisfaction is probably that which has received the most attention from researchers. The findings reveal a clear link between distributive justice and pay satisfaction (Oldham et al., 1986; Sweeney, 1990; Sweeney et al., 1990; Summers & DeNisi, 1991; Summers & Hendrix, 1991). For example, Sweeney (1990), using three random samples of workers from different companies, showed that perceived equity was a better predictor of pay satisfaction than pay level. Summers & Hendrix (1991), in explanatory-type research, found that distributive justice perception was the best indicator of pay satisfaction. However, in both cases the authors used overall measures of equity perception, and were consequently unable to assess the contribution of the referents taken separately. The evidence that pay satisfaction varies according to the importance and level of the referents seems to be fairly convincing (Dyer & Thériault, 1976; Goodman, 1974; Summers & DeNisi, 1990; Sweeney et al., 1990). Nonetheless, the findings on the impact of specific referents on pay satisfaction are not conclusive. Some researchers have suggested that internal comparisons are more likely to lead to satisfaction than external comparisons (Finn & Lee, 1972; Hills, 1980; Scholl et al., 1987; Capelli & Sherer, 1988; Taylor & Vest, 1992). Blau (1994), however, observed that internal and external comparisons explained pay dissatisfaction to approximately the same extent. Other studies found that all types of referents can have a positive impact on pay satisfaction (Ronen, 1986; Summers & DeNisi, 1990). All these results suggest that the main referent categories can influence compensation satisfaction, but give little indication as to their relative importance. We therefore propose the following hypothesis:

H1: Perceptions of organizational equity (internal, individual) and external equity of pay are positively associated with pay satisfaction.

Researchers have pointed out that justice perception may influence aspects other than compensation. For example, Agho et al. (1993), Berg (1991) and Witt & Nye (1992) all identified a positive relationship between distributive justice and job satisfaction. In their explanatory studies, Summers & Hendrix (1991) and

Moorman (1991) emphasized the contribution of distributive justice to job satisfaction. Studies that specifically evaluated the impact of referents on job satisfaction showed that satisfaction was influenced more by internal equity perceptions than by external equity perceptions (Dittrich & Carrell, 1979; Covin et al., 1993). However, Ronen (1986) failed to find a relationship between internal and external equity perceptions and intrinsic satisfaction. Overall, the research suggests that internal comparisons tend to have a greater influence on job satisfaction.

H2: Internal equity of pay perception is more closely associated with job satisfaction than are external equity perceptions.

The influence of distributive justice on organizational satisfaction has received very little attention in the literature. Alexander & Ruderman (1987) found that distributive justice perception was linked significantly to confidence in management. Ronen (1986) observed that external comparisons were linked more closely to organizational satisfaction than are internal comparisons. Given that compensation policies (levels, structures, pay increases) are established mainly by senior management, perceived pay inequities would in all likelihood be ascribed to organizational decision-makers. However, there is very little evidence to support the importance of one referent in particular. We therefore propose the following explanatory hypothesis:

H3: Organizational equity (internal and individual) and external equity perceptions of pay are positively associated with organizational satisfaction.

Procedural justice and its consequences

To understand the reasons why individuals react in particular ways to unfair treatment, it is worth considering a second form of organizational justice: *procedural justice*. This refers to the perception of justice in the procedures used to make decisions (Folger and Greenberg, 1985). Two procedural elements seem to be relevant from the compensation standpoint, i.e. degree of control over the process leading to pay-related decisions and degree of control over compensation decisions. Some authors have shown that control over the process produces a stronger sense of procedural justice and more positive attitudes toward the outcomes and the organization (Tyler et al., 1985). In the field of compensation, Scarpello & Jones (1996), using agency theory as a theoretical framework, suggested that these positive results may be explained by the fact that just compensation procedures may act as mechanisms that align the interests

of agents with those of the principal.

The independence of the concepts of distributive justice and procedural justice has been examined on several occasions. There seems to be some evidence that individuals are able to distinguish between the two forms (Thibault and Walker, 1975; Sheppard & Lewicki, 1987), and that each form has its own consequences (Alexander & Ruderman, 1987; Lind & Tyler, 1988; Folger & Konovsky, 1989; Moorman, 1991; Dailey & Kirk, 1992; Sweeney & McFarlin, 1993; Lee, 1995; Scarpello & Jones, 1996). In fact, many of these authors have observed that distributive justice is a better predictor of individual attitudes, and procedural justice is a better predictor of organizational attitudes. The hypothesis that distributive justice is a better predictor of pay satisfaction than procedural justice has been widely supported in the literature (Weiner, 1980; Konovsky & Folger, 1987; Folger & Konovsky, 1989; Miceli et al., 1991; Citera et al., 1992; Sweeney & McFarlin, 1993; Roussel, 1996; Scarpello & Jones, 1996). This does not necessarily imply that procedural justice does not have a positive impact on pay satisfaction. Both Capelli & Sherer (1988) and Jenkins & Lawler (1981) identified a positive relationship between the level of participation in decision-making and pay satisfaction. We can therefore propose the following two hypotheses:

H4a: Procedural justice perceptions are positively associated with pay satisfaction.

H4b: Distributive justice perceptions are more closely associated with pay satisfaction than are procedural justice perceptions.

Given the preceding argument that procedural justice has a greater influence on attitudes towards the organization, we can expect that procedural justice will be more closely related to organizational satisfaction. In the compensation context, Alexander & Ruderman (1987), Folger & Konovsky (1989) and Scarpello & Jones (1996) observed such a relationship. They found that confidence in management and supervision depended more on procedural justice than on distributive justice. We can therefore propose the following hypotheses:

H5a: Procedural justice perceptions are positively associated with organizational satisfaction.

H5b: Procedural justice perceptions are more closely associated with organizational satisfaction than are distributive justice perceptions.

Where a procedural justice perception exists, it should lead employees to judge their jobs more favorably. In this respect, Jenkins and Lawler (1981) found a

positive link between participation in compensation decisions and job satisfaction. Moreover, job satisfaction depends more on perceived procedural justice than on perceived distributive justice (Alexander & Ruderman, 1987; Moorman, 1991). This scenario arises when individuals consider that they are in a situation of sub-equity. In this case, two options are available: employees can decrease their contributions (inputs) or attempt to increase their outcomes. Hills et al., (1994) reported that the reduced contributions may assume several forms: arriving late, taking long breaks, taking all possible sick leaves, etc. This option can be considered the behavioral expression of high job dissatisfaction. The other option appears more positive, in that individuals can enhance their outcomes by requesting a wage increase, a promotion or better benefits and working conditions. The underlying assumption here is that for these outcomes to be satisfied, procedural justice must exist within the organization; namely, employees must be given the possibility of influencing the outcomes by participating in decision-making, for example, or by the being allowed to file claims (voice). In these cases, the individual's job satisfaction can be enhanced and influenced by procedural justice.

However, both Dailey & Kirk (1992) and Lowe & Vodanovich (1995) found that job satisfaction was influenced solely by distributive justice perception. These contradictory results can be explained in part by the fact that the researchers used intrinsic job characteristics and global measures, rather than focusing on multifaceted measures of satisfaction. To our knowledge, only Alexander & Ruderman (1987) specifically tested the influence of procedural justice on job satisfaction. Overall, however, the research seems to argue in favor of the following hypotheses:

H6a: Procedural justice perceptions are positively associated with job satisfaction.

H6b: Procedural justice perceptions are more closely associated with job satisfaction than are distributive justice perceptions.

The intermediary role of satisfaction between justice perceptions and unionization propensity

Recent research has examined the relationships between organizational justice and its presumed consequences, and has sought to identify the antecedents of the consequences of injustice. Explanatory research by Summers & Hendrix (1991) demonstrated that distributive justice had an indirect effect on behaviors, through pay satisfaction, job satisfaction and organizational commitment. However, Lee

(1995) showed that justice perception was a better predictor of prosocial behavior than pay satisfaction. Also, Moorman (1991) and Martin & Benett (1996) demonstrated that procedural justice alone had a direct impact on citizenship behaviors and organizational commitment, and that the link was stronger than the link between job satisfaction and these two outcomes. Nonetheless, this research as a whole has led to mixed conclusions. On the one hand, the different forms of justice seem to have a direct impact on attitudes and behaviors, and the link seems to be stronger than that between antecedents (e.g. pay) and behaviors. On the other hand, justice perceptions have been shown to have an indirect effect on behaviors, via certain antecedents.

The role of justice therefore needs to be explored more fully. To our knowledge, no research to date has tested the effect of distributive justice and procedural justice on unionization intentions in the compensation context. Authors such as Lawler (1971) and Barling et al. (1992) suggest that salary inequity may influence the desire to join a union owing to pay dissatisfaction. The predictor most often considered in unionization studies has been work satisfaction. Heneman & Sandver (1983) found that the level of satisfaction explained between 25% and 50% of the variation in employees' voting behavior. In particular, two aspects of satisfaction have been studied: satisfaction with working conditions (economic and extrinsic), and satisfaction with the employment context (non-economic and intrinsic). Dissatisfaction with pay, employee benefits and job security was found to be associated more closely with the desire to join or form a union than dissatisfaction with the employment context (Allen & Keaveny, 1991; Brett, 1980). Nonetheless, these results do not necessarily imply that satisfaction with non-economic and intrinsic factors has no impact. A number of authors have shown that dissatisfaction with the employment context may be closely linked to the desire to join a union (Kochan, 1979; Maxey & Mohrman, 1980; DeCotiis & Le Louarn, 1981; Hammer & Berman, 1981; Youngblood et al., 1984; Deshpande & Fiorito, 1989). Satisfaction with one's supervisor, job, career, participatory structures and influence on decision-making have been identified as the main non-economic factors related to the desire to join a union. Although Weiner (1980) found that procedural justice had a greater impact than distributive justice on the attitude toward unionization, the literature on unionization and the empirical study of Barling et al. (1992) suggest that the intention to join a union is affected more strongly by pay satisfaction, job satisfaction and organization satisfaction than by justice perceptions. Therefore, we propose the following general hypotheses:

H7a: Procedural justice perceptions are more closely associated with

unionization propensity than are distributive justice perceptions

H7b: Pay satisfaction, organization satisfaction and job satisfaction are more closely associated with unionization propensity than are distributive and procedural justice perceptions.

Influence of pay satisfaction on other work related attitudes

Theoretical models such as those of Lawler (1971) and Deckop (1992) are generally based on the notion that pay satisfaction has an influence on workplace attitudes and behavior. However, relatively few studies have examined the relationship between pay satisfaction and related attitudes toward work. Evidence suggests that pay satisfaction can affect employment and job satisfaction (Summers & Hendrix, 1991; Reid & McGhan, 1987; Covin et al., 1993; Tremblay et al., 1998), along with satisfaction with the organization and with supervision (Covin et al., 1993; Tremblay et al., 1998). A recent study of Canadian organizations found that job satisfaction was more strongly related to firm satisfaction than pay satisfaction (Tremblay, Sire & Balkin, 1997). Research suggests that pay satisfaction seems to be related more strongly to job satisfaction, and that job satisfaction seems to be related more strongly to organization satisfaction than pay satisfaction. We can consequently propose the following hypothesis:

H8: Pay satisfaction is more closely associated with job satisfaction, whereas job satisfaction is more strongly linked to organization satisfaction.

Methodology

Population

Data were collected in three sectors of a large Canadian province: pulp and paper, agro-food and the public and parapublic sectors. The sample consisted of 3,067 managers from 41 establishments and associations. The response rate varied between 23% and 80%, depending on the site. 83.7% of the respondents were men (2,562) and 16.3% were women (498). Their ages varied between 20 and 66, with an average of 41.8. More than half (52.5%) of all respondents had a university degree. At the time of the survey, 45.3% held staff positions and 54.7% held line positions. Furthermore, 24.7% held junior positions, 22% held middle positions and 19.3% held senior positions.

Measuring instruments

This section describes the components of the instrument that were used to test our hypotheses. In addition to the population description variables, we used variables relating to distributive justice and procedural justice (independent variables), satisfaction (intermediary variables) and unionization propensity (dependent variable).

Distributive justice: Distributive justice was broken down into justice based on internal equity, external equity and individual equity. Perceptions of these three forms of distributive justice were measured using the same type of question, based on the Goodman's model (1974). In questions on referents, respondents were asked to situate their pay on a seven-point scale. For example, possible responses to the question "Compared to your subordinates and given the type of work they do, do you think your pay is:" were as follows: -3 = considerably less, -2 = a lot less, -1 = slightly less, 0 = more or less the same, +1 = slightly more, +2 = a lot more, +3 = considerably more. Here, 0 represented equity, -3 represented extreme negative inequity and +3 represented extreme positive inequity. To measure the different facets of distributive justice, we grouped the questions together according to the form of justice to which they referred. *Internal equity* was measured as the average of the answers to the items comparing respondents with subordinates, colleagues and shop-floor employees ($\alpha = 0.73$). *External equity* was measured by a single item: "Compared to the people with whom you compare yourself outside the organization, and given the type of work they do, do you think...". *Individual equity* was measured using three items: the requirements of the job (difficulties and responsibilities), perceived performance and skills ($\alpha = 0.90$). It was evaluated on the same scale as internal equity.

Procedural justice: Perceived procedural justice in pay allocation was measured using two items reflecting the level of participation in decision-making regarding pay policies, along with appraisal of individual performance. Respondents were asked to indicate the extent to which they were involved in these decisions, using a five-point scale: 1 = others make the decision, 3 = equal contribution to the decision-making process, 5 = the decision is entirely mine. As was the case for distributive justice, the mean of the answers to the two items was taken as the measure of perceived procedural justice ($\alpha = 0.77$).

Satisfaction: Satisfaction with the organization ($\alpha = 0.82$), with pay ($\alpha = 0.72$) and with the job itself ($\alpha = 0.81$) were measured using the Managerial Scale of Warr and Routledge (1969).

Unionization Propensity: Propensity to vote for a union was measured using a Guttman-type scale composed of the following seven items: (1) I would object if my friends took public membership in an association for managers; (2) If the managers in my organization formed an association, I would accept it; (3) I would be willing to join an association for managers; (4) I would be in favor of unionizing the managers of my organization; (5) I would work hard for the unionization of the managers in my organization; (6) If a union were formed, I would be among the first to sign up and pay my dues; (7) I would be willing to be an officer of such a union. Responses were coded in binary fashion, with “no” receiving a score of 1 and “yes” a score of 2, so that the scale of intensity ranged from 7 (no support to any forms of collective action) to 14 (pro-active union supporter). The instrument exhibited a coefficient of reproductibility of 0.84.

Statistical analyses

The data gathered from the questionnaires returned have been analyzed with a structural equation model under LISREL VII of SPSS/PC V.5.0. This type of model represents a system of hypothetical causal relations between the variables of the research model tested (Figure 1). It allows inference rather than demonstration of causality (Branninck, 1995), according to the three main conditions defined by James, Mulaik & Brett (in Kelloway, 1996): a) association, b) isolation (the inclusion of all relevant predictors) and c) the establishment of causal direction. Schumacker & Lomax (1996) and Hoyle & Panter (1995) state that if the conditions for causal inference are not met, only a reliable association between the independent and dependent variables can be inferred. This is frequently the case in social science research. Our study unfolded under these conditions: our model represents a set of hypothetical relations founded exclusively on a review of the empirical and theoretical literature. In consequence, some explanatory variables and certain causal directions could be naturally ignored. The study is therefore confirmatory, and is intended to test the validity of the hypotheses presented in the research model (Figure 1). The hypothesis testing (Figure 2) is based on the evaluation of the reliability of the association between several latent variables. The hypothesis is confirmed if the regression coefficient is deemed to be significant, i.e. if Student's *t* test exceeds, plus or minus two, precisely ± 1.96 at the alpha level of 0.05 (Jöreskog and Sörbom, 1989).

As for the measurement model that links the latent variables to their indicators (or observed variables), by convention the former are represented with circles and the latter with rectangles. The indicators are measured by the items of the

questionnaire, which have been grouped to establish mean type scores. This allows limiting of the number of indicators to adjust the model to the data according to the recommended approximate threshold of 30 indicators, which should not be exceeded (Jöreskog & Sörbom, 1989).

Furthermore, the evaluation of the adjustment of the model to the data is founded on the indexes proposed by LISREL VII. For the χ^2 of the final model adjusted to the degree of freedom (χ^2/df), a ratio of 5, not to be exceeded, is the most flexible norm, whereas the most rigorous criteria have been set at three, even two (Pedhazur & Pedhazur Schmekin, 1991). In terms of the goodness of fit index (GFI) and the adjusted goodness of fit index (AGFI), the norms to be exceeded are 0.90 for the GFI and 0.80 for the AGFI (Jöreskog & Sörbom, 1989). Norms of 0.80 are occasionally applied to these two indices (Hart, 1994). As for the root mean square residual (RMR or RMSR), the maximum threshold is 0.05 when correlation matrices are analyzed and 2.58 for covariance matrices (Pedhazur & Pedhazur Schmekin, 1991). Our research corresponds to the latter case.

Results

We performed Pearson correlations between all the variables in the model to test for the presence of serious multicollinearity. The means, standard deviations and correlations between the variables are shown in Table 1. Table 1 reveals that no serious multicollinearity was observed between the latent variables ($r < 0.70$). Correlations greater than 0.70 apply solely to indicators that measure the same construct, i.e. a single latent variable. They confirm the high reliability of internal coherence observed for each of the scales of distributive justice. The intercorrelations between the three distributive justice constructs reveal correlation indices that vary between 0.66 and 0.71. This indicates a conceptual overlapping of the various facets of distributive justice also observed with other measuring instruments in exploratory and confirmatory research (Igalens & Roussel, 1998).

Figure 2 presents the final model with the regression coefficients of the structural equation model tested. Only the significant results are presented (Figure 2 and Table 2). As for the influence of organizational justice on pay satisfaction, the four explanatory variables for distributive justice and procedural justice are positively associated with this facet of satisfaction, in accordance with the predictions of hypotheses 1 and 4a. Yet it is mainly the external equity ($\gamma_{42} = 0.167$) and individual equity ($\gamma_{43} = 0.253$) variables of pay that are most

Table 1
Matrix of Correlations, Means and Standard Deviations

Variables	Y1	Y2	Y3	Y4	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y1 Job satisfaction (satisra)	1,00												
Y2 Organization satisfaction (satisent)	,46**	1,00											
Y3 Unionization propensity (intsynd)	-,15**	-,23**	1,00										
Y4 Pay satisfaction (satisrem)	,14**	,11**	-,07**	1,00									
X1 salvsub (internal equity)	,06**	-,14**	,08**	,20**	1,00								
X2 salvsco (internal equity)	,03	-,16**	,08**	,18**	,69**	1,00							
X3 salvsyn (internal equity)	,04*	-,15**	,09**	,18**	,82**	,70**	1,00						
X4 salvex (external equity)	,03	-,15**	,09**	,30**	,66**	,68**	,68**	1,00					
X5 salcomp (individual equity)	,07**	-,11**	,08**	,26**	,68**	,67**	,69**	,70**	1,00				
X6 salvsre (individual equity)	,04*	-,12**	,08**	,27**	,67**	,66**	,68**	,70**	,85**	1,00			
X7 salvspo (individual equity)	,03	-,13**	,08**	,30**	,68**	,66**	,69**	,71**	,81**	,84**	1,00		
X8 jusremu (pay procedural justice)	,05**	-,08**	,05**	,09**	,52**	,52**	,51**	,49**	,49**	,48**	,48**	1,00	
X9 juseva (appraisal procedural justice)	,19**	,26**	-,01	,12**	,08**	,03	,05*	,10**	,11**	,08**	,09**	,43**	1,00
Mean	2,67	2,33	10,86	2,32	2,39	1,86	2,45	1,93	1,69	1,69	1,76	1,24	1,69
Standard deviation	,37	,49	1,90	,49	,85	,61	,84	,76	,69	,71	,77	,64	,83

* $p < 0.05$ ** $p < 0.01$

closely linked to the dependent variable under study. Regarding internal equity, the positive influence on pay satisfaction, although significant, appears weak in our model ($\gamma_{41} = 0.098$). This was not anticipated in hypothesis 1. Lastly, procedural justice was found to be the independent variable that is least strongly associated with pay satisfaction ($\gamma_{44} = 0.059$). This result confirms hypothesis 4b, as it is quite apparent that distributive justice (internal, individual and external) is a better predictor of pay satisfaction than is procedural justice.

With regard to organizational satisfaction, no significant association appeared between the three variables of distributive justice and this aspect of satisfaction. Hypothesis 3 is consequently refuted. Moreover, the hierarchy of links with job satisfaction suggested in hypothesis 2 is not verified. It is impossible to conclude that the perceptions of internal and individual equity of pay are better predictors of job satisfaction than external equity perceptions of pay. In contrast, procedural justice plays a determining role in satisfaction of manager respondents with both their company ($\gamma_{24} = 0.325$) and their job ($\gamma_{14} = 0.233$). The positive relations suggested with these two dependent variables, covered in hypothesis 5a and 6a, are confirmed. In addition, the relations verify hypotheses 5b and 6b. The first hypothesis suggests that procedural justice is a better predictor of company satisfaction than distributive justice of pay. The second suggests that procedural justice is a better predictor of job satisfaction than distributive justice of pay. Nonetheless, although these observations are interesting in terms of organizational satisfaction, they must be relativized with regard to job satisfaction per se. In effect, if satisfaction with the organization is moderately explained by the model ($R^2_{(\eta_2)} = 0.244$), job satisfaction is only weakly so ($R^2_{(\eta_1)} = 0.053$).

Regarding the degree of support for unionization propensity, the model fails to explain this variable ($R^2_{(\eta_3)} = 0.063$). The roles of various aspects of organizational justice appear statistically fragile and difficult to interpret in terms of pro-union attitudes. Hypothesis 7a, which suggests that the perceptions of procedural justice were better predictors of unionization propensity than distributive justice, is not validated. Nonetheless, the correlations of this variable with job satisfaction ($r = -0.15, p < .01$) and organizational satisfaction ($r = -0.23, p < .01$) are explained by this structural model. The model reveals that satisfaction with the company ($\beta_{32} = -0.844$) and job satisfaction ($\beta_{31} = -0.262$) are negatively associated with unionization propensity. Moreover, if pay satisfaction is also negatively associated with a unionization propensity ($\beta_{34} = -0.283$), the weakness of the coefficient of determination $R^2_{(\eta_3)}$ of the structural equation and of the correlation ($r = -.007, p < .01$), leads to the

conclusion that there is only partial confirmation of hypothesis 7b. The data suggest that company satisfaction is the best predictor of unionization propensity. Job satisfaction, pay satisfaction and procedural justice are moderately and differentially associated with unionization propensity.

Regarding relationships between satisfaction variables, the structural model suggests the existence of two significant relationships. First, job satisfaction is positively and significantly related to organization satisfaction ($\beta_{21} = .554$). Second, a positive and significant link has been identified between pay satisfaction and job satisfaction ($\beta_{14} = 0.088$). Thus, hypothesis 8 is supported.

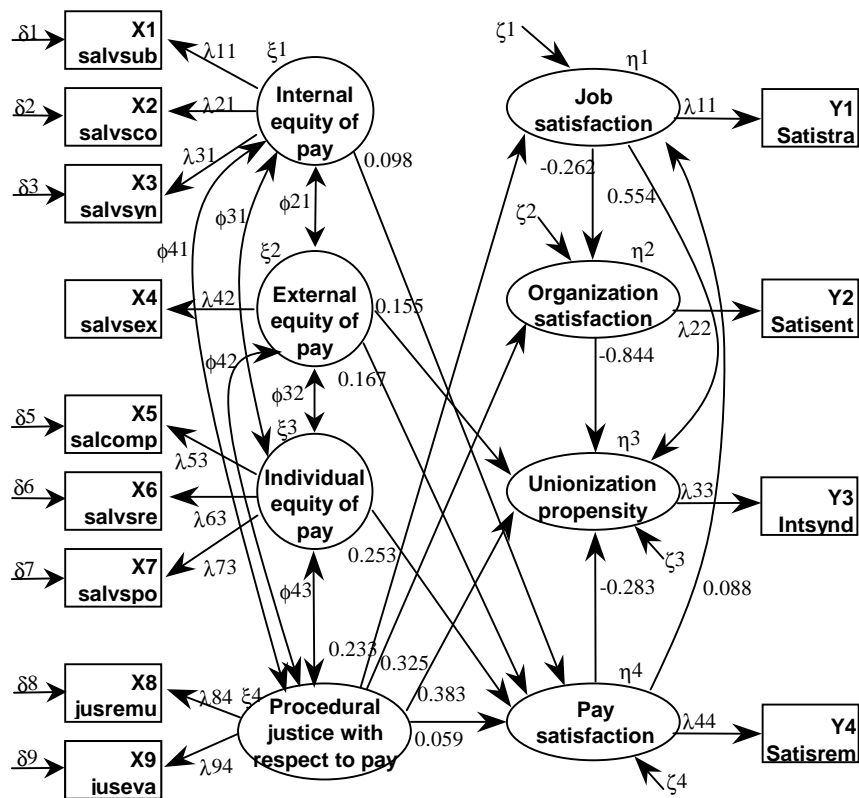


Figure 2
Final Research Model

Table 2:
Estimates of Causal Relationship Parameters and Adjustment Indexes

Structural Model			
Parameters	Estimate	t value	Stand- ardized est.
γ_{41} internal equity -> pay satisfaction	0.098	6.091	0.136
γ_{32} external equity -> unionization propensity	0.155	3.172	0.062
γ_{42} external equity -> pay satisfaction	0.167	14.797	0.264
γ_{43} individual equity -> pay satisfaction	0.253	12.580	0.289
γ_{14} process justice -> job satisfaction	0.233	9.557	0.186
γ_{24} process justice -> organization satisfaction	0.325	10.872	0.196
γ_{34} process justice -> unionization propensity	0.383	3.128	0.060
γ_{44} process justice -> pay satisfaction	0.059	2.290	0.036
β_{14} pay satisfaction -> job satisfaction	0.088	6.454	0.115
β_{21} job satisfaction -> organization satisfaction	0.554	25.174	0.417
β_{31} job satisfaction -> unionization propensity	-0.262	-2.584	-0.051
β_{32} organization satisfaction -> unionization propensity	-0.844	-10.874	-0.220
β_{34} pay satisfaction -> unionization propensity	-0.283	-3.657	-0.072
$R^2(\eta_1)$ job satisfaction	0.053		
$R^2(\eta_2)$ organization satisfaction	0.244		
$R^2(\eta_3)$ unionization propensity	0.063		
$R^2(\eta_4)$ pay satisfaction	0.320		
GFI	0.99		
AGFI	0.98		
RMR	0.01		
χ^2	291.00		
DI	51		
χ^2/dl	5.71		

**Table 2 (cont'd):
Estimates of Causal Relationship Parameters and Adjustment Indexes**

x and y Measurement Models			
Parameters	Estimate	t value	Standardized est.
$\lambda_{11}^{(x)}$	1.000 ^a	0.000 ^a	0.674
$\lambda_{21}^{(x)}$	0.300	15.779	0.202
$\lambda_{31}^{(x)}$	0.931	27.900	0.627
$\lambda_{42}^{(x)}$	1.000 ^a	0.000 ^a	0.765
$\lambda_{53}^{(x)}$	1.000 ^a	0.000 ^a	0.555
$\lambda_{63}^{(x)}$	1.105	49.644	0.613
$\lambda_{73}^{(x)}$	1.135	47.411	0.630
$\lambda_{84}^{(x)}$	1.000 ^a	0.000 ^a	0.297
$\lambda_{94}^{(x)}$	2.699	9.361	0.800
$\lambda_{11}^{(y)}$	1.000 ^a	0.000 ^a	0.371
$\lambda_{22}^{(y)}$	1.000 ^a	0.000 ^a	0.493
$\lambda_{33}^{(y)}$	1.000 ^a	0.000 ^a	1.895
$\lambda_{44}^{(y)}$	1.000 ^a	0.000 ^a	0.486

^a These parameters are set at 1.000 to establish a measurement scale. The t values of these parameters cannot be calculated and are set at 0.000.

Discussion

The goal of this research was, first, to examine the differential effect of procedural justice and distributive justice (broken down into internal, external and individual equity) on three facets of satisfaction (with pay, job and organization), and second, to explore the relationship between organizational justice perception and unionization propensity. The structural equation technique under LISREL was used to test the research model (Figure 1), and the main hypotheses were confirmed. The final model (Figure 2) shows that the three equity referents of organizational justice are linked to pay satisfaction, and that distributive justice is a better predictor of pay satisfaction than procedural justice perceptions. In contrast, procedural justice is a better predictor of organizational satisfaction and job satisfaction than are distributive justice perceptions. Moreover, the final model suggests that job satisfaction and organization satisfaction play a more significant role in propensity to join a union than do organizational justice perceptions.

The differential effects of organizational justice

The research suggests that distributive justice and procedural justice perceptions are positively related to pay satisfaction. The hypothesis testing suggests that procedural justice perceptions play a more important role than distributive justice in organizational satisfaction and job satisfaction. Moreover, procedural justice is also linked – although not strongly – to pay satisfaction. In contrast, distributive justice perceptions provide a better explanation of pay satisfaction, and its influence is limited to this facet only. These results fully confirm previous research findings (Lind & Tyler, 1987; Folger & Konovsky, 1989; Citera et al., 1992; Sweeney & McFarlin, 1993; Scarpello & Jones, 1996) to the extent that attitudes towards organizations and authorities are associated more closely with procedural justice and that attitudes toward outcomes, like pay, depend more on distributive justice. The fairer the managers feel their treatment is at the distribution level, the more satisfied they are with their pay, regardless of the procedure which produces the results. The relationship identified in this research between procedural justice and job satisfaction partly confirms the findings of Alexander & Ruderman (1987), whereby a stronger link was observed between procedural justice and job satisfaction. Our study suggests that the influence of procedural justice is not restricted to satisfaction with the organization; it can also make the job itself more satisfying. The managers behave as though they consider organizational justice to be part of their job. To explain the influence of

procedural justice, the role of its indicators should not be overlooked. The components of procedural justice were examined using two measures: participation in decisions relating to pay policies, and participation in performance appraisal decisions. The correlations show that participation in performance appraisal is more closely associated with the three facets of satisfaction than is participation in decisions related to pay. The importance of involvement in compensation-related decisions was demonstrated by Jenkins and Lawler (1981). Our results show, at least for our sample, that some decisions and procedures are more important than others in the evaluation of procedural justice. Allowing employees to express an opinion in the performance appraisal process may increase their sense of control over the job and the impression that they can influence their supervisor's judgement, and consequently that they have a certain influence over their pay. However, individual influence on pay policies, as is the case for salary structure and market position, appears to be more limited.

Regarding salary referents, the results suggest that individual equity and external equity are more strongly associated with pay satisfaction than is internal equity. Managers tend to be more mobile in their careers, and more willing to be paid according to performance than other employee categories; this may explain why their satisfaction is linked more strongly to individual equity and external equity rather than internal equity. Our results are consistent with previous research showing that salary referents play a significant role in pay satisfaction (Goodman, 1974; Schwab & Wallace, 1974; Dyer & Thériault, 1976; Scholl et al., 1987; Capelli & Sherer, 1988; Summers & DeNisi, 1990; Sweeney et al., 1990; Taylor & Vest, 1992; Blau, 1994; Roussel, 1996). Moreover, the findings underline the need for organizations to introduce compensation practices and procedures aimed at fostering internal, external and individual equity (Milkovich and Newman, 1993; Scarpello & Jones, 1996).

Organizational justice perceptions and unionization propensity

The structural equation model has highlighted the associations between organizational justice variables and union support. The confirmatory analysis reveals that the predictive power of the different forms of organizational justice over pay was very weak in terms of unionization propensity. Johnson & Johnson (1991) obtained similar findings and did not observe a link between pay equity perception and commitment to a union. In accordance with Barling et al.'s (1992)

findings it seems that organizational justice has only an indirect effect on unionization propensity. Its influence appears to be exercised via organizational satisfaction, job satisfaction and, to a lesser extent, pay satisfaction. If the negative relationship observed between pay satisfaction and unionization propensity confirms our hypothesis and the literature, the positive relationships between, on the one hand, external equity, and on the other hand, procedural justice and unionization propensity are more difficult to explain. For external equity perceptions, a tentative explanation is that, for some managers, a union as a collective force may represent a better avenue than individual influence in maintaining their favorable position vis-à-vis the pay market. A careful inspection of data showed that older, less educated and plateaued managers were significantly more prone to unionize. We may speculate that their individual bargaining power regarding their pay, inside and outside the work market, is lower than their counterpart. For these less powerful managers, union is perceived as the better voice instrument to protect their advantageous working conditions relative to the external market. The positive relationship between procedural justice and unionization propensity is more difficult to explain. We can speculate that the more organizations give employees opportunities to influence compensation decisions, the more compensation becomes an important issue, and the more employees perceive the limits of their individual power over time or their influence on pay procedures. Individual influence on the process, despite its positive effects, may become insufficient if outcomes are not proportionate with individual investments in procedures or if several procedures do not satisfy the majority of employees. As suggested by group-value theory, several noncontrol issues, such as neutrality of the decision-making procedure, trust in decision-makers, and social standing may have a more powerful influence on judgments of procedural justice than control issues (Tyler, 1988). Violation of these procedural components may reduce the long-term affective relationship with the organization, but increase the need for affiliation with an other group membership. Unions may thus be perceived by people as a powerful instrument for obtaining better or fairer interpersonal treatment. This surprising positive association between structural aspects of procedural justice and unionization suggested that the influence of procedural justice cannot be fully understood if we do not take into account the role of social aspects.

Our findings also suggest that intention to join a union is not solely influenced by pay or extrinsic satisfaction. In this respect, our study, although administered to a sample of Canadian managers, supports numerous earlier studies conducted among various populations (e.g. blue, pink and white collar), which have shown that satisfaction with intrinsic factors may be as powerful a predictor of

unionization propensity as extrinsic satisfaction factors (Kochan, 1979; DeCooitiis & Le Louarn, 1981; Hammer & Berman, 1981; Youngblood et al., 1984).

It is interesting to note that the chain of relationships observed in our research is somewhat similar to that reported by Summers and Hendrix (1991) and Barling et al. (1992). We observed a relationship between equity perception and pay satisfaction, and an association between the latter and job satisfaction and organization satisfaction and, finally, unionization propensity. However, neither Summers and Hendrix nor Barling et al. tested the influence of procedural justice in their respective models. Our final model suggests a causal chain from procedural justice to job satisfaction to organization satisfaction and to unionization propensity.

Nonetheless, our final model did not support Dailey & Kirk's (1992) findings that distributive justice is a more powerful predictor of job satisfaction than procedural justice. Conceptual differences between their research and ours may explain this divergence. In their study, the main criterion was job satisfaction, whereas in ours it was pay satisfaction. Moreover, their measures of organizational justice were associated with the performance appraisal context, and did not take into account the compensation context. These differences suggest that the consequences of organizational justice must be interpreted in context (Greenberg, 1996). The causal relationships hypothesized are unlikely to be the same for all reward situations.

Conclusion

Although this research, carried out in a Canadian context, produced some interesting results and corroborated many earlier studies in the field, it nonetheless has certain limitations. First, all the data were obtained by means of a single questionnaire on a single occasion, and common variance risks are certainly present. Second, external equity was measured using just one item, and procedural justice using two. Third, only the organizational (internal and individual) and market (external) referents were assessed for distributive justice even though, as Blau (1994) pointed out, other categories of relevant referents exist. Finally, organizational justice and satisfaction are necessary but insufficient factors in prediction of employees' propensity to join an union. Other factors, such as general (e.g. union power) and specific (e.g. union instrumentality) attitudes toward unions can play critical roles (Barling et al., 1992 ; Deshpande & Fiorito, 1989).

Further research in this area is needed. Research similar to ours, but using different sub-populations, such as that by Witt & Nye (1992) and Scarpello & Jones (1996), would be extremely useful. For example, it would be interesting to examine whether men react in the same way as women, if managers in the public and private sectors react similarly, and if workers react comparably to managers. More detailed research could also examine some of the intermediary variables between justice and attitude indicators, to explore the effects of justice on behaviors. It would be interesting to study other behaviors that are affected by organizational justice, such as performance, loyalty, absenteeism and staff turnover, and their antecedents. This research considered only one dimension of compensation: pay level. According to the compensation models of Heneman & Schwab (1985) and Miceli & Lane (1991), there are at least four separate components to compensation, including employee benefits. Employee benefit satisfaction has not received much attention from researchers so far. Studies of flexible benefit plans suggest that this aspect may be interesting from the organizational justice standpoint (Tremblay et al., 1998). The work of Leventhal (1980) also highlighted the fact that individuals use rules other than equity to encourage justice. It would be interesting to examine the role of the concepts of equality and need in the distributive justice model. Procedural justice was studied here using two indicators. However, procedural justice, like distributive justice, may well comprise at least three facets, as suggested by Scarpello & Jones (1996), namely: 1) job analysis and job evaluation, 2) the wage survey process and 3) performance appraisal and pay increases. These three facets would correspond respectively to internal equity, external equity and individual equity. It would be useful, as Blau (1994) did for distributive justice, to test the influence of the importance and level of procedural justice of several facets of procedural justice on work attitudes and behaviors. Also, the intriguing positive influence of procedural justice on unionization propensity justifies further investigation. It may be interesting to evaluate how the matter of procedures (e.g. compensation, performance appraisal), the content of procedures (e.g. on processes of decision-making) and the degree of control have an individual and interactive influence on work attitudes and behaviors.

This research is, to our knowledge, the first to have used an explanatory-type model to test the influence of distributive justice and procedural justice on satisfaction and unionization propensity. At the theoretical level, it supports the idea that the concept of organizational justice comprises several different facets. Individuals seem predisposed to react in different ways when the two forms of justice are violated. This may allow us to predict more accurately the consequences of compliance with standards of justice applied in organizations.

We have shown that procedural justice in the distribution of rewards seems to influence a broader set of attitudes and behaviors than distributive justice. This has practical implications for compensation managers. In fact, although the results of a distribution perceived as fair are important in determining individual pay satisfaction, the way in which the decisions are made, if perceived as unfair, may lead employees to be less satisfied with their organization and even with their jobs. In establishing rewards, decision-makers should pay close attention to the fairness of the procedures introduced. However, fair procedures will not produce the expected behaviors and attitudes if the employees do not recognize them as being fair. Participation in and communication regarding procedures are therefore crucial in the quest for justice in the workplace. As Martin and Benett (1996) point out, the economic costs of acting in a procedurally fair manner are minimal in comparison with distributive fairness. Union movements and employers must be aware that pay satisfaction is not necessarily the only, or even the principal, trigger of unionization. Middle and lower rank managers who are dissatisfied with their job content, who perceive that their organization's decision-making processes are unfair, and have little trust in key decision-makers can become good candidates for unionization, their loyalty and commitment to the organization may decline significantly.

References

- Adams, J.S. "Toward an Understanding of Inequity", Journal of Abnormal and Social Psychology, vol. 67, n° 5, 1963, p. 422-436.
- Adams, J.S. "Inequity in Social Exchange", in L. Berkowitz (Ed.), Advances in Experimental Social Psychology, vol. 2, New York, Academic Press, 1965, p. 267-299.
- Agho, A.O.; Mueller, C.W.; Price, J.L. "Determinants of Employee Job Satisfaction: An Empirical Test of a Causal Model", Human Relations, vol. 46, n° 8, 1993, p. 1007-1027.
- Alexander, S.; Ruderman, M. "The Role of Procedural and Distributive Justice in Organizational Behavior", Social Justice Research, vol. 1, n° 2, 1987, p. 1401-1420.
- Allen, R.E.; Keaveny, T.J. "Correlates of University Faculty Interest in Unionization: A Replication and Extension", Journal of Applied Psychology, 66, 1983, p. 582-588.
- Barling, J; Fullagar, C; Kelloway, E.K. The Unions & Its Members: A Psychological Approach, Oxford University Press, 1992, 251 p.
- Berg, T. R. "The Importance of Equity Perception and Job Satisfaction in Predicting Employee Intent to Stay at Television Stations", Group and Organization Studies, vol. 16, n° 3, 1991, p. 268-284.
- Berkowitz, L.; Fraser, C.; Treasure, P.; Cochran, S. "Pay, Equity, Job Gratifications and Comparisons in Pay Satisfaction", Journal of Applied Psychology, vol. 72, n° 4, 1987, p. 544-551.
- Bies, R. J.; Moag, J.S. "Interactional Justice: Communication Criteria of Fairness", in J. Lewicki, B. J. Sheppard, M.J. Bazerman (Eds), Research on Negotiation in Organizations, vol. 1, Greenwich C.T., JAI Press., 1986, p. 43-55
- Blau, G. "Testing the Effect of Level and Importance of Pay Referents on Pay Level Satisfaction", Human Relations, vol. 47, n° 10, 1994, p. 1251-1268.
- Brannick, M.T. "Critical Comments on Applying Covariance Structure Modeling", Journal of Organizational Behavior, vol. 16, n° 2, 1995, p. 201-213.
- Brett, J. M. "Why Employees Want Unions", Organizational Dynamics, Spring 1980, p. 47-59.

- Capelli, P.; Sherer, P.D. "Satisfaction: Market Wages & Labor Relations: An Airline Study", Industrial Relations, vol. 27, n° 1, 1988, p. 56-72.
- Carrell, M. R.; Dittrich, J.E. "Equity Theory: the Recent Literature, Methodological Considerations, and New Directions", Academy of Management Review, n° 3, 1978, p. 202-210.
- Citera, M.; Bishop, R.; Selvaraj, J. "Perceived Fairness and Post-Acquisition Organizational Commitment and Pay Satisfaction", Paper presented at the 1992 meeting of Academy of Management, Las Vegas.
- Covin, T.J.; Kolenko, T.A.; Sigtler, K.V.; Tudor, K.R. "Pay and Organizational Effectiveness: Empirical Evidence and Implications for Management Consultants", Academy of Management Best Papers Proceedings 1993, 53rd Annual Meeting, Atlanta, p. 185-189.
- Cropanzano, R.; Folger, R. "Procedural Justice and Worker Motivation" in R. Steers and L. Porter (eds.), Motivation and Work Behavior, New York, McGraw-Hill, 1991, p. 131-142.
- Crosby, F. "A Model of Egoistical Relative Deprivation", Psychological Review, vol. 83, 1976, p. 85-113.
- Dailey, R. C.; Kirk, D.J. "Distributive and Procedural Justice as Antecedent of Job Dissatisfaction and Intent to Turnover", Human Relations, vol. 45, n° 3, 1992, p. 305-317.
- Decotiis, T. S.; Le Louarn, J. Y. "A Predictive Study of Voting Behavior in a Representation Election Using Union Instrumentality and Work Perceptions", Organizational Behavior and Human Performance, vol. 27, n° 1, 1981, p. 103-118.
- Deshpande, S. P.; Fiorito, J. "Specific and General Beliefs in Union Voting Models", Academy of Management Journal, vol. 32, n° 4, 1989, p. 883-897.
- Dittrich, J. E; Carrell, M.R. "Organizational Equity Perceptions, Employee Job Satisfaction, and Department Absence and Turnover Rates", Organizational Behavior and Human Performance, vol. 24, 1979, p. 29-40.
- Dyer, L.; Thériault, R. "The Determinants of Pay Satisfaction", Journal of Applied Psychology, vol. 61, n° 5, 1976, p. 596-604.
- Evrad, Y.; Pras, B.; Roux, E.; Choffray, J.M.; Dussaix, A.M., Market, études et recherches en marketing, fondements, méthodes, Paris, Nathan, 1993.

- Finn R. H.; Lee, S.M. "Salary Equity: Its Determinants, Analysis and Correlates", Journal of Applied Psychology, n° 56, 1972, p. 283-292.
- Folger, R.; Konovsky, M.A. "Effects of Procedural and Distributive Justice on Reactions to Pay Raise Decisions", Academy of Management Journal, vol. 32, n° 1, 1989, p. 115-130.
- Folger, R.; Greenberg, J. "Procedural Justice: An Interpretative Analysis of Personnel System", Research in Personnel and Human Resources Management, vol. 3, 1985, p. 143-183.
- Fryxell, G. E.; Gordon, M.E. "Workplace Justice and Job Satisfaction as Predictors of Satisfaction With Union and Management", Academy of Management Journal, vol. 32, n° 4, 1989, p. 851-866.
- Goodman, P. S. "An Examination of Referents Used in the Evaluation of Pay", Organizational Behavior and Human Performance, vol. 12, 1974, p. 170-195.
- Greenberg, J. "A Taxonomy of Organizational Justice Theories", Academy of Management Review, vol. 12, n° 1, 1987, p. 9-22.
- Greenberg, J. "Organizational Justice: Yesterday, Today and Tomorrow", Journal of Management, vol. 16, n° 2, 1990, p. 399-432.
- Greenberg, J. The Quest for Job Justice on the Job, Sage Publications inc., 1996.
- Hammer, T. H.; Berman, M. "The Role of Noneconomic Factors in Faculty Union Voting", Journal of Applied Psychology, vol. 66, n° 4, 1981, p. 67-71.
- Heneman III, H. G. "Pay Satisfaction", Research in Personnel and Human Resources Management, vol. 3, 1985, p. 115-139.
- Heneman III, H.G.; Sandver, M. "Predicting the Outcome of Union Certification Elections: A Review of the Literature", Industrial and Labor Relations Review, vol. 36, 1983, p. 537-559.
- Heneman III, H.G.; Schwab, D.P. "Pay Satisfaction: Its Multidimensional Nature and Measurement", International Journal of Psychology, vol. 20, 1985, p. 129-141.
- Hills, F. S. "The Relevant Other in Pay Comparisons", Industrial Relations, vol. 19, n° 3, 1980, p. 345-351.

- Jenkins, D.G.; Lawler, E.E. "Impact of Employee Participation in Pay Plan Development", Organizational Behavior and Human Performance, vol. 28, 1981, p. 111-128.
- Johnson, W. R.; Johnson, G.J. "The Effects of Equity Perceptions on Union and Company Commitment", Journal of Collective Negotiations, vol. 20, n° 3, 1991 p. 235-244.
- Joreskog, K.G.; Sorbom, D. Lisrel 7, a Guide to the Program and Applications, Chicago, SPSS Inc., 1989.
- Kochan, T. A. "How American Workers View Labor Unions", Monthly Labor Review, vol. 102, April 1979, p. 23-31.
- Konovsky, M. A.; Folger R.; Cropanzano, R. "Relative Effects of Procedural and Distributive Justice on Employee Attitudes", Representative Research in Social Psychology, vol. 17, n° 1, 1987, p. 15-23.
- Lawler III, E. E. Pay and Organizational Effectiveness: A Psychological View, New York, McGraw-Hill, 1971.
- Lee, R. T.; Martin, J.E. "Internal and External Referents as Predictors of Pay Satisfaction Among Employees in a Two-Tier Wage Setting", Journal of Occupational Psychology, vol. 64, 1991, p. 57-66.
- Lee, C. "Prosocial Organizational Behaviors: The Roles of Workplace Justice, Achievement Striving, and Pay Satisfaction", Journal of Business and Psychology, vol. 10, n° 2, 1995, p. 197-206.
- Leventhal, G.S. "What Should Be Done With Equity Theory", in K.J. Gergen; M.S. Greenberg; R.H. Willis (Eds), Social Exchange: Advances in Theory and Research, New York, Plenum, 1980, p. 27-55.
- Lind, E. A.; Tyler, T. R. The Social Psychology of Procedural Justice, New York, Plenum, 1988, 267 p.
- Locke, E.A. "The Nature of Causes of Job Satisfaction", in M.D. Dunnette (éd.), Handbook of Industrial and Organizational Psychology, Chicago, Rand McNally, 1976, p. 1297-1349.
- Locke, E.A. "Job Satisfaction", in Gruneberg, M.; T. Wall (éd.). Social Psychology and Organizational Behavior, New York, John Wiley, 1984, p. 93-117.

- Lowe, R.H.; Vodanovich, S.J. "A Field Study of Distributive and Procedural Justice as Predictors of Satisfaction and Organizational Commitment", Journal of Business and Psychology, vol. 10, n° 1, 1995, p. 99-114.
- Maxey, C.; Mohrman, S. "Worker Attitudes Toward Unions: A Study Integrating Industrial Relations and Organizational Behavior Perspective", Proceedings of Thirty-Third Annual Meeting Industrial Relations Research Association Series, 1980, p. 326-333.
- Miceli, M.P.; Lane, M.C. "Antecedents of Pay Satisfaction: A Review and Extension", in Rowland, K.M.; G.R. Ferris (ed.), Research in Personnel and Human Resources Management, Greenwich, JAI Press, vol. 9, 1991, p. 235-309.
- Miceli, M.P.; Jung, I.; Near, J.P.; Greenberger, D.B. "Predictors and Outcomes of Reactions to Pay-for-Performance Plans", Journal of Applied Psychology, vol. 76, n° 4, 1991, p. 508-521.
- Milkovich G.T.; Newman, J.M. Compensation, Fourth Edition, Homewood, BPI Irwin, 1993.
- Moorman, R. H. "Relationship Between Organizational Justice and Organizational Citizenship Behavior: Do Fairness Perceptions Influence Employee Citizenship", Journal of Applied Psychology, vol. 76, n° 6, 1991, p. 845-855.
- Oldham, G. R. et al. "Relations Between Job Facet Comparisons and Employee Reactions", Organizational Behavior and Human Decision Processes, vol. 38, n° 1, 1986, p. 28-47.
- Pedhazur, E.J.; Pedhazur Schmelkin, L. Measurement, Design, and Analysis, an Integrated Approach, Hillsdale, Lawrence Erlbaum, 1991.
- Pinder, C. Work Motivation: Theory, Issues and Applications, Glenview, Illinois, Scott Foresman, 1984.
- Premack, S. L. "Predicting of Employee Unionization from Knowledge of Job Satisfaction: A Meta-Analytic Investigation", Academy of Management Proceedings, 44th Annual Meeting, Boston, 1984, p. 279-283.
- Ried, D.L.; McGhan, F. "An Equity Model of Staff Pharmacists' Job Satisfaction", Journal of Pharmaceutical Marketing & Management, vol. 1, n° 3, 1987, p.3-23.
- Ronen, S. "Equity Perception in Multiple Comparison: A Field Study", Human Relations, vol. 39, n° 4, 1986, p. 333-346.

- Roussel, P. Rémunération, motivation et satisfaction au travail, Paris, Economica, 1996.
- Schwab D.P.; Wallace, M.J. "Correlates of Employee Satisfaction with Pay", Industrial Relations, vol. 13, n° 1, 1974, p. 78-89.
- Scholl, R.W.; Cooper, E.A.; McKenna, J.F. "Referent Selection in Determining Equity Perceptions: Differential Effects on Behavioral and Attitudinal Outcomes", Personnel Psychology, n° 40, 1987, p. 113-124.
- Sheppard, B. H.; Lewicky, R.J. "Toward General Principles of Managerial Fairness", Social Justice Research, vol. 1, n° 2, 1987, p. 161-176.
- Summers, T. P.; Denisi, A.S. "In Search of Adams'Other: Reexamination of Referents Used in the Evaluation of Pay", Human Relations, vol. 43, n° 6, 1990, p. 497-511.
- Summers, T. P.; Hendrix, W.H. "Modelling the Role of Pay Equity Perceptions: A Field Study", Journal of Occupational Psychology, vol. 64, 1991, p. 145-157.
- Sweeney, P. D. "Distributive Justice and Pay Satisfaction: A field Test of an Equity Theory Prediction", Journal of Business and Psychology, vol. 4, n° 3, Spring 1990, p. 329-341.
- Sweeney, P.D.; McFarlin, D.B. "Workers' Evaluation of the "Ends" and the "Means": An Examination of Four Models of Distributive and Procedural Justice", Organizational Behavior and Human Decision Processes, vol. 55, 1993, p. 23-49.
- Sweeney, P.D.; McFarlin, D.B.; Inderrienden, E.J. "Using Relative Deprivation Theory to Explain Satisfaction with Income and Pay Level: A Multistudy Examination", Academy of Management Journal, vol. 33, n° 2, 1990, p. 423-436.
- Taylor, G.T.; Vest, M.J. "Pay Comparisons and Pay Satisfaction among Public Sector Employees", Public Personnel Management, vol. 21, n° 4, 1992, p. 445-454.
- Thériault, R. Guide Mercer de la gestion de la rémunération, Montréal, Gaëtan Morin éditeur, 1991, 579 p.
- Thibault, J.; Walker, L. Procedural Justice: A Psychological Analysis. Hillsdale, N.J., Erlbaum, 1975, 145 p.

- Tremblay, M.; St-Onge, S; Toulouse, J.M. “Determinants of Salary Referents Relevance: A Field Study of Managers”, Journal of Business and Psychology, vol. 11, n° 4, 1997, p. 463-484.
- Tremblay, M.; Sire, B.; Pelchat, A. “A Study of the Determinants and of the Impact of Flexibility on Employee Benefit Satisfaction”, Human Relation, vol. 51, 1998, in press
- Tyler, T.; Rasinsky, K.; McGraw, K. “The Influence of Perceived Injustice on Support for Political Authorities”, Journal of Applied Social Psychology, vol. 15, p. 700-725.
- Valette-Florence, P. “Spécificités et apports des méthodes d'analyse multivariée de la deuxième génération”, Recherche et Applications en Marketing, vol. 4, 1988, p. 23-56.
- Warr, P.B.; Routledge, T. “An Opinion Scale for the Study of Managers' Job Satisfaction”, Occupational Psychology, vol. 43, 1969, p. 95-109.
- Weiner, N. “Determinants and Behavioral Consequences of Pay Satisfaction: A Comparison of Two Models”, Personnel Psychology, vol. 33, n° 4, 1980, p. 741-758.
- Witt, A. L.; Wilson, J.W. “Moderating Effect of Job Satisfaction on the Relationship Between Equity and Extra-Role Behaviors”, The Journal of Social Psychology, vol. 13, n° 2, 1991, p. 247-252.
- Witt, A.L.; Nye, L.G. “Gender and the Relationship Between Perceived Fairness of Pay or Promotion and Job Satisfaction”, Journal of Applied Psychology, vol. 77, n° 7, 1992, p. 910-917.
- Youngblood, S.; Mobley W.H.; Denisi, A.S. “The Impact of Work Environment Instrumentality Beliefs, Perceived Labor Union Image and Subjective Norms on Union Voting Intentions”, Academy of Management Journal, vol. 27, n° 3, 1984, p. 576-590.
- Zalesny, M. D. “Comparison of Economic and Noneconomic Factors in Predicting Faculty Vote Preference in Union Representation Election”, Journal of Applied Psychology, vol. 70, n° 2, 1985, p. 243-256.

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