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FACTORS EXPLAINING JOB SATISFACTION AMONG FACULTY

Jaime X. Castillo, Extension Specialist
New Mexico State University
Jamie Cano, Associate Professor
The Ohio State University

Abstract

The purpose of this descriptive-correlational study was to describe the amount of variance in faculty member's overall level of job satisfaction explained by Herzberg, Mausner, and Snyderman's (1959) job motivator and hygiene factors. Additionally, the study sought to investigate the suitability of a one-item versus a multi-item measure of overall job satisfaction. The faculty were generally satisfied with their jobs. However, female faculty members were less satisfied than male faculty members. The factor "work itself" was the most motivating aspect for faculty. The least motivating aspect was "working conditions." The demographic characteristics were negligibly related to overall job satisfaction. All of the job motivator and hygiene factors were moderately or substantially related to overall job satisfaction. The factors "recognition," "supervision," and "relationships" explained the variability among faculty members' overall level of job satisfaction. The one-item measure of overall job satisfaction was not different from a multi-item measure of overall job satisfaction.

Introduction/Theoretical Framework

"Managers, supervisors, human resource specialists, employees, and citizens in general are concerned with ways of improving job satisfaction" (Cranny, Smith, & Stone, 1992). Judge, Hanisch, and Drankoski (1995) supported the submission of Cranny et al., by advising that it was imperative for human resource managers "to be aware of those aspects within an organization that might impact most employees' job satisfaction, and to enhance these aspects because, in the long run, the results will be fruitful for both the organization and the employee" (p. 576). Lastly, Rosnowski and Hulin (1992), submitted that the most informative information to have about an employee in an organization was a valid measure of their overall level of job satisfaction.

The urgency of a valid measure of job satisfaction, as proposed by Rosnowski and Hulin (1992), was possibly the motivation behind the numerous research efforts pertaining to job satisfaction. According to Brief (1998), in 1976, there were more than 3,300 research articles and dissertations published on job satisfaction. Two decades later, the desire to comprehend the antecedents and consequences of job satisfaction continued. Brief added that by 1994, more than 12,400 research articles and dissertations had been published on job satisfaction. The elusive nature of the job satisfaction construct advanced the measurement and theoretical development pertaining to job satisfaction.

Some theories of job satisfaction included discrepancy theory (Locke, 1969), equity theory (Mowday, 1992), and the motivator-hygiene theory (Herzberg, Mausner, & Snyderman, 1959). Discrepancy theory, as described by Lawler (1973), was the result of the difference between an actual outcome a person received and some other expected outcome level. A comparison in which an actual outcome level was lower than an expected outcome level, would result in dissatisfaction (Lawler, 1973). Inputs and outcomes were the premise of equity theory (Mowday, 1992). Employees evaluated their inputs/outcomes by comparing them

with the inputs/outcomes of other individuals. Equity existed if the ratio of inputs to outcomes was similar to the inputs and outcomes of other individuals. Conversely, inequity existed when the ratio of inputs to outcomes was unequal to the inputs and outcomes of other individuals. Perceptions of equity were associated with job satisfaction, while perceptions of inequity were associated with job dissatisfaction.

The motivator-hygiene theory was credited with propelling and advancing research on job satisfaction (Steers & Porter, 1992). The premise of the motivator-hygiene theory (Herzberg, Mausner, & Snyderman, 1959) was that jobs had specific factors which were related to job satisfaction or dissatisfaction. The five factors thought to facilitate job satisfaction were achievement, recognition, work itself, responsibility, and advancement. The five factors identified by Herzberg et al., as determinants of job dissatisfaction, were policy and administration, supervision, salary, interpersonal relations, and working conditions. Subsequent research efforts (Bowen, 1980; Padilla-Velez, 1993) defined the motivator and hygiene factors as hypothesized by Herzberg et al. Following is a description of the motivator-hygiene factors according to Padilla-Velez (1993, pp. 20-21) and Bowen (1980, pp. 13-14).

- Recognition - Acts of notice, praise, or blame supplied by one or more superior, peer, colleague, management person, client, and/or the general public.
- Achievement - Accomplishment of endeavors including instances wherein failures were incurred. Similarly, instances were included wherein neither success or failures were incurred.
- Possibility of Growth - Whether a change in status was possible, irrespective of the fact that the change could be upward or downward in status.
- Advancement - Designated an actual change in job status.
- Salary - All sequences of events in which compensation plays a major role.
- Interpersonal Relations - Relationships involving superiors, subordinates, and peers.
- Supervision - The supervisor's willingness or unwillingness to delegate responsibility and/or willingness to teach subordinates.
- Responsibility - Satisfaction derived from being given control of personal work or the work of others and/or new job responsibilities.
- Policy and Administration - Events in which some or all aspects of the organization were related to job satisfaction.
- Working Condition - Physical working conditions, facilities, and quality of work as related to job satisfaction.
- Work Itself - The actual job performance related to job satisfaction.

Herzberg, Mausner, and Snyderman (1959) named the determinants of satisfaction "motivators" (achievement, recognition, work itself, responsibility, advancement) and the determinants of dissatisfaction "hygienes" (policy and administration, supervision, salary, interpersonal relations, working conditions). While the motivator-hygiene theory was supported in educational settings (Padilla-Velez, 1993), a review of literature revealed criticisms (Moxley, 1977; Padilla-Velez, 1993; Poling, 1990; Steers & Porter, 1992) of the motivator-hygiene theory.

Steers and Porter (1992) submitted that the motivator-hygiene theory attempted to describe five different theoretical interpretations. Bowen (1980, p. 107) wrote that "Herzberg's Motivator-Hygiene Theory is not applicable to teacher educators in agriculture." Bowen (1980) added that "all ten factors were related to job satisfaction and the five hygiene factors explained a higher proportion of the job satisfaction score variance that the five satisfier factors." Padilla-Velez (1993), Bowen and Radhakrishna (1991), and Castillo, Cano, and Conklin (1999), who studied agricultural educators, also reported positive

relationships between job satisfaction and the hygiene factors, which were purported by Herzberg et al., (1959) to have little affect upon positive job attitudes. The extent to which the motivator-hygiene theory and other job satisfaction theories contribute to the understanding of job satisfaction, is one of several issues in the abundance of research pertaining to job satisfaction.

Determining the type of measure which constituted a valid assessment of job satisfaction was yet another issue. The dimensions which were thought to contribute to overall job satisfaction have been contested. Brief (1998) maintained that there was a lack of theory which described the facets of satisfaction, much less theory which indicated the importance of one particular facet over another. Toward this end, measures to assess facet satisfaction (Wood, 1973; Smith, Kendall, & Hulin, 1969; Weiss, Dawis Lofquist, & England, 1966) and overall job satisfaction (Brayfield-Roth, 1951) were developed.

Smith, Kendall, and Hulin (1969) developed the "Job Description Index" which assessed satisfaction with coworkers, pay, promotion opportunities, supervision, and the work itself. A value was calculated for each facet based upon a respondents' reply on 9 to 18 adjectives for each facet (Brief, 1998). Weiss, Dawis, Lofquist, & England (1966) developed the "Minnesota Satisfaction Questionnaire" which assessed employees' level of satisfaction with 20 aspects of their work. Subjects who responded to the "Minnesota Satisfaction Questionnaire" were asked to indicate their level of satisfaction using a five-point scale for each of the 100 items on the measure. Wood (1973) developed a measure to assess employee's level of satisfaction with each of the motivator-hygiene factors known as the "Faculty Satisfaction/Dissatisfaction Scale." Bowen's (1980) version of "Wood's Faculty Satisfaction/Dissatisfaction Scale" contained 88 items and asked faculty members in higher education to respond to statements using a 6-item scale. Brief (1998) provided evidence that measuring the level of job satisfaction across facet scales was not equivalent to measuring overall job satisfaction.

Brayfield and Rothe (1951) developed the "Job Satisfaction Index" to measure overall job satisfaction when all aspects of the job were considered. The "Job Satisfaction Index" consisted of 18 items with responses ranging from 1 (strongly disagree) to 5 (strongly agree). Researchers seeking to measure overall job satisfaction in recent years have contested the use of multi-item scales (Scarpello & Campbell, 1983). Scarpello and Campbell (1983) (as cited in Brief, 1998) suggested that their "one-item, five-point global rating of overall job satisfaction is reliable and inclusive, and that the whole, represented by this global measure, is more complex than the sum of the presently measured parts" (p.15).

There has been no attempt to validate a one-item measure of overall job satisfaction among faculty in a college of agriculture. Moreover, there has been no attempt to describe the variability in overall job satisfaction scores by a linear relationship of the motivator-hygiene factors.

Purpose and Objectives

The purpose of the study was to describe the amount of variance in faculty member's overall level of job satisfaction explained by Herzberg, Mausner, and Snyderman's (1959) job motivator and hygiene factors. Additionally, the study sought to investigate the suitability of a one-item versus a multi-item measure of overall job satisfaction. The following research questions were formulated to guide the study.

1. What was the age, gender, total number of years in the present position, and total number of years in higher education of faculty in the College of Food, Agriculture, and Environmental Sciences (CFAES)?
2. What was the overall level of job satisfaction among CFAES faculty?
3. What was the CFAES faculty member's level of satisfaction with the job motivator factors (achievement, advancement, recognition, responsibility, and work itself)?
4. What was the CFAES faculty member's level of satisfaction with

job hygiene factors (pay, working conditions, supervision, policy and administration, and interpersonal relations)?
5. What was the relationship between CFAES faculty demographic characteristics (age, tenure status, years in current position, total years in higher education) and overall job satisfaction?
6. What was the relationship between the CFAES faculty member's job motivator factor scores and hygiene factor scores?
7. To what extent can variability in the faculty member's overall level of job satisfaction be explained by their current level of satisfaction with the job motivator and hygiene factors?
8. What was the relationship between the Job Satisfaction Index (Brayfield & Rothe, 1951) and the one-item measure of overall job satisfaction?

Procedures

Population and Data Collection

A census for this study was conducted among faculty at the College of Food, Agricultural, and Environmental Sciences at The Ohio State University. The frame was established from the most current list of faculty in the College. The study was limited to faculty on the main campus in Columbus, Ohio. There were a total of 172 faculty members in the population.

Two weeks prior to the first hand delivery of the questionnaire, a letter was sent to inform faculty of the forthcoming study. A packet containing an instrument and cover letter describing the purpose of the study were hand delivered to each faculty member in the respective departments. Ten days following the first delivery, a reminder postcard was sent to each participant via campus mail. Two weeks following the first delivery, a second delivery containing the instrument and a revised cover letter was hand delivered to all non-respondents. A third complete packet was hand delivered two weeks after the second hand delivery.

A total of 148 faculty members returned questionnaires yielding an overall response rate of 86%. Non-respondents were not followed-up by the researchers. The number of usable responses for determining overall job satisfaction, Part I, was 83%. For Part II of the instrument, 48% of the data was considered usable as faculty members failed to answer all of the items pertaining to the motivator-hygiene factors. The number of usable responses for determining demographics characteristics was 80%.

Instrumentation

The questionnaire consisted of three parts: the Job Satisfaction Index, Wood's (1973) Faculty Satisfaction/Dissatisfaction Scale, and demographic characteristics. Part I of the instrument contained the Job Satisfaction Index. The Job Satisfaction Index considered all facets of the job when measuring job satisfaction, utilizing an 18-item, five-point Likert type scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree).

Part II of the questionnaire consisted of Wood's (1973) Faculty Satisfaction/Dissatisfaction Scale, as modified by the researcher, to measure the Herzberg et al, motivator-hygiene factors. Wood's instrument consisted of a 79-item six-point Likert type scale with responses varying from 1 (very dissatisfied) to 6 (very satisfied). Part II also contained a one-item overall job satisfaction measure which read, "Considering all aspects of my job, my overall level of job satisfaction is…" Part III of the questionnaire consisted of questions pertaining to the demographic characteristics.

Content and face validity were established by a panel of experts consisting of teacher educators, College administrators, and graduate students. Each of the experts on the panel were asked to examine the instrument for content, clarity, wording, length, format, and overall appearance. Cronbach's alpha was used to assess instrument reliability. The reliability coefficient for Part I of the questionnaire was .89. The reliability coefficient for Part II of the questionnaire was .96, while the coefficients for the ten sub-scales of Part II were: achievement, .81; advancement, .89; relations, .91; policy/administration, .93; recognition, .88; responsibility, .88; salary,

.92; supervision, .97; work itself, .83; and, working conditions, .82. The one-item overall job satisfaction measure was not included when establishing a reliability coefficient for the 79 items in Part II.

Data Analysis

Appropriate descriptive statistics were calculated. Correlation coefficients were interpreted using Davis' (1971) descriptors. Stepwise multiple regression analysis was used to describe the amount of variability among CFAES faculty members' overall level of job satisfaction by a linear combination of the job motivator and hygiene factors. The suitability of the data for multiple regression analysis was assessed by investigating the relationship among the job motivator/hygiene factors (independent variables) and the overall level of job satisfaction among the faculty (Table 5) and by plotting the residuals.

The correlation matrix was consulted to investigate collinearity. Collinearity among the independent variables was not a problem. The correlations between the motivator-hygiene factors and overall job satisfaction were moderate to substantial (Davis, 1971). The residuals were plotted and all of the assumptions regarding the residuals were met. Therefore, it was determined that the data were suitable for multiple regression analysis. However, based upon the negligible relationships (Davis, 1971) between overall job satisfaction levels and selected demographic characteristics, demographic characteristics were not included in the regression analysis.

Results/Findings

Respondents consisted of 12% (n = 17) female and 88% (n = 122) male faculty. Most of the faculty (96%; n = 142) had attained a doctorate degree. The mean age for faculty was 49 (n = 132) (Table 1). The mean number of years faculty had been in their current position was 15.0, while the mean number of years they had been in higher education was 18.0. Eighty percent (n = 110) of the faculty were tenured, while 20% (n = 29) indicated that they had not yet received tenure. The mean age for females (n = 15) was 42. Females (n = 15) had been in their current position for 8 years and in higher

Table 1
Means and Standard Deviations for Selected Demographic Variables

Variable	All Faculty		Female		Male	
	Mean	*SD*	Mean	*SD*	Mean	*SD*
Age	49.0	8.82	42.00	6.90	50.0	8.75
Years in Current Position	15.0	10.00	8.00	5.54	15.0	9.42
Years in Higher Education	18.0	9.31	9.00	5.50	19.0	5.94

Table 2
Means and Standard Deviations for Overall Job Satisfaction

Variable	All Faculty		Female		Male	
	Mean	*SD*	Mean	*SD*	Mean	*SD*
Overall Job Satisfaction	4.02	.53	3.78	.57	4.06	.50

education a total of 9 years. The mean age for males (n = 118) was 50. Males (n = 118) had been in their current position for 15 years and in higher education a total of 19 years.

Based on a five point Likert type scale with responses ranging from strongly disagree (1) to strongly agree (5), the overall level of job satisfaction was 4.02 (n = 142) (Table 2). The overall level of job satisfaction for females (n = 17) was 3.78 and 4.06 for males (n = 119).

Based on a six point Likert type scale with responses ranging from very dissatisfied (1) to very satisfied (6), faculty members provided the following mean satisfaction scores with the job motivator and hygiene factors: achievement, 4.49; advancement, 3.93; recognition, 4.26; responsibility, 4.43; work itself, 4.87; interpersonal relations, 4.31; policy and administration, 3.84; salary, 3.74; supervision, 4.08; and working conditions, 3.50 (Table 3).

Correlations were calculated to describe the relationships between faculty member's overall level of job satisfaction and selected demographic variables. The coefficients were negligible (Davis, 1971) and were as follows: age, r = .05; years in current position, r = .02; years in higher education, r = .10; and tenure status, r = .09.

Correlations were calculated to describe the relationships between CFAES faculty member's overall level of job satisfaction and the job motivator and hygiene factors (Table 4). Correlation coefficients ranged between moderate to substantial (Davis, 1971) and were as follows: advancement, r = .45; achievement, r = .53; recognition, r = .45; responsibility, r = .49; work itself, r = .42; working conditions, r = .38; salary, r = .40; supervision, r = .50; policy and administration, r =. 53; salary, r = .40; and interpersonal relations, r = .44.

Table 3
Means and Standard Deviations for Job Motivator and Hygiene Factors

Variable	Mean	*SD*		Mean	*SD*
Job Motivators			Job Hygienes		
Achievement	4.49	.66	Relationships	4.31	.88
Advancement	3.93	.98	Policy	3.84	1.00
Recognition	4.26	1.00	Salary	3.74	1.10
Responsibility	4.43	.94	Supervision	4.08	1.23
Work Itself	4.87	.66	Work Conditions	3.50	.98

Table 4
Relationships Between Overall Job Satisfaction and Selected Job Factors

Job Motivators		Job Hygienes	
Achievement	.53	Relationships	.44
Advancement	.45	Policy	.53
Recognition	.45	Salary	.40
Responsibility	.49	Supervision	.50
The Work Itself	.42	Work Conditions	.38

Table 5
Intercorrelations Among Independent Variables and Overall Job Satisfaction

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X_1	1.00	.473	.529	.596	.480	.440	.434	.334	.422	.357	.441
X_2		1.00	.681	.611	.510	.503	.661	.654	.545	.450	.489
X_3			1.00	.595	.467	.613	.670	.713	.637	.345	.504
X_4				1.00	.432	.510	.638	.535	.621	.549	.477
X_5					1.00	.454	.449	.411	.303	.295	.440
X_6						1.00	.570	.502	.489	.306	.512
X_7							1.00	.686	.757	.537	.470
X_8								1.00	.614	.520	.416
X_9									1.00	.458	4.08
X_{10}										1.00	.292

Note: X_1=Achievement, X_2 = Advancement, X_3=Recognition, X_4=Responsibility, X_5=Work Itself, X_6=Relationships, X_7=Policy and Administration, X_8=Salary, X_9=Supervision, X_{10}=Working Conditions, X_{11}=Overall Job Satisfaction.

Intercorrelations among the job motivator and hygiene factors indicated that collinearity was not a problem when the factors were entered into a regression equation model. The multiple regression revealed that three distinct factors could explain the variability among overall job satisfaction. The multiple regression analysis revealed that recognition accounted for 43% of the variance in the level of overall job satisfaction. When supervision was added to the regression equation, 52% of the variance in overall job satisfaction could be accounted for. Lastly, when interpersonal relationships were added, 58% of the variance in the overall job satisfaction score was accounted for (Table 6).

To determine the validity of the one-item measure of overall job satisfaction, the mean scores on the Brayfield and Rothe (1951) Job Satisfaction Index and the single-item measure were standardized and compared. There was no difference among the standardized scores.

Table 6
Regression of Overall Job Satisfaction on Selected Independent Variables (Stepwise Entry)

Variable	R^2	R^2 Change	b
Recognition	.43	.43	.25
Supervision	.52	.09	.34
Relationships	.58	.06	.31
Constant			1.03

Conclusions/Recommendations

Demographically, faculty membership in the College of Food, Agricultural, and Environmental Sciences at The Ohio State University is male dominated. Male domination is evidenced in the results of the study which indicated that male faculty were older, had more years of experience in their current position, and had more years of experience in higher education than their female counterparts. Efforts to increase gender diversity among faculty must continue.

Faculty in the College of Food, Agricultural, and Environmental Sciences were generally satisfied with their jobs. However, female faculty members were less satisfied than male faculty in the current study, which implies that there may be some systems in place which fail to take into consideration the perceptions of female faculty members. Focusing on the motivator-hygiene factors, administrators should use the results of this study to investigate particular systems for gender equity.

The factor "work itself" was the most motivating aspect for faculty in the current study. The least motivating aspect of faculty member's jobs were the "working conditions." The findings imply that faculty were most satisfied with the *content* of their job and least satisfied with the *context* in which their job was performed. Individual department administrators should conduct a job analysis for each position and seek innovative ways to enhance the work faculty members actually perform. Conversely, the environment in which faculty member's work is performed should be reviewed to improve the context. Concern about the context was clearly evidenced in the comment portion of the instrument where female respondents, in particular, indicated that they wanted to participate in the study but were concerned about their perceptions being made public and retribution following.

The demographic characteristics of faculty members were negligibly related to overall job satisfaction, which implies that based upon age, years in current position, total years in higher education, and tenure status, faculty are stable with regard to their overall level of job satisfaction. Nonetheless, demographic characteristics facilitated the discovery of differences in overall job satisfaction by gender and described the age of faculty members. In future studies of job satisfaction, demographic characteristics should not be collected via questionnaire if they are available from college administrators.

All of the job motivator and hygiene characteristics were moderately or substantially related to overall job satisfaction. Unfortunately, this conclusion implies that the basic tenants of the motivation-hygiene theory may not hold true for faculty in the CFAES. In this regard, factor analysis should be employed on the motivator-hygiene factors to derive a more parsimonious set of factors which serve as independent variables in facet-satisfaction investigations. Moreover, a lesser amount of items on a measure would possibly decrease non-response error and increase the percentage of usable responses.

Intercorrelations among the job motivator and hygiene factors indicated that collinearity was not a problem when the factors were entered into a regression equation model. Moreover, there was a linear relationship (low to substantial) (Davis, 1971) among the job motivator factors and overall job satisfaction. Stepwise multiple regression analysis revealed that the factors recognition, supervision, and relationships explained the variability among faculty member's overall job satisfaction scores which implies, that to elevate the collective overall level of job satisfaction among faculty members, college administrators must focus on improving the recognition, supervision, and interpersonal relationship aspects of a faculty member's job.

With regard to recognition, college administrators should evaluate the reward system in light of the many contemporary changes taking place in higher education to determine if current reward systems are meeting the needs of faculty members. To enhance the context in which faculty members are supervised, funds should be sought and secured to provide leadership development opportunities for department chairs. Lastly, to enhance interpersonal

relations, department chairs should convene, along with College administrators, to attempt to remove the barriers between inter and intra-departmental relationships.

The one-item measure of overall job satisfaction utilized in the current study was not different from the Brayfield and Rothe (1951) Job Satisfaction Index. Additionally, the two measures (one-item measure and Job Satisfaction Index) were very strongly related (Davis, 1971). This research finding implies that the single-item measure should be adopted and used in studies of overall job satisfaction among higher education faculty. Wanous, Reichers, and Hudy (1996) wrote that "There may also be practical limitations favoring the use of a single-item measure" (p. 14). Wanous, Reichers, and Hudy (1996) identified space on an instrument, cost, and face validity as examples of practical limitations which supported the use of single-item measures.

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JAMIE X. CASTILLO is an Extension Specialist in the Cooperative Extension Service at New Mexico State University, P.O. Box 30003, MSC 3AE, Gerald Thomas Hall, Room 220, Las Cruces, NM 88003-8003. E-mail: jacastil@nmsu.edu.

JAMIE CANO is an Associate Professor in the Department of Human and Community Resource Development at The Ohio State University, 208 Agricultural Administration Building, 2120 Fyffe Road, Columbus, OH 43210. E-mail: cano.1@osu.edu.