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An Exploratory Study of Job Satisfaction among Mail Handlers and Sorters in a Package-Delivery Organization

A. Olu Oyinlade*

Carla Garay

Abstract This is an exploratory study of the correlates and predictors of job satisfaction among mail handlers and sorters, in a package-delivery organization, used as case study. Job satisfaction has been widely studied, but most studies have largely neglected manual laborers. This study is a shift from traditional research participants (health care providers, the military, scientists) of job satisfaction studies to manual workers. A research framework consisting of a theoretical and a demographic model was used to establish correlates and predictors of job satisfaction. Findings of correlation analyses and three regression models (used for triangulation) showed that ten variables were correlated with job satisfaction in simple correlation analyses, but only four, "job rewards", "distributive justice", "job alternatives" (in the theoretical model) and "city tenure" (in the demographic model) emerged as reliable predictors of job satisfaction among study participants.

INTRODUCTION

Job satisfaction has been widely studied, yet, little consensus exists on how the concept is defined. Many studies appeared to assume a widespread common understanding of job satisfaction, and therefore, failed to define it at all (Davis et al. 2007; Lepnurm et al. 2007). Among those that defined it, many provided disparate definitions. Definitions of job satisfaction have included the "extent to which employees like their work" (Agho, Mueller, and Price 1993:1007), the extent to which an employee favored or disfavored a job, expressed

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emotionally and/or cognitively (Owens 2006), the extent of job contentment with the present job situations including job benefits such as pension/retirement, health care benefits, and job security (Davis et al. 2007), and the extent of satisfaction with the challenge from work, “the job as a whole, feeling of importance from work, variety of things done in job, feeling of accomplishment from work, the work done in the job and amount of interest in the job” (Hendrix et al. 1999:620).

Given the variations by which job satisfaction has been operationalized in various studies, it is safe to assume that a great deal of diversity exists in the perceptions and measurements of the concept. Therefore, job satisfaction may not mean the same thing from one study to another. Notwithstanding the variations in definitions, job satisfaction was found to be influenced by work group cohesion, task identity (Mueller and Price 1990), distributive justice, work motivation and affectivity (Agho et al. 1993), age, perceived task characteristics and expectancies (Michaels and Spector 1982), salary, management recognition (Gurley et al. 2003; Judge and Illes 2004; Sadovich 2005), and labor market environment and routinization (Agho et al. 1993).

Studies had also found job satisfaction to be highly sensitive to organizational systems of justice (Adams 1965; Dailey and Kirk 1992; Owens 2006). Typically, three systems comprise organizational justice. *Distributive justice* addresses employees’ concerns about the fairness of managerial decisions regarding the distribution of outcomes such as pay and promotions (Dailey and Kirk 1992; Owens 2006). This definition was based on a perception of fairness that employees developed by measuring their input/output ratios against those of their co-workers (Adams 1965). *Procedural justice* refers to employees’ perceptions of fairness in the leadership decision-making procedures that determine various organizational outcomes. It was commonly operationalized by assessing employee’s perceptions of fairness of supervisory procedures

through which performance evaluations were conducted, and the way pay raises and promotions were determined (Dailey and Kirk 1992; Owens 2006; Robbins et al. 2000). Dailey and Kirk (1992) found that, although they tended to increase together, distributive justice and procedural justice were, indeed, two distinct concepts with differential effects on job satisfaction. For instance, pay satisfaction was found to be influenced more by distributive justice than by procedural justice (Agho et al. 1993; Folger and Konovsky 1989). Lastly, *interactional justice* is the perceived fairness of interpersonal treatment one receives from his/her supervisor in decision making processes (Owens 2006). Referred to as *non-instrumental procedural justice* by Robbins et al. (2000), interactional justice, assesses employees' perceptions of supervisory support and quality of treatment by the supervisor.

Much of the literature focused on those variables that procedural justice influenced. However, perceptions of procedural fairness had been shown to be enhanced by employee participation in pay design (Miceli and Lane 1991), and by perceptions of equal opportunity practices (Witt 1991). According to Witt (1991), among workers whose effort depended directly on organizational rewards (e.g. those on commission—*example ours*), equal opportunity perceptions were strongly related to job satisfaction and perceptions of procedural justice. This finding, however, did not hold true for workers “whose attitudes and behaviors were more independent of organizational reinforcement (e.g. teachers and social workers—*example ours*)” (Witt 1991:433).

Several other variables have been correlated with job satisfaction. Pertinent to this present study are variables such as the extent of viable alternative jobs (i.e. job alternatives), adequacy of job rewards, personal costs, educational attainment of workers and wage (income from job). Agho et al. (1993) and Farrell and Rusbult (1981) found that job alternatives had a significant, inverse correlation with satisfaction. The greater the extent of perceived acceptable

job alternatives, the lower the level of both job satisfaction and commitment to present job (Farrell and Rusbult 1981; Rusbult and Farrell 1983).

Job rewards and personal costs have also been correlated with job satisfaction. Job reward, is a construct that measures the perceptions of adequacy of financial incentives (Lambert, Hogan, and Barton 2001; Rusbult and Farrell 1983), autonomy, and variety (Rusbult and Farrell 1983), as well as prestige and participation (Farrell and Rusbult 1981). Laubach (2005) added that the informal structure of an organization, derived from participative and informal processes, influenced workers' perceptions of adequacy of objective job rewards, such as wages. Personal costs represent the stress and discomfort that workers experience due to unexpected variations in workload, numerous deadlines, inadequate resources, and unfair promotion practices (Rusbult and Farrell 1983). The overall assertion is that job satisfaction is primarily a simple function of the rewards and costs associated with a job (Agho et al. 1993; Dailey and Kirk 1992; Farrell and Rusbult 1981; Rusbult and Farrell 1983). Rusbult and Farrell (1983) delineated that greater job rewards and lower personal costs induced greater employee satisfaction and commitment. However, questions remain as to how job rewards and personal costs relate to each other in affecting satisfaction and commitment in instances where an employee's job is characterized by high job rewards and high costs.

The relationship between education and job satisfaction is yet to be firmly established because of the divergence in the findings of the several studies that had explored the relationship between the two variables. For example, with a sample that included representatives of all occupations and industries in the United States, Lambert et al. (2001) found that education had no significant effect on job satisfaction. This finding was similar to those of earlier studies such as Iacqua, Schumacher, and Li (2001) and Martin and Shehan (1989). However, studies such as Blegen (1993), Glenn and Weaver (1982) and Quinn and

Mandilovitch (1975) reported positive correlations (albeit low) between education and job satisfaction.

Age is often positively associated job satisfaction. Older workers tend to be significantly more satisfied with their jobs than their younger counterparts (Abraham 1999; Kiyak, Namazi, and Kathana 1997; Lambert et al 2001; Michaels and Spector 1982; Mueller and Price 1990). Earlier studies by Quinn, Staines, and McCullough (1974) and Wright and Hamilton (1978), however, indicated that a direct positive relationship between age and job satisfaction might have less to do with age itself, but more with job characteristics. Older workers were likely to have worked longer, and therefore had better or more highly rewarding jobs than younger workers. These better or highly rewarding jobs were likely to positively correlate with job satisfaction (Gurley et al. 2003; Judge and Illes 2004; Quinn et.al. 1974; Sadovich 2005; Wright and Hamilton 1978).

Traditionally, like age, wage had been positively linked with job satisfaction (Gurley et al. 2003; Judge and Illes 2004; Sadovich 2005), but, Mueller and Price (1990), in a study of nurses, found that pay had a negative impact on satisfaction. They (Mueller and Price) called their finding a major anomaly in light of the fact that a review of 16 years of research on turnover at the University of Iowa found wages to be positively related to job satisfaction. Iverson and Price (1989) attempted to explain this anomaly by speculating that higher pay was the result of long job tenure, and longer tenured nurses probably experienced a time when nursing was associated with low pay and little respect. Based on this probable earlier experience, longer tenured nurses, perhaps developed a feeling of low job satisfaction which, possibly, continued to impact their attitude toward their job. Studies of the effects of job tenure on job satisfaction, however, had yielded different results. Kiyak et al. (1997), for example, reported a positive association between job tenure and job satisfaction, whereas Lambert et al.

(2001) reported a negative correlation. According to Lambert et al. (2001), these differences might be due to the diverse perspectives on how tenure was viewed in different organizations. In organizations where tenure and seniority were highly respected and accorded intrinsic and extrinsic rewards, employees with longer tenure tended to exhibit high levels of job satisfaction. In organizations where long tenure was viewed as a liability, employees with long tenure tended to exhibit low job satisfaction (Lambert et al. 2001).

The impact of shift schedules on job satisfaction has also been investigated by many researchers (e.g. Blau and Lunz 1999; Jamal 1981; Kogi 1985; Verespej 1990). While the specific findings of these studies vary in some aspects, the central findings that shift schedules significantly influence job satisfaction has been consistent. The recognition of the influence of shift schedules on job satisfaction is necessary, as the proportion of workers on shift schedules in the U.S. labor force continues to rise. For example, the proportion of shift workers rose from 25 percent in 1990 (Verespej 1990) to 28 percent in 2004 (Bureau of Labor Statistics 2005).

Analyses of shift schedules have typically identified four types of shifts: fixed day, fixed evening, fixed night and rotating shifts (see Blau and Lunz 1999; Kogi 1985). In cases where there were insufficient study participants, shifts were collapsed to provide larger sample size for analyses (e.g. Baba and Jamal 1991; Jamal and Badawi 1995). Results of these studies indicated with reasonable regularity that workers on fixed schedules had significantly higher job satisfaction than those on rotating shifts. Among fixed schedules, fixed day schedule tended to be associated with the highest level of job satisfaction, while the fixed night and rotating shifts, correlated, respectively, with the lowest levels of job satisfaction (Baba and Jamal 1991; Barton 1994; Blau and Lunz 1999; Jamal and Baba 1992). A slight contradiction to these findings was reported in Jamal's (1981) findings in which no significant difference was recorded in satisfaction levels between fixed and rotating shifts among manufacturing workers. However, in

his sample of nurses, fixed shift nurses scored significantly higher than rotating shift nurses on job satisfaction (Jamal 1981).

OBJECTIVE

Despite the plethora of available studies on job satisfaction, manual laborers were largely overlooked in research on organizational behavior. The traditional categories of people studied were hospital and mental health center employees, National Guardsmen, and occasionally, scientists (Agho et al. 1993; Dailey and Kirk 1992; Folger and Konovsky 1989; Ivason and Price 1990; Miceli and Lane 1991; Mueller and Price 1990; Robbins et al. 2000; Witt 1991). The comparatively sparse literature that focused on manual laborers (such as Hensel 2000; Jamal 1981; Knowles and Moore 1997; Novek 1992) predominantly addressed health and safety issues or the impact of technology on industries that employed the manual laborers.

Perhaps, the lack of research interest in manual labor stemmed from the evolution of the American economy to a postindustrial economy in which greater research attention is paid to white-collar workers than other workers. However, with the shift to a high-tech service economy has also come new demands for services that require manual labor. The advent of online and television shopping for an increasing range of consumer items, including groceries, books, clothing, jewelry, and household items, for example, had produced a "booming business for express shippers and transportation companies" (King 1999:24). To make the most of electronic commerce, package delivery companies had expanded their services to include warehousing, inventory management, packing, shipping, and tracking an array of products from web-based retailers (Frontline Solutions 2001; King 1999; Murphy 2000). The changing nature of American consumer habits, thus, warrants further investigation into the variables that influence the billion-dollar postal industry, and the manual laborers who are its backbone. Due to the relative dearth of research that focuses on manual laborers, the present research is an

exploratory study designed to identify some of the correlates and predictors of job satisfaction among manual workers, using an organization in the postal industry as a case study.

GENERAL RESEARCH FRAMEWORK

The general research framework for this study contains a theoretical framework and a demographic framework (see Figure 1).

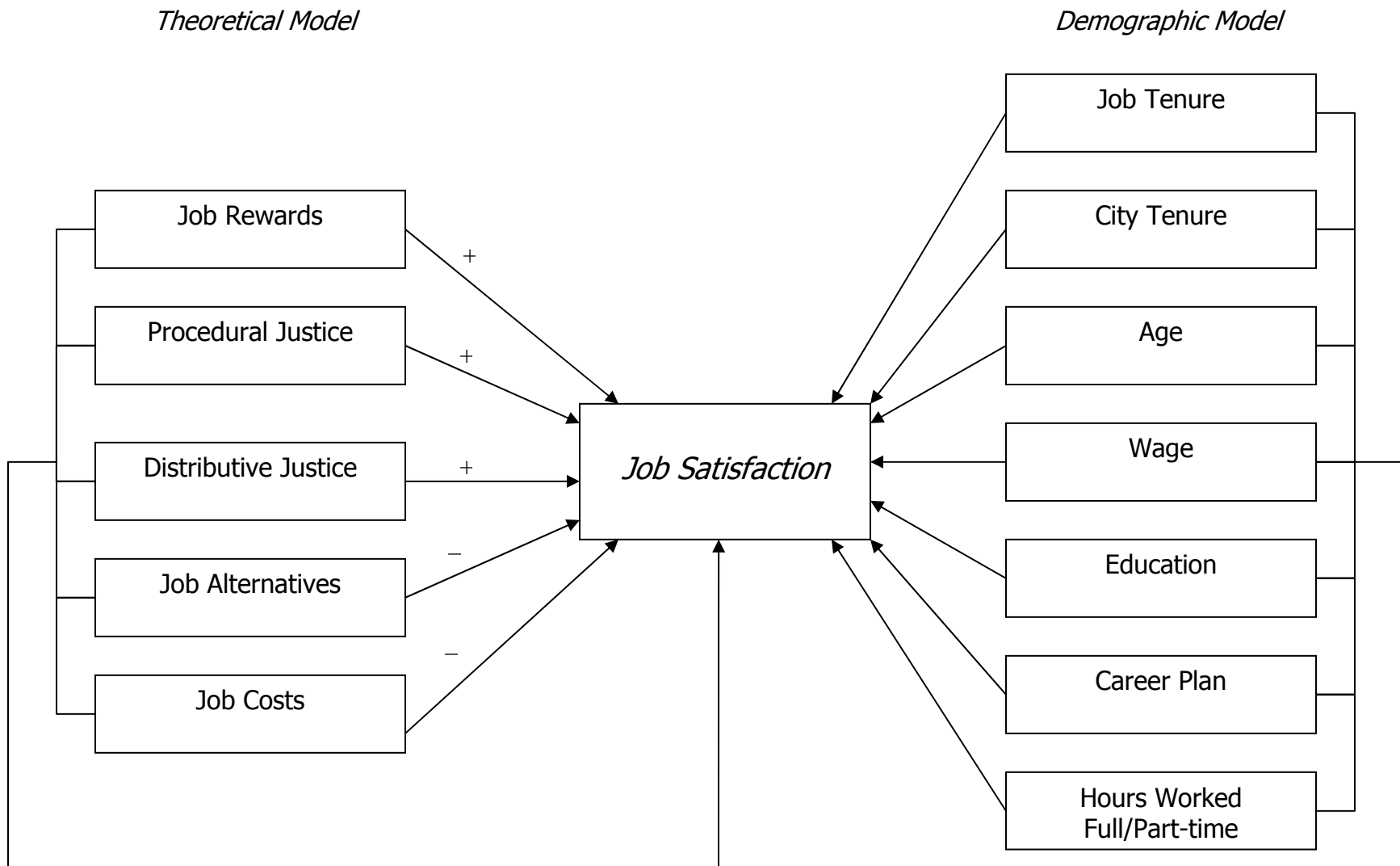
Theoretical Framework

A modified version of the job turnover model of Farrell and Rusbult (1981) and Rusbult and Farrell (1983) was adopted as theoretical framework for this study. The Rusbult and Farrell theory of job turnover incorporated six variables—job rewards, personal costs, job satisfaction, perception of job alternatives, job investments and commitment—to predict job turnover, and two variables— job rewards and job costs—to predict job satisfaction. In their model, job satisfaction was hypothesized to be high, to the extent that job rewards were high and personal costs were low. That is, $\text{job satisfaction} = f(\text{job rewards} - \text{Job Costs})$.

In this present study, it was assumed that other factors beyond reward and personal costs shaped job satisfaction. Hence, from the Farrell and Rusbult's model, in addition to job reward and personal costs, perceived quality job alternative, perceived distributive justice and perceived procedural justice were included in our theoretical model (see Figure 1). These variables had been established in literature (see for example Agho et al. 1993; Dailey and Kirk 1992; Folger and Konovsky 1989; Miceli and Lane 1991; Robbins et al. 2000; Witt 1991) to have significantly correlated with job satisfaction among non-manual workers.

Based on aforementioned correlates of job satisfaction under literature review, we assumed that job rewards, distributive justice and procedural justice would have direct relationships with job satisfaction, while job alternative, and personal costs would be inversely

Figure 1 Relations of theoretical and demographic models to job satisfaction



related to job satisfaction. That is: $\text{Job Satisfaction} = f(\text{Job Rewards} + \text{Distributive Justice} + \text{Procedural Justice} - \text{Job Alternatives} - \text{Personal Cost})$.

Research definitions of all variables in our theoretical model are presented in Table 1. All definitions were adopted from literature, with high consistence with the definitions used by Farrell and Rusbult (1981) and Rusbult and Farrell (1983), but with one important exception. Job alternative was defined by Farrell and Rusbult (1981) to include the alternative to not work. In this present study, job alternative was defined only as a worker's perception of other jobs that were available and procurable. The privilege to not work was not measured as an alternative to paid employment in this study. The perception of alternative jobs was measured strictly in terms of other viable paying jobs.

Demographic Model

As already established in literature, some demographic qualities such as age (Abraham 1999; Kiyak et al. 1997; Lambert et al. 2001), education (Lambert et al. 2001), income (Iverson and Price 1989; Mueller and Price 1990) and job tenure (Kiyak et al. 1997; Lambert et al. 2001) had been established to influence job satisfaction. In addition to these variables, our demographic model included the variables; career plan and city tenure, for exploratory purposes. These variables, as well as other variables in the demographic model are defined in Table 1.

Career plan and city tenure are usually missing in literature on job satisfaction, but it was anticipated in this study that they might affect the likelihood that one would be satisfied with a job. This was because, it was anticipated that differences in job satisfaction were likely to exist between workers who planned to keep a particular job as a lifetime career and those who planned to do the job only until they found other jobs. Also, we anticipated that a difference in job satisfaction might exist based on the length of time one had resided in a city. We assumed,

Table 1 Variables adapted from Rusbult and Farrell (1983) and Dailey and Kirk (1992)

Theoretical Variables	Definitions
Job Satisfaction	Extent to which employees positively evaluate their jobs
Job Rewards	Perceptions of adequacy of job rewards such as job benefits and positive job recognitions
Job Alternatives	Workers' perceptions of the availability and procurability of other jobs at similar or higher levels of benefits as the job they currently have
Distributive Justice	Workers' perceptions of the fairness of the distribution of rewards and other job opportunities relative to other workers in the organization.
Procedural Justice	Employees' perceptions of the fairness of the processes of leadership decisions that affect organizational activities and workers' outcomes.
Personal Costs	Employees' perceptions of the stress and other personal negative experiences associated with their jobs.
Demographic Variables	Definitions
Job Tenure	Length of time the worker has worked at the organization
City Tenure	Length of time the respondent has lived in the city
Age	Present age in years
Career Plan	Desire to make a career out of the current job versus desire to do a job only for a short-term at the organization
Wage	Hourly earnings from job
Education	Highest level of education completed

based on simple logic, that the length of time one had resided in a city would affect the likelihood that one would find a highly satisfying job. Based on this assumption, city tenure was logically anticipated to directly influence job satisfaction or, at least, moderate the effects of other variables on job satisfaction. There was no background literature upon which a direction of anticipated relationship between career plans, city tenure and job satisfaction could be based, especially among manual workers, hence, no directional hypotheses were assumed in the relationship between these variables and job satisfaction. Due to the exploratory nature of

this study, simple correlations between all demographic variables and job satisfaction were investigated using non-directional hypotheses.

Based on the objective of this study, and the elements of the general research framework used for analyses, this study attempted to answer the following questions as they pertained to the manual workers in our participant organization:

1. What were the relationships between the elements of the theoretical model and job satisfaction? That is, what were the relationships between job rewards, procedural justice, distributive justice, job alternatives, personal cost and job satisfaction?
2. What were the relationships between the elements of the demographic model and job satisfaction? That is, what were the relationships between job tenure, city tenure, age, wage, education, career plan and job satisfaction?
3. What were the overall predictors of job satisfaction from the combination of the theoretical and demographic models?

Method

A questionnaire containing six-point (strongly agree =6 to strongly disagree =1), Likert-type, summated rating scales for each of the variables in the theoretical model was constructed to collect data. Higher summated scores demonstrated greater value of each variable. Using principal component extraction method, factor analysis was used to establish internal consistency of each scale. Through manual extraction of scale items that loaded poorly with other items, all final items for each scale loaded perfectly under one factor. Reliability of each scale was determined with Cronbach's alpha (see Table 2). The questionnaire also contained questions on the demographic characteristics of the respondents (see Table 1).

Table 2 Factor analysis for internal consistency and Cronbach's alpha

SCALE: JOB REWARD	Factor 1	α
I find my job adequately rewarding.	.857	
I am satisfied with the benefits associated with my job	.600	
I receive positive recognition for the work that I do	.882	
Cronbach's Alpha		.695
SCALE: PERSONAL COST		
My job demands too much of my time	.693	
Had I known the demands of this job in advance, I might not have accepted it	.639	
My job is too physically stressful	.719	
My job is too emotionally stressful	.724	
This job is demeaning	.831	
This job is physically hazardous	.642	
Often, someone in a higher position treats me in ways I do not appreciate	.649	
Cronbach's Alpha		.817
SCALE: PROCEDURAL JUSTICE		
I believe my supervisor evaluates my performance fairly	.755	
Things are often done according to standard rules in this organization	.645	
My supervisor has fair expectations about what I can accomplish everyday	.822	
This organization is fair in dealing with an employee who violates its rules	.712	
If I did something wrong in this organization, management would give me a fair hearing	.844	
My supervisor provides me timely feedback	.809	
My supervisor works with me to help me improve my performance	.809	
I get positive results when I challenge my evaluations	.732	
The person who evaluates me is well familiar with my work	.671	
I have input in how I am evaluated	.798	
Cronbach's Alpha		.910
SCALE: JOB ALTERNATIVES		
I can get a job similar to this one, at a similar rate of pay, at another company	.719	
In general, the alternatives to my current job are better than what I do now	.699	
There are jobs that I can get that are better than the work I do now	.786	
I am aware of other kinds of work at other companies that I would rather do	.883	
There are available jobs in this city that are similar to what I do	.709	
I am aware of better jobs at other companies that I may be qualified for	.846	
I am aware of jobs at other companies that I am willing to do	.803	
Cronbach's Alpha		.891

Table 2 Factor analysis for internal consistency and Cronbach's alpha, continued

SCALE: DISTRIBUTIVE JUSTICE	Factor 1	α
In my opinion, benefits other than pay, are distributed fairly at my job	.632	
I believe my pay is fair compared to workers at this company who do jobs that are on a level similar to mine	.483	
I believe I receive as much recognition for my contributions to this company as other workers at my level	.872	
I believe work is distributed fairly at this company	.856	
Cronbach's Alpha		.689
SCALE: JOB INVESTMENT		
I believe I have invested more in my job than most people invest in theirs	.801	
There are people I would miss very much if I were to leave this organization	.562	
I have made significant contributions to an important project at this organization	.801	
I have learned to perform specialized operations at this organization	.711	
Cronbach's Alpha		.682
SCALE: JOB SATISFACTION		
I am happy with my job	.831	
In general, I like my job	.879	
Knowing what I know now, if I had to decide again, I would still take this job	.818	
I would recommend this job to someone I care about	.823	
This job is the sort of job I wanted when I took it	.850	
My job is usually interesting enough to keep me from getting bored with it	.802	
Most days, I am enthusiastic about my work	.852	
Most of the time, I enjoy what I do on my job	.686	
Cronbach's Alpha		.926

The Omaha hub of a major package delivery organization was used as case study for this research. Questionnaire was distributed among mail handlers and sorters (manual workers) with the organization's consent and cooperation. The restrictions of the U.S. Privacy Act prevented the organization from releasing information that could be used for random sampling, hence, with the consent of the organization's retention manager, questionnaire was distributed to the study participants (voluntary participation) in the two largest loading shifts

(twilight shift--4:00pm to 9:00pm and the midnight shift--10:00pm to 3:00am) of the organization. These two loading shifts represented approximately 85 percent of all mail handlers and sorters. Budgetary limitations prevented us from collecting data from the third and last shift (the day shift) which contained only approximately 15 percent of the handlers and sorters. Data collected from the two largest shifts showed that the handlers and sorters were overwhelmingly men (men = 86.3%, women = 13.7%) and young (mean age = 24 years, median age = 21 years, mode age = 19, 61% were 18-22 years old, 14 % were 23-28 years old and only 6% were older than 33 years of age), indicating a strong gender and age homogeneity of our participant manual workers . It was, therefore, assumed that the 15 percent of the handlers and sorters in the day shift would not be significantly different from the two larger shifts where data were collected. The decision not to collect data from the day shift was partially justified and tolerable for this exploratory study, by the homogeneity observed across the two larger shifts.

Approximately 255 mail handlers and sorters were in the sampling frame (the two largest shifts) during the time of data collection, and 160 (63%) of them volunteered to complete the questionnaire for this study. Fifty-two questionnaires were adequately completed and returned, for a useful return rate of approximately 33 percent. Factor analysis, using principal component extraction method, established sampling adequacy at .79 and .61 for our theoretical and demographic models respectively, and overall sampling adequacy was .67. The median job tenure of the workers was ten months, and they were earning a median wage of \$9.50. The median level of educational completion among the workers was one year of college, but their educational distribution ranged from high school to college degree. Approximately 31 percent had completed high school, 8 percent had completed a post secondary vocational

training, 59 percent had attended college ("some college"), but only 2 percent (N = 1) had completed a four-year college education.

TESTS AND RESULTS

Tests were performed and reported for each research question. Significance for all inferential statistics was determined at $\alpha = .05$.

Question 1: Elements of the Theoretical Model and Job Satisfaction

Based on theorized directions of anticipated relationships, 1-tailed simple correlation analyses were conducted for the relationships between each of the variables of the theoretical model and job satisfaction. Results showed a consonance between theorized directions of relationships and obtained directions. Significant positive relationships were found between the variables: job reward ($r = .833$), distributive justice ($r = .491$), procedural justice ($r = .701$) and job satisfaction. Also, inverse relationships were found between job alternatives ($r = -.655$), personal costs ($r = -.731$) and job satisfaction. The level of significance for each result was at $p = .000$ (see Table 3 for details).

Table 3 Correlation values for independent variables and job satisfaction.

THEORETICAL VARIABLES (1-tailed analysis)	N	Mean	r-value	P-value
Job Reward	49	13.25	.833	<.0001
Distributive Justice	49	16.71	.491	.0001
Procedural Justice	47	43.32	.701	<.0001
Job Alternatives	48	25.31	-.655	<.0001
Personal Costs	49	18.71	-.731	<.0001
DEMOGRAPHIC VARIABLES (2-tailed analysis)				
Job Tenure	41	27.65	-.499	.0007
City Tenure	49	202.37	-.441	.0013
Age	49	24.08	-.126	.3922
Wage	49	10.02	-.462	.0007
Education	50	9.63	-.391	.0046
Career Plan (career =1, short term =0)	49	.706	.291	.0419

Question 2: Elements of the Demographic Model and Job Satisfaction

Since all variables in the demographic model were included purely for exploratory purposes and without a theorized direction between each variable and job satisfaction, the 2-tailed correlation was used to test for the relationship between each variable and job satisfaction. Results showed that except for age ($p = .3922$), every variable in the model was significantly correlated with job satisfaction. Inverse relationships were obtained between job tenure ($r = -.499$), city tenure ($r = -.441$) wage ($r = -.462$), education ($r = -.391$) and job satisfaction. The 2-tailed t-test was also used to establish a significant difference in job satisfaction between those who planned to keep their jobs as careers and those who intended to keep their jobs only for a short time. The result of the t-test indicated that those on career paths significantly scored higher on job satisfaction (mean = 36.6) than those on short-term tracks (mean = 31.8, $t = 2.087$, $p = .042$). The 2-tailed correlation test, using dummy variables (career plan workers = 1, short-term workers = 0), was also used to establish the relationship between career intent and job satisfaction. This result established a significant positive relationship (albeit weak) between career plans and job satisfaction with $r = .291$ and $p = .0419$. See Table 3 for details.

Question 3: Predictors of Job Satisfaction: Combined Model

Three different multiple regression models were used, as a strategy of triangulation, to explore for reliable predictors of job satisfaction from a combined model of both theoretical and demographic models. Through the triangulation process, enduring pattern among the predictors of job satisfaction was investigated to determine the most reliable predictors of job satisfaction. The decision was to accept a factor as a reliable predictor, only if it predicted job satisfaction in no less than two of the three predictor models. Due to the imbalance in the number of items in each scale of independent variables, only weighted values of the index of each independent

variable was used in the predictor models. Weighting was done by dividing the summated scores of the scale of each independent variable by the number of items in each scale.

Model 1: Block Entry of all Significant Variables

In this model, all the independent variables in the general research framework (theoretical and demographic models) that were significantly correlated with job satisfaction in simple analyses were entered as block entry, into a multiple regression equation, and regressed against job satisfaction. To avoid multicollinearity between job rewards and wages, a correlation test was conducted for the relationship between the two variables. This test denied multicollinearity between the two variables ($r = -.556$, $p = .000$).

All variables were placed in the regression model in the order of their correlation values (high to low) with job satisfaction. The variable with the highest correlation value (job reward) was the first to be placed into the regression equation while the variable with the lowest correlation value (career plan) was placed last. Regression results showed that the variables: job rewards ($\beta = .352$, $p = .0066$), job alternatives ($\beta = -.274$, $p = .0014$), distributive justice ($\beta = .356$, $p = .0002$) and city tenure ($\beta = -.357$, $p = .0005$) significantly predicted job satisfaction. All other variables (procedural justice, personal cost, job tenure, wage, education and career plan) failed to predict job satisfaction (see Table 4 for details).

Model 2: Block Entry with Manual Backward Procedure by P-Value

In the second model, all significant variables from simple analyses were entered into the multiple regression model in the same manner as described in model 1. Then, based on obtained results, the items that failed as predictors of job satisfaction were manually removed (backward elimination) from the regression equation, one at a time, by order of their non-significant p-values. Each non-significant variable was removed from the regression equation at each step of removal, until only the variables that significantly predicted job satisfaction at $\alpha =$

Table 4 Multiple and stepwise regression models for best predictors of job satisfaction

Model 1: Block Entry, All Variables:	b	S.E.	Beta	t-value	p-value
Intercept	16.948	7.915	16.948	2.141	.0418
Weighted Index: Job Rewards	2.628	.889	.352	2.955	.0066
Weighted Index: Personal Cost	-1.170	.734	-.135	-1.594	.1229
Weighted Index: Procedural Justice	1.203	.880	.163	1.367	.1834
Weighted Index: Job Alternatives	-1.627	.455	-.274	-3.578	.0014
Job Tenure	.020	.049	.133	.413	.6831
Weighted Index: Distributive Justice Fairness	2.463	.573	.356	4.296	.0002
Wage per hour	.653	.703	.255	.928	.3619
City Tenure	-1.023	.006	-.357	-3.958	.0005
Education	-.368	.235	-.108	-1.566	.1294
Career plans (career =1, short term =0)	1.895	1.058	.124	1.792	.0848
Regression Summary: DF = (10,26) 36, R=.949, R ² =.901, F=23.647, P<.0001					
Model 2: Block Entry, Manual Backward Procedure by P-Value. Variables in the Model:	b	S. E.	Beta	t-value	p-value
Intercept	12.854	3.642	24.854	6.824	<.0001
Weighted Index: Job Rewards	2.879	.655	.400	4.396	<.0001
Weighted Index: Job Alternatives	-2.272	.429	-.393	-5.292	<.0001
Weighted Index: Distributive Justice	1.971	.557	.279	3.538	.0010
City Tenure	-.012	.004	-.208	-3.042	.0041
Variables not in the Model in order of extraction by p-value:					
Job Tenure	.020	.049	.133	.413	.6831
Career plans (career =1, short term =0)	.637	.986	.041	.646	.5229
Education	-.300	.218	-.089	-1.375	.1775
Weighted Index: Personal Cost	-.984	.676	-.125	-1.456	.1538
Weighted Index: Procedural Justice	1.515	.852	.196	1.779	.0833
Wage/hour	.458	.243	.172	.1889	.0662
Regression Summary: DF = (4,41)45, R = .910, R ² = .827, F = 49.115, P<.0001					
Model 3: Stepwise Regression, Forward Procedure, Step 5 of 5 steps. Variables in the Model:	b	S.E.	Beta	F-to-Remove	
Intercept	11.774	5.517	11.774	4.555	
Weighted Index: Job Rewards	3.747	.699	.502	28.762	
Weighted Index: Job Alternatives	-1.854	.445	-.320	17.385	
Weighted Index: Distributive Justice	2.637	.586	.385	20.251	
Wage per hour	.724	.266	.282	7.418	
City Tenure	-.023	.006	-.366	17.383	
Not in the Model: Personal Cost, Procedural Justice, Job Tenure, Education and Career Plans					
Regression Summary: DF = (5,32)37, R = .924, R ² = .855, F = 37.610, P<.0001					

.05 remained in the model. The variable with the least likelihood of predicting job satisfaction (job tenure, $p = .6831$) was first removed from the equation. This changed the effects of the remaining variables on job satisfaction such that career plans became the second item removed from the equation with $p = .5229$. Other variables removed from the equation on the bases of their low probabilities of predicting job satisfaction were education ($p = .1775$), personal costs ($p = .1538$), procedural justice ($p=.0833$) and wages ($p=.0662$). All together, the variables were removed in 6 steps.

Similarly with the findings of model 1, job reward ($\beta = .400$), job alternatives ($\beta = -.393$), distributive justice ($\beta = .279$) and city tenure ($\beta = -.208$) remained in the model as predictors of job satisfaction (see Table 4 for details).

Model 3: Stepwise Regression with Forward Procedure

In Model 3, as in the previous two models, all the variables with significant correlations with job satisfaction were entered into a stepwise regression formula. Variables were entered or removed from the model based on a statistical program (SAS) default values (F-to-enter value = 4.000 and F-to-remove = 3.966). For exploratory purposes, both forward and backward procedures were performed, and results were exactly the same. Hence, only the forward procedure is, hereby, reported since a manual backward procedure has been reported in model 2. The stepwise regression model reported five steps of inclusion and elimination processes.

The results of the fifth step in the stepwise procedure (see Table 4) indicated that job reward ($\beta = .502$), job alternatives ($\beta = -.320$), distributive justice ($\beta = .385$), wage per hour ($\beta = .282$) and city tenure ($\beta = -.366$) stood as predictors of job satisfaction. All other variables (personal cost, procedural justice, job tenure, education and career plans) were eliminated as predictors of job satisfaction.

DISCUSSION AND CONCLUSION

Simple correlation analyses of the elements of our theoretical model with job satisfaction revealed a consistency with literature on non-manual workers (Agho et al. 1993; Farrell and Rusbult 1981; Folger and Konovsky 1989; Lambert et al. 2001; Rusbult and Farrell 1983; Witt 1991). As with literature on non-manual workers, positive perceptions of adequate job rewards, distributive justice, procedural justice, low personal costs, and fewer job alternatives were associated with higher job satisfaction among the manual workers in this study.

The results of the simple correlation analyses of the variables in our demographic model with job satisfaction were also similar to findings reported in literature for non-manual workers. In similar manner as Mueller and Price (1990) found with non-manual workers, this present study also found an inverse relationship between wage and job satisfaction among manual workers. Unlike previous studies of non-manual workers that found age to be positively correlated with job satisfaction (Abraham 1999; Kiyak et al.1997; Lambert et al. 2001), and education to have no significant correlation with job satisfaction (Lambert et al. 2001), this study found no significance between age and job satisfaction, while it found an inverse relationship between education and job satisfaction. Also, unlike the positive relationship found with non-manual workers (Kiyak et al.1997), but like the inverse relationship found by Lambert et al. (2001) with non-manual workers, this study found a simple inverse correlation between job tenure and job satisfaction among our participant manual workers. In addition, without any existing literature to serve as the backdrop for these analyses, this study discovered an inverse relationship between city tenure and job satisfaction. "Career plan" was also discovered to be positively related to job satisfaction.

We assumed that the homogeneity of age among our participant manual workers, at least, partially accounted for the lack of significance between age and job satisfaction in this

study. We also suspected that since higher education is typically associated with white-collar (non-manual) jobs, the inverse correlation between education and job satisfaction was the result of the incongruence between educational achievement and labor for the higher educated manual workers in this study. Given that about 60 percent of all the research participants had completed at least some college (though only 2 percent had actually completed a bachelor's degree), and another 8 percent had completed a post high school vocational education, it was possible that most of these workers perceived their manual jobs (package sorting and delivery) to be lesser than their educational achievements merited. Were this the case, the inverse relationship between educational completion and job satisfaction became plausible.

The positive relationship between career plans and job satisfaction was simple to understand. People who plan to make a particular job a life-long career, are more likely to be satisfied with the job than those who do not plan to use the job as a career. Therefore, the positive correlation between the two variables is understandable with common logic. Our findings also showed that workers with long job tenure and long city tenure were likely to be less satisfied with their manual labor jobs, while those who had shorter tenure (job and city), had higher levels of job satisfaction. Exploratory analysis showed that the two independent variables (job tenure and city tenure) were positively correlated ($r = .634$, $p < .001$), implying that the inverse relationships of both variables with job satisfaction may be explained by a common factor. This factor, was strongly suspected to be the workers' frustration from failure to secure a more desirable job despite long tenure in the city. Common logic expectation is that the longer one has lived in a city, the better the chances of being able to locate more satisfying jobs. With long city tenure, one might also be expected to have developed necessary networks to aid the attainment of better jobs. Hence, the inverse relationship between city tenure and job satisfaction could be a demonstration of frustrations from failure to have developed a strong

enough network to obtain a more satisfying job. To the extent that the worker was frustrated from inability to obtain a more satisfying job, he/she remained on his/her (present) job, thereby obtaining long job tenure, but consequentially, low job satisfaction. This explanation is only a speculation, since there is no literature upon which an explanation could be based.

The findings of the three regression models used to determine predictive factors of job satisfaction were mostly consistent with one another and with the theoretical assumptions of this study. In all three models, a combined total of five variables predicted job satisfaction, but only four (job rewards, job alternatives, distributive justice and city tenure) were persistent predictors (predicting job satisfaction in each of the three models). "Wage/hour" was a predictor only in Model 3, hence, it was dropped as a reliable predictor of job satisfaction for not meeting the threshold (being a predictor in at least two of the three regression models) for acceptance as reliable predictor.

The findings of this study showed that job satisfaction among the study participants was a function of four predictors. That is: $\text{Job Satisfaction} = f(\text{job rewards} + \text{distributive justice} - \text{job alternatives} - \text{city tenure})$. This indicated that the more positive the workers' perceptions of adequacy of their job rewards, the more positive their perceptions of distributive justice, the lesser their perceptions of viable alternative jobs and the shorter the length of time they had resided in the city, the greater their level of job satisfaction.

It should be noted that the unmeasured potential impacts of shift schedules on the job satisfaction levels of the study participants was not dismissed. The sample for this study was drawn from the evening and night shifts which previous studies had shown to be lower in job satisfaction than fixed day workers. This means that an unknown amount of the impact of shift schedules might have potentially influenced the findings of this study. Such influence, had it truly occurred, was unavoidable due to the limitations of the study sample size which

necessitated the collapsing of our shift samples into one sample for better data quality. In addition, shift analysis was beyond the theoretical scope of this study. It is, therefore, important to be mindful of the potential influences of shift schedule in the assessment of the findings of this research.

Theoretical Contributions

The findings of this study make a theoretical contribution, albeit small, to the understanding of job satisfaction among manual workers. As indicated in earlier sections of this study, previous research on job satisfaction had predominantly emphasized the plight of non-manual workers. Very few research (such as Hensel 2000; Jamal 1981; Knowles and Moore 1997; Novek 1992) had paid any attention to manual workers. This study, therefore, fills a little gap in the dearth of literature on job satisfaction among manual workers.

The specific theoretical contributions made by this study are three threefold. First, this study expanded on the narrow theoretical scope of the Rusbult and Farrell (1983) and Farrell and Rusbult (1981) two-factor (reward-personal cost) model of job satisfaction to include job alternatives (originally used by Rusbult and Farrell to predict turnover intent), procedural justice and distributive justice which were used to predict job satisfaction only among non-manual workers (Agho et al. 1993; Dailey and Kirk 1992; Folger and Konovsky 1989; Miceli and Lane 1991; Robbins et al. 2000; Witt 1991). By using these additional variables to predict job satisfaction, this present study provides an expanded multivariate predictive model of job satisfaction (of Rusbult and Farrell), and simultaneously demonstrates that both turnover intent and job satisfaction are predictable by the same set of factors.

Second, because this study successfully adapted the theoretical model, of Rusbult and Farrell (1983), which predicted job satisfaction among non-manual workers, this study seems to suggest that the same theoretical models may explain job attitudes among both manual and

non-manual workers. This suggestion may have to be confirmed by future research. Should this suggestion be confirmed by future research, the search for alternative theories to predict job satisfaction among manual workers may eventually become unnecessary.

Lastly, this study combined a separate demographic model with a theoretical model in its general framework. Similarly as the theoretical model of Rusbult and Farrell (1983) was expanded in this study, the demographic model included the variables career plans and city tenure as additional variables to the traditional variables (wage, education, job tenure, etc) used to study job satisfaction. An extensive search for literature on the impact of career plans and city tenure on job satisfaction yielded zero scientific report, therefore, the inclusion of career plans and city tenure in this study provides, perhaps, the only available scientific knowledge on the contributions of these variables to job satisfaction, especially among manual workers.

LIMITATIONS AND RECOMMENDATIONS

Some limitations are recognized in the extent to which generalizations can be drawn from this study. In that the choice of the organization used for this case study was one of availability (the organization was the only one that granted us permission to collect data in its facility), sampling was also availability and sample size was small, a potential sampling bias might have influenced the outcome of this study.

Caution may also be exercised in the generalization of the findings of this study because of the potential influence of shift schedules on the job satisfaction levels of the study participants. The influence of shift schedules was not measured in this study because it was outside the theoretical scope used for analysis, and because sample size limitations prevented shift analysis. It is, therefore, acknowledged, despite the intentional omission, that the findings

of this study could, potentially, have been influenced by the consequences of shift schedules on the workers.

For broader generalizations to be made about job satisfaction among manual workers (especially mail sorters and handlers), more studies are recommended in diverse organizations across industries. It is equally recommended that future studies incorporate variables such as city tenure, career plan, shift schedules and other possible nontraditionally studied variables, to study job satisfaction. This will expand knowledge of the impacts of these variables on job satisfaction as well as expand the general cannon of knowledge of job satisfaction.

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