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# Perceptions of job worth

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## ABSTRACT OF THE THESIS

### Perceptions of Job Worth Determinants

by

Trinidad Argüelles

Florida International University, 1991

Miami, Florida

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The present study was conducted to evaluate perceptions of the importance of various factors that may determine the wage or salary level in jobs. Items describing various job characteristics reflecting the factors of Skill, Effort, Responsibility, Working Conditions, and Organizational characteristics were rated by 510 subjects from a variety of organizations. Results indicated that the items did not cluster into the five categories noted above. Instead, three factors were identified and labeled Job Complexity, Accountability, and Work Context. There were few gender or occupational differences in the ratings of the items. The implications of the results for the development of equitable wage and salary systems are discussed.

FLORIDA INTERNATIONAL UNIVERSITY  
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/  
Perceptions of Job Worth

A thesis submitted in partial satisfaction of the  
requirements for the degree of Master of Science  
in Psychology

by

Trinidad Argüelles

1991

To Professors: Scott L. Fraser  
Juan I. Sánchez  
Gary Moran.

This thesis, having been approved in respect to form and mechanical execution, is referred to you for judgment upon its substantial merit.

-----  
Dean Arthur Herriott  
College of Arts and Sciences

**The thesis of Trinidad Argüelles is approved.**

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Juan I. Sánchez

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Gary Moran

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Scott L. Fraser, Major Professor

Date of Examination: November 7, 1991.

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Dean Richard Campbell  
Division of Graduate Studies

**Florida International University, 1991**

I want to dedicate this thesis to my parents Lolita and Manolo and my sisters Sandra and Soledad. I owe this to them because they have taught me that perseverance and confidence in God's guidance to enhance your own abilities is necessary to triumph in life.

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### Perceptions of Job Worth Determinants

Present studies on job evaluation have concentrated on such issues as the generalizability of already existing job evaluation ratings (Fraser, Cronshaw & Alexander, 1984), and the discriminant validity of job evaluation methods (Madigan, 1985). Unfortunately, Job evaluation research has largely neglected the importance that those who must live with the results of a wage and salary system would place on various possible salary determinants. Job evaluation methods should be an important focus of research because they may affect employee motivation and can be used to minimize bias or unfairness in wages. Any job evaluation method, for better or for worse, will also have an impact on issues of comparable worth and pay equity, which will ultimately affect an individual worker, regardless of sex or occupational group. Even when pay is not considered to be the primary motivator employees are likely to be unsatisfied, if pay is perceived to be unfair. This perception of unfairness may ultimately have an impact on job performance (Lawler, 1971).

While the studies of job evaluation techniques noted above have shown high reliability and generalizability and have minimal bias against female- or male-dominated jobs, the construct validity of traditional job evaluation factors has not been thoroughly investigated. Traditionally, the most widely

used job evaluation systems have involved the use of a few predetermined compensable factors such as those included in the Equal Pay Act (1963): Skill, Effort, Responsibility and Working Conditions. These factors were determined in a rather arbitrary manner years ago (Benge, Burk & Hay, 1941, as discussed in McCormick & Ilgen, 1980). Thus, most systems in use are more the result of traditional job evaluation practice and committee decisions than of sound scientific research (Treiman, 1979). Job evaluation scales typically represent factors historically acknowledged to be important salary determinants. Such factors do not necessarily take into account the perceptions or attitudes of employees. If employees could have input into the factors and scales used to evaluate jobs, the end results might be more equitable. This would minimize the extent to which pay systems are based on biased, or are perceived to be based on biased, job evaluation systems.

Thus, one potential (yet largely unresearched) problem with job evaluation systems is that even an unbiased job evaluation instrument may produce pay systems perceived as inequitable if it does not reflect people's beliefs about the determinants of job worth. Moreover, different job evaluation systems are not likely to be seen as equally fair. For example, if blue collar and white collar workers differ in what they believe wage and salary levels for their jobs should be based on, it

would be difficult for any single job evaluation method to meet the needs of both groups. If, on the other hand, blue- and white-collar workers share the same beliefs concerning job worth determinants, both groups may accept a job evaluation system that reflects their opinions.

#### Job Evaluation, Determination, and Wage Discrimination

One important reason why job evaluation systems and factors are used to evaluate jobs merit study is their importance in minimizing wage discrimination. Ferraro's (1984) article on bridging the wage gap elaborates on the issue of pay equity as an aspect of discrimination that continues to oppress women. The Equal Pay Act of 1963 made it illegal to pay lower salaries to women who perform the same jobs as men. What has occurred, though, is that legislation requires interpretation by the courts, or by policy makers in organizations, and these interpretations may be liable to a priori stereotypes of job worth (Schneibly, 1982). For example, the Equal Pay Act simply accepts the factors of Skill, Effort, Responsibility, and Working conditions as the basis for the evaluation of job content. In an attempt to extend the concepts contained in the Equal Pay Act, some have advocated the Theory of Comparable Worth. The National Academy of Sciences (NAS) described the Theory of Comparable Worth as the concept that "jobs that are equal in their value to the

organization ought to be equally compensated, whether or not the work content of those jobs is similar", Schnelby, (1982).

Comparable worth takes the issues raised by the Equal Pay Act to an extreme by arguing that jobs need not be identical to merit equal pay, they need only be "substantially similar".

Wage discrimination is prohibited primarily by the Equal Pay Act, which is extremely relevant to job evaluation practices. As noted above equal work is defined in terms of factors traditionally used in job evaluation systems.

The Equal Pay Act, as described by Milkovich and Newman (1984), prohibits an employer from discriminating among employees on the basis of sex. Paying female workers lower wages than male workers who perform equal work (that require equal Skill, Effort and Responsibility and that are performed under similar working conditions) is an example of such discrimination. In the process of job evaluation, sometimes tasks as well as the knowledges, skills and abilities (KSAs) of the particular job being studied are carefully defined and studied through systematic job analysis procedures, (Mahoney, 1989). However, while job analysis is almost always very job specific, job evaluation factors are chosen in accordance with previous practice or to satisfy the company and the market. If a job entails certain duties and they are not properly evaluated, or if more weight is put on some and not

on others because of some bias in the procedure used, then the evaluation system is unfair. An example of such bias occurs when male-dominated jobs are evaluated higher than are women's on some characteristics which have little to do with job worth, yet these characteristics are incorrectly considered to be highly important in the determination of job worth. For example, physical effort is required by many jobs, but it may not be a very important attribute. Thus, if physically demanding jobs are dominated by males and if physical effort is weighted greater than it should be weighted, then a bias against females in jobs of equivalent Skill, Effort, and Responsibility would exist. In such a case, job evaluation may be the means through which salary discrimination is perpetuated (e.g., Treiman, 1979).

### Job Evaluation Systems

Job evaluation is a widely used wage and salary tool. For this study, the following definition will be used:

Job evaluation is a systematic procedure designed to aid in establishing pay differentials among jobs within a single employer. It includes classification, comparison of the relative worth of jobs, blending internal and external forces, measurement, negotiation, and judgment (Milkovich & Newman, 1984).

There are four primary types of job evaluation systems in common use (Treiman, 1979). Two systems involve a global evaluation of the whole job: ranking and classification. Ranking systems require evaluators to simply rank jobs from most to least valuable. Classification systems involve "slotting" or categorizing jobs based on a global comparison to a set of standards for a given salary grade level. Two additional systems, factor comparison and the point method, involve evaluation through the use of job components. In the factor comparison method, job components are compared to examples of components that are taken from benchmark jobs. Total points are calculated based on the value of a particular job as determined by the sum of points determined for each component. Thus, components are compared on a relative basis. In the point method, components are compared on an absolute basis. Each job component is rated on several scales for which the anchors represent absolute levels of a characteristic (an education scale might have levels for "high school degree required", "two-year college degree required", "Bachelor's degree required", etc.)

For the purposes of this study, a specific job evaluation method will not be used. Instead, the factors that are typically included in job evaluation systems that deal with job components (such as point methods and factor comparison

methods) will be evaluated. According to Gomez-Mejia et al. (1982) traditional and hybrid systems of these types are as accurate and objective in predicting grade level as are other methods. In the present study, a re-evaluation of the individual job evaluation scales used by such systems was done by having the subjects rate each factor based on the importance they believe the factors should have in determining wage and salary levels.

To date there are no definite answers to the question of which job evaluation method or system is best suited to evaluate all jobs in an organization, let alone all jobs in our nation or in other nations (Treiman & Hartmann, 1981; Davis & Sauser, 1991). Consequently, organizations have focused on other issues that are not considered to be part of traditional base pay plans such as Skill-based pay (Mahoney, 1989). In practice, many organizations simply adopt a particular job evaluation system without evaluating its acceptability to employees. Ultimately, however, all pay systems begin with one thing, factors or characteristics that are somehow considered important or valuable by a particular entity or entities: the worker, the organization, the economic system. If all entities agreed that, for most occupations, the same factors should determine pay, it may be possible to develop one job

evaluation system that would be perceived as equitable and fair by employees as well as employers in most occupations.

The present study is concerned with two issues relevant to job evaluation systems. First, the factor structure of ratings of the importance of job evaluation scales will be investigated. Second, the extent to which gender and occupational differences in the ratings exist will be evaluated. These issues are discussed in detail below.

#### Factors Used in Job Evaluation

Most job evaluation systems of the factor comparison and point method varieties use numerous scales - in some cases up to 20. Treiman's (1979) survey of techniques gives examples of the scales typically used to operationalize Skill, Effort, Responsibility, and Working conditions. However, several studies have found that large numbers of job evaluation scales are not necessary. At least four studies can be cited that suggest that traditional scales can be collapsed into three factors (Lawshe & Alessi, 1946; Lawshe & Maleski, 1946; Davis & Tiffin, 1950; and Creager & Harding, 1958). For example, the Lawshe and Maleski (1946) study demonstrated that an 11-factor job evaluation system yielded three factors, and that the first factor, called "Skill Demands", accounted for 95.6% of the variance in the ratings. An additional study found only one factor that accounted for most of the variance in job evaluation



ratings (Lawshe & Satter, 1944). In this study, job evaluation data from three plants was factor analyzed. A "skill demands" factor accounted for 77.5%, 90% and 99% of the variance in total point ratings in the three plants. Thus, research indicates that a large number of job evaluation scales may not be necessary.

Methods of job evaluation other than point systems use different numbers of factors. The ranking method, for example, provides a ranking of the jobs according to relative value. Thus it is often described as the method that is simplest and fastest to use, as well as the easiest to understand and the least expensive job evaluation method. As Milkovich and Newman (1984) noted, this method consists of ordering the job descriptions from highest to lowest in value. However, this kind of global evaluation method is seldom recommended since the criteria or factors on which the jobs are ranked are often arbitrarily defined. As a result, the evaluations become very subjective. In general, one assumes the evaluators are highly familiar with every single job being studied. The Ash (1948) study, for example, demonstrated that the average reliability range across analysts varied from .39 to .93. In that study, Ash determined reliability of rankings for 27 jobs ranked on 9 factors by 10 analysts. Finally, in Hay's "percent method" of creating factor comparison key scales he advocates the use of

from three to not more than six factors (Hay, 1948). An illustrative Hay Guide Chart as used in this method of job evaluation can be found in Milkovich & Newman, 1984.

The job evaluation literature suggests that both the number and the nature of the scales that should be used to evaluate jobs is open to question. As indicated above, job evaluation research has not been concerned with the construct validation of specific methods to any great extent. Clear conceptual models of the determinants of job worth are rarely the basis for the evaluation procedures used by organizations.

The present study was designed to address an issue rarely discussed in the development of job evaluation techniques by evaluating the construct validity of the traditional job evaluation factors: Skill, Effort, Responsibility and Working Conditions. As noted above, motivation, equity, and other factors may be affected by the job evaluation system being used. If, in fact, the traditional factors do exist the items are expected to cluster into the original groupings reported by Fraser, Johndro, and Alexander (1985), which reflect common job evaluation practice (Treiman, 1979).

#### Gender and Occupational Differences in Perceptions of Worth

In addition to evaluating the factor structure of worth determinants, the possibility that sex and occupational differences exist in their perceived importance will be

evaluated. It is the individual employee, male or female, professional, or non-professional who will have to live with a wage and salary system determined by a particular fair or unfair job evaluation. Ultimately, it is the employees who will be the most directly affected by decisions made in the system.

Because gender bias is an issue central to job evaluation systems, it would be useful to study the extent to which males and females differ in their perceptions of the importance they attribute to the various job worth determinants. Scholl and Cooper (1991) proposed the use of a generic Factor Evaluation System (FES) that addresses this issue. They conclude that FES is as reliable as the job-family based MIMA systems of job evaluation. If systems such as FES are sufficiently reliable, what should be studied next are the factors that people themselves consider relevant in determining their pay as a function of sex. If, for example, both sexes equally weight the importance of the scales used in a job evaluation system and if wage bias is still found to exist, future research should focus on issues other than job evaluation systems that may be the source of such bias.

Previous research on gender effects in job evaluation (e.g. Grams & Schwab, 1985) focused on the ratings of jobs performed by males versus female raters using a point system

approach. In contrast, the focus of this study with respect to gender is on the general importance of the scales, not on how males and females rate any specific job. Given that no previous theory exists at hand on the importance or relevance of job evaluation scales, the analysis presented in this study was exploratory. Thus, the extent to which males and females agree in their rating of job evaluation scales was investigated without a priori predictions regarding the direction of any differences.

Finally, another focus of the analysis concerns whether or not occupational differences exist in the perceived importance of wage and salary determinants. It is not well known to what extent various wage determinants are valued by employees in different occupations. As Fraser et al. (1985) comment, in practice, organizations use different job evaluation methods or instruments for different job families. As a result, there is no data on the acceptability of one particular method; nor are there any studies of the reactions of particular groups of employees to different methods. According to Milkovich and Newman (1984), it is hypothesized that employee acceptance is better when different methods are used for different jobs. It follows that it is assumed that people in different jobs value different factors. However, the mere fact that differences in pay would exist among employees of various occupational

levels would increase the suspicion of bias toward the a higher paid group. Given that no studies have directly addressed the issue of occupational differences in job worth determinants, this analysis was also exploratory. Subjects were grouped by job category and mean ratings of the scales were compared. In general, it was expected that people might place higher value on factors that directly concern them. /

In summary, the first issue investigated was the extent to which items (scales) cluster into the predicted factors when a confirmatory factor analysis is conducted. That is to say, the construct validity of the Skill, Effort, Responsibility Working conditions and "job context" factors was evaluated. The second analysis evaluated the extent to which gender differences exist in the perceived importance the various wage and salary determinants. Specifically, if both males and females agree on how their pay should be determined and their beliefs are adequately operationalized by a job evaluation system, research on potential discrimination should focus on factors other than job evaluation systems, such as career development plans. Third, this study examined occupational differences in the perceived importance of wage and salary determinants.

## Method

### Subjects

Questionnaires to be described below were administered to 510 subjects recruited from a variety of settings: students enrolled in graduate, undergraduate, and continuing education courses at three large urban universities; managerial, clerical, and blue collar employees of an automotive component manufacturing plant; administrative and clerical personnel from a public school system, employees of a newspaper and professional and technical employees of a data processing subsidiary of an airline. Some of the data was taken from the original Fraser et al. (1984) study, and additional surveys were distributed more recently. The subject pools were sampled so that the majority of the respondents were employed full-time.

### Survey

The questionnaire used in the study was the same as the one developed in the Fraser et al. (1985) study. The questionnaire is presented in Appendix A.

Items for the Wage and Salary Determinant Questionnaire (WSDQ) were obtained from a variety of sources. Job content items were obtained from job evaluation and wage and salary administration texts (e.g. Otis & Leukart, 1954), as well as a review of job evaluation procedures (Treiman, 1979). The non-content factors were obtained from a labor economics text (Rees, 1978) and a review of equal pay issues (Treiman & Hartmann, 1981). Additional non-content items were

generated by students in a Industrial Psychology class. Non-content items (context) dealt with factors external to the job such as geographic location, unionization, and percent of women. Ten graduate students enrolled in a job analysis/job evaluation course reviewed and edited the list of items obtained from the above sources to eliminate redundancies.

The questionnaire asked subjects to rate each item twice. One set of ratings (the "Should Affect" ratings) was obtained for how important subjects think the items should be in determining wage and salary levels for jobs. A seven-point scale, with anchors ranging from "Very Important" (a rating of 7) to "Very Unimportant" (rating of 1) was used. For the second set of ratings (the "Does Affect" ratings), subjects were asked to rate how important they thought the items actually are in determining wage and salary levels in most organizations. The same seven-point scale described above was used. Given that this study is concerned with perceptions of the importance of worth determinants, only the "should affect" ratings will be used. Subjects then provided the following demographic information: age, sex, educational level occupation, and number of years in present job.

### Procedure

The subjects were told that the study was concerned with their perceptions of the importance of wage and salary

determinants. Subjects were also instructed to rate the items based on their perceptions of how the items should affect or do affect the wage and salary level for jobs in general, not for any one specific type of job or for any one organization. Subjects typically required 15 to 20 minutes to complete the questionnaire.

### Analyses

Confirmatory Factor Analysis (CFA) was used to evaluate the extent to which the 40 items fit the proposed five-factor orthogonal model. As noted above, it is expected that the items will cluster into four job content factors (Skill, Effort, Responsibility, and Working Conditions) and one Job Context Factor (characteristics external to the job itself). An orthogonal five-factor model was proposed given that the factors included in most job evaluation systems have been assumed to be independent determinants of job worth (e.g., Treiman, 1979; Otis & Leukart, 1955, p. 108). LISREL 7 (Jöreskog & Sörbom, 1988) was used to estimate the fit of the proposed model. Goodness of fit was assessed by a Chi-Square test.

Sex differences in the ratings was assessed in two ways. First, for each individual item, two-sample  $t$  - tests comparing males and females will be conducted. However, this approach presents problems in interpretation since conducting multiple significance tests greatly increases the likelihood of Type 1



errors. To address this issue, the  $t$  - tests were based on Unit-weight composites. With  $n = 510$ , the statistical power for the  $t$  - tests was approximately .90 for a small effect size ( $d = .20$ ) at  $\alpha = .05$ , although it may vary slightly from this value depending on the exact percentages of males and females.

Occupational differences were be assessed by comparing individual items, as well as factor scores, across occupational groups using one way analysis of variance (ANOVA). Occupational groups were formed by grouping subjects into DOT categories based on responses to the demographic items.

### Results

The demographic variables were analyzed first to determine the characteristics of the sample of 510 subjects. There were 327 females and 178 males, while 5 subjects did not respond to this demographic item. The average age of the total sample was 25.48 years (24.49 for males and 26.03 for females males); the age range for the total sample ranged from 17 to 52. Over 57.8 percent of all subjects had at least some college and .8 percent had some graduate training. The subjects represented a wide variety of jobs and occupations. The characteristics of the sample are summarized in Table 1.

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Insert Table 1 About Here

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A confirmatory factor analysis (CFA) was performed first to investigate whether or not the items grouped into the five factors identified a priori when the questionnaire was developed (the traditional factors of Skill, Effort, Responsibility and Working Conditions and the Job Context factor). LISREL 7 was used to assess the fit of the proposed model. Coefficients in the Lambda X matrix were set to indicate the hypothesized loading of the variables on the factors. The results of this analysis are presented in Table 2.

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Insert Table 2 About Here

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It can be seen from the results of the LISREL analysis that a five-factor solution did not adequately fit the data. As a consequence of the results of the CFA analysis, an exploratory factor analysis was conducted. A principal components analysis followed by VARIMAX factor rotation was performed. Inspection of the eigenvalues from the principal components analysis suggested the existence of three factors accounting for 33% of the variance. The low percentage variance may be due to the fact that several different job characteristics were included in the study - characteristics that may be truly different. Also, unlike Lawshe studies, people rated the importance of the items; the subjects did not actually use them

to evaluate jobs. However, to compare the interpretability of different potential factor solutions, three, four and five factor solutions were generated using both orthogonal and oblique rotations. The three factor orthogonal solution was the most interpretable, with the three factors yielding eigenvalues of 7.49, 3.53 and 2.21. The eigenvalues of the next 7 factors were 1.69, 1.51, 1.30, 1.25, 1.15, 1.11, and 1.00. The Based on the inspection of the items loading these factors were named Job Complexity, Accountability, and Job Context. The results of this analysis are presented in Table 3. The comparison of the number of items that clustered per factor for both the traditional and the new factors are shown in Table 4.

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Insert Table 3 and 4 About Here

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Given that the subjects were employed in a variety of fields, analyses were performed to determine whether or not occupational differences in the ratings existed. In order to simplify the analysis of occupational differences, six occupational groups were created. Four categories followed those in the Dictionary of Occupational Titles: Professional/Managerial, Clerical/Sales, Service and Skill trade-Manufacturers. Two other "occupational" categories included in the analyses were Self-Employed and Unemployed. Thus, 475

of the 510 subjects were grouped into one of the six occupational categories discussed. The remaining subjects were distributed among other DOT categories in numbers that were not large enough to include in the analyses by occupational group. Analyses were then performed to determine if occupational differences in the ratings existed. A One-Way Analysis of Variance (ANOVA) was performed with occupational group as the independent variable. The results of these analyses are reported in Table 5.

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Insert Table 5 About Here

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As shown in Table 5, only one of the ANOVAS yielded a significant effect for Occupation at the .05 level of significance. The mean rating for Responsibility was highest for subjects in Service occupations (5.06) and lowest for those who were unemployed (4.74). However, when a post-hoc comparison (Scheffe's) was performed on the group means, no two group means were significantly different at the .05 level. Subjects in different occupational groups did not differ substantially in their ratings of the factors.

The next set of analyses were performed to determine whether or not gender differences existed in the subjects' perceptions of the traditional factors. Items relevant to each

factor were summed and the total divided by the number of items to provide an average score for each factor. Two-sample  $t$ -tests were performed on the means of the male and the female subjects. The results of these analyses and the associated descriptive statistics are reported in Table 6.

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Insert Table 6 About Here

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There are no substantive gender differences in the ratings of the factors according to the previous analyses. To explore the possibility that significant differences might have existed for specific items between the males' and females' perceptions, individual  $t$  - tests were performed on every item. These analyses are presented in Table 7. Only two out of 40  $t$  tests were significantly different when

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Insert Table 7 About Here

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the male and female means were compared. Females rated Responsibility for Cash or Finances and Verbal or Written Fluency and Clarity Required higher than did males. Thus, similar to the results obtained for Occupation, rating importance did not seem to vary as a function of sex.

## Discussion

The present study suggests that people's perceptions of wage and salary determinants do not correspond to the specific factors identified in the existing wage and salary literature. Moreover, the results suggest that few, if any, sex or occupational differences exist in the amount of importance placed on the factors.

With respect to the "traditional" categories of job evaluation factors (Skill, Effort, Responsibility and Working Conditions), no evidence was found to support this categorization scheme. Neither the confirmatory analysis using LISREL nor the exploratory analysis using principal components supported a five-factor solution. A three factor orthogonal solution seemed to capture best the underlying factor structure of the importance ratings.

The three factors emerging from the principal components analysis were labeled Work Context, Accountability, and Job Complexity. About 77% of the Work Context items were non-content factor items. Some of the items with the highest loadings on this group were Percent of minority group members in the job and Typical age of people in the job. The Accountability factor is composed of items that mostly deal with attention and responsibility. This factor seems to be an accountability-job involvement factor.

Examples of items on this factor were Amount of initiative and ingenuity required and Responsibility for long-range planning. The third factor found was labeled Job Complexity. This factor mainly dealt with the work's orientation toward professional versus skilled trade / labor. (The factor can be generally thought of as a blue-collar versus white-collar orientation in terms of the nature of the work performed.) Examples of items with the highest loadings on this factor were Potential health hazards and Amount of specialized training required.

As previously discussed Hay's method of creating factor comparison key scales advocates for the use of three to six factors. In fact the three "New" factors do coincide with those proposed by Hay. According to the description of this system as found Milkovich and Newman (1984), there is overlap in the areas each factor taps into in both systems. In terms of the work context items, the "New" factors could be compared to Hay's so-called Working Condition factors in which he integrates factors dealing with environment. In terms of Accountability, the same factor is present in Hay's System. In both the "New" factors and the Hay System, Accountability is described as "answerability for action and for consequences thereof" (Milkovich & Newman, 1984). Both Hay System and the present data imply that the factors are measured more in terms of individuals effect of job on end results. As a result,

items such as freedom to act on the job will be directly related to this factor as well. Finally in terms of the Job Complexity factor, in Hay System is described as a combination of the Working Conditions factor with Skills. Among other things, he considers hazards, physical effort and practical procedures. Thus our "New" factors are similar in grouping and nature to Hay's factors.

In terms of the ANOVAS, a significant effect for Occupation was found in the Responsibility factor, but when a post-hoc comparison were performed, group means were not significantly different. Consequently, the subjects in different occupational groups did not differ substantially in their perception of the factors. It is important to note that the finding of generally nonsignificant differences among occupational groups in the importance ratings does not by itself suggest that one job evaluation instrument should be used across all jobs in a specific organization (Madigan, 1985).

The results of this study suggest that maximizing the similarity between different job evaluation methods used in the same organization may be used as a way to enhance the perceptions of pay equity held by those in different jobs or occupations within the same organization. When taking this approach, though, other characteristics of the specific jobs need to be taken into account. Methodological and practical



issues will always play a role and these will decide whether homogeneous job evaluation methods can be used across the organization or not (Treiman, 1979). For example, the extent to which the organization has sufficient financial resources to achieve salary parity across job families may have a significant impact on the types of evaluation systems to be used.

The  $t$  - tests that were to compare males and females revealed few meaningful differences for the traditional job evaluations. This finding suggests that, in general, males and females perceive these "traditional" job evaluation factors as being equally important as determinants of pay. Any possibility of the existence of significant differences for individual items based on the rater's gender was explored, and only two out of forty  $t$  - tests yielded significant differences. These items were Responsibility for cash or finances (rated slightly higher by females) and Verbal or written fluency and clarity required (also rated slightly higher by females). The underlying stereotypes people may have could have affected their ratings. Among other stereotypes, the occupational stereotypes play a major role in terms of perception. In general, people will be motivated to enter gender approved occupations (Lipton et al.,1991). For example, society has led people to assume that it is mostly the male- dominated positions that control the monetary resources (Ferraro, 1984).

By the same token, most highly-paid jobs are also male-dominated. Overall, though, the importance of the ratings did not seem to vary much as a function of rater gender. What needs to be considered is the meaning these results have for pay equity. Given that both males and females see a similar level of importance for most factors, evaluation systems that result in perceptions of pay equity for both males and females may be possible to design and implement.

Unfortunately for both employees and employers, there are significant differences in terms of job satisfaction among under-rewarded, equally rewarded, and over-rewarded individuals, where "rewards" are usually given in the form of monetary compensation. People who are sensitive to equity follow the predictions of equity theory. In general, equitably rewarded individuals will report higher satisfaction than will under-rewarded, and over-rewarded are no more satisfied than are equitably rewarded ones (Huseman et al., 1985). Unfortunately, it is mostly women who may be under-rewarded; the issue is thus whether or not they perceive it this way and how it affects their job satisfaction. Discrepancies in the pay expectations of males and females have been investigated, and differences have been found in terms of career paths, comparison standards, and job facets. Major and Konar (1984) demonstrated substantial sex differences in

career entry and career peak pay expectations between men and women. Because women typically are paid less than men for doing comparable work, women have a lower standard for pay than do men and hence expect less pay for themselves than men. The issue is that women expect to earn less money than men because they believe that, in general, women are underpaid relative to men with similar qualifications. Such perceptions of discrimination may explain some of the remaining gap between women's and men's pay expectations. Perceived pay discrimination is not unconfounded in a society where men's and women's reward expectations are so different and where women have lower pay expectations than do men. Hence, the tendency for women to be as satisfied as men when they receive lower pay for equal/comparable work, or more satisfied than men with equivalent pay is often the norm, as discussed by Major and Konar, with reference to the Smith et al. (1969), and Sauser and York (1978) articles.

In sum, individuals of diverse occupational backgrounds and men and women found the same factors to be important in terms of salary determinants. The factors found in the present study were Work context, Accountability and Job Complexity. As a result, the importance of having a fair system is vital. A just job evaluation system would provide the basis for increased perceptions of equity, translating into more highly

satisfied individuals. We know that laws exist to prevent wage discrimination, but so do occupational and psychological stereotypes (Lipton, 1991). It will not be until the wage gap is narrowed that real progress will be made; higher satisfaction of the work force may then translate into higher productivity.

There are a few salient potential limitations to the generalizability of the results of this study. First, the study consisted of a paper-and pencil questionnaire. People may respond to the items without much thought and may not even understand the meaning/implication of some items. They may not be familiar with some terminology used in certain items. The self-report nature of the questionnaire may also limit the external validity of the results (Mitchell, 1985).

Second, people might not know how factors such as Skill and Effort are evaluated are actually evaluated. Just by considering the factor of Job Complexity, common sense would tell us that an assembly line (blue-collar) worker may see the evaluation of Amount of specialized training as different than would a white-collar worker.

Third, people might react differently when actually faced with a job evaluation system than we would expect based on their perceptions of factors. A job evaluation system will have direct impact on wage and salary levels and on other job related benefits, such as promotions. As a result, a person will

probably see the factors as much more important depending on his or her specific job experience, among other factors.

Fourth, this study was based on ratings of characteristics of jobs in general, not with respect to any specific job or job family. Subjects may have had different beliefs or concerns that are only applicable to specific types of job. Beliefs concerning how pay should be determined for their present job may in fact differ from their beliefs for other types of jobs.

Finally, in terms of the nature of the importance ratings, the format used in the questionnaire limits the findings, and, therefore, their generalizability. Due to the format of "Very Important" to "Very Unimportant", it is not possible to tell exactly how much each of the factors should affect pay. It is reasonable to assume that jobs requiring more education, or with higher training and responsibilities (such as a college professor versus a grade school teacher) should be paid more, but these assumptions need to be tested.

The present study provides insight into the factors people consider to be important in determining wage and salary levels. Further studies should explore the extent to which the "New" versus the "Traditional" factors are represented in various job evaluation systems. Future research should also focus on developing different evaluation systems and determining how people respond to them, especially people in

different occupations. Other variables of interest such as ethnicity, race, and age could also be further explored in terms of their impact on perceptions of job worth determinants.

In summary, it is clear that typical or "traditional" job evaluation factors do not cluster into the previously known categories. It would be beneficial to start studying these factors without any a priori notions by simply asking people the simple question "On what should pay be based?". The present study suggest that males and females, as well as people in different occupational groups, may have very similar perceptions concerning the determinants of pay. As a result, a new approach to job evaluation, with more empirical studies on the factors themselves, is a step toward narrowing the gap between the psychometric adequacy and practicality of the job evaluation systems. Because of this new approach, perceptions of pay equity would benefit since both men and women, across all levels within an organization, would see an equitable system as the basis of pay. As a result, the micro unit perceptions within the organization will affect the macro view of the organization as a whole. When this gap, and the one that has emerged between the law and occupational stereotypes, are bridged, more precise and fair determinants of pay will be found. The goals of the Equal Pay Act will then be possible to achieve.

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Table 1

Demographic Characteristics of the Sample

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<u>Gender</u>	<u>Average Age</u>
Male	24.49
Female	26.03
Total Sample	25.48

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Note. n = 181 males and 327 females. Missing data for 5 subjects

Table 2

Results of Confirmatory Factor Analysis

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$\chi^2$	2091.80
Goodness of Fit Index	.80
Adjusted Goodness of Fit Index	.77
Root Mean Square Residual	.07

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Note:  $n = 470$ ,  $x$  variables = 40, KSI variables = 5,  $df = 730$  for  $\chi^2$ .

Table 3  
Exploratory Factor Analysis Results

	Factor Loadings		
	1	2	3
Typical age of people in the job	.79	.03	-.02
Percent of minority group members in the job	.74	-.05	-.04
Percent of women in the job	.70	.04	-.07
Whether or not the job is unionized	.68	-.02	.10
Amount of time spent working outdoors	.67	.04	.08
Perceived desirability of the job	.59	.25	-.02
Geographic location of the organization	.51	.08	.21
Type of industry the organization is involved in	.51	.10	.14
Size of the organization	.50	.10	-.03
Cost of training new employees for the job	.49	.27	-.04
Responsibility for contact with customers or the public	.39	.30	.17
Monotony of work performed	.34	.16	.32
Availability of qualified people for the job	.22	.18	.16
Amount of initiative and ingenuity required	-.16	.69	-.01
Responsibility for long-range planning	-.04	.65	-.03
Verbal or written fluency and clarity required	.13	.58	-.02
Responsibility for ones own errors	.21	.58	.08
Ability to learn quickly required	.14	.58	.08
Amount of mental effort required	.04	.54	.28
Volume or amount or work required	-.03	.51	.23
Amount of accuracy and attention to detail required	.03	.51	.33
Amount of supervision received	.24	.45	.23

(table continues)

Table 3 (continued)  
Exploratory Factor Analysis Results

	Factor Loadings		
	1	2	3
Amount of input into company policy	.29	.45	.13
Responsibility for material or products	.25	.42	.37
Amount of freedom to perform the job as one sees fit	.16	.33	.01
Responsibility for confidential information	.22	.31	.28
Amount of specialized training required	-.09	.00	.59
Potential health hazards	-.04	-.15	.54
Complexity or difficulty of the job	-.13	.23	.50
Working varied hours or shifts required	.30	.10	.48
Amount of physical effort required	.21	-.21	.47
Responsibility for supervising others	-.10	.14	.46
Amount of stress due to working under deadlines	.12	.33	.44
Amount of travel required	.25	.09	.44
Amount of education required	-.06	.18	.44
Responsibility for the safety of others	.14	.24	.43
Amount of relevant work experience required	.03	.31	.39
Responsibility for equipment or process	.37	.29	.38
Working conditions or environment	.34	.01	.38
Responsibility for cash or finances.	.18	.25	.29

Note: Pairwise  $n$  = 470; eigenvalues and variance accounted for by the three factors are 7.49 (18.7%), 3.54 (8.8%), and 2.21 (5.5%), respectively.

Factors: 1 = Work Context 2 = Accountability, and 3 = Job Complexity.

Table 4

Factor Clusters Comparing "Traditional" versus "New" Categories

		Traditional Factors				
		Skill	Effort	Respon- sibility	Working Conditions	Organization/ Environment Characteristics
New Factors						
Work Context		-	-	1	2	10
Account- ability		4	3	7	-	-
Job Complexity		4	1	4	4	-



Table 5

Occupational Differences between Males and Females in Job  
Evaluation Factor Ratings

Factor	<u>M</u>	<u>SD</u>
<u>Skill</u>		
Professional/Managerial	5.54	.52
Clerical/Sales	5.59	.62
Service	5.59	.60
Skill-Trade Manufactures	5.51	.62
Self-Employed	5.63	.59
Unemployed	5.48	.71
ANOVA Results, <u>F</u> =	.55	
<u>Effort</u>		
Professional/Managerial	5.14	.74
Clerical/Sales	5.18	.72
Service	5.31	.66
Skill-Trade Manufactures	5.17	.83
Self-Employed	5.30	.69
Unemployed	5.17	.84
ANOVA Results, <u>F</u> =	.79	

(table continues)

Table 5 (continued)

Occupational Differences between Males and Females in Job  
Evaluation Factor Ratings

Factor	<u>M</u>	<u>SD</u>
<u>Responsibility</u>		
Professional/Managerial	5.01	.66
Clerical/Sales	4.80	.71
Service	5.06	.67
Skill-Trade Manufactures	4.90	.67
Self-Employed	4.83	.65
Unemployed	4.74	.82
ANOVA Results, <u>F</u> =	2.27*	
<u>Working Conditions</u>		
Professional/Managerial	4.42	.77
Clerical/Sales	4.45	.79
Service	4.70	.72
Skill-Trade Manufactures	4.38	.81
Self-Employed	4.55	.92
Unemployed	4.62	.87
ANOVA Results, <u>F</u> =	1.73	

(table continues)

Table 5 (continued)

Occupational Differences between Males and Females in Job  
Evaluation Factor Ratings /

Note.  $n = 100$  for Professional/Managerial,  $n = 113$  for Clerical/Sales,  $n = 74$  for Service,  $n = 79$  for Skill Trade Manufactures,  $n = 74$  for Self-Employed and  $n = 35$  for Unemployed; due to missing data,  $df = 5, 457$  for all F tests.

\*  $p < .05$

Table 6

Sex Differences in Wage and Salary Determinant Ratings

Factor	Total Sample		Males		Females		t
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Skill	5.57	.61	5.51	.59	5.60	.62	-1.59
Effort	5.22	.73	5.22	.70	5.22	.75	.04
Responsibility	4.91	.82	4.89	.65	4.93	.70	-.53
Working - Conditions	4.51	.82	4.52	.80	4.50	.83	.31

Note. n = 181 males and 327 females; due to missing data, minimum df = 494 for all t-tests. None of the t-tests were significant at the .05 level.

Table 7

Differences between Males and Females Ratings for the Individual Wage and Salary Determinant Questionnaire Items

Items	Males		Females		t
	M	SD	M	SD	
Amount of physical effort required (E)	4.62	1.23	4.38	1.31	2.08
Responsibility for supervising others (R)	5.67	0.87	5.77	1.03	-1.14
Size of the organization (O)	4.05	1.67	3.82	1.64	1.49
Potential health hazards (W)	5.72	1.25	5.79	1.39	-0.63
Responsibility for cash or finances (R)	4.87	1.16	5.17	1.28	2.61*
Amount of freedom to perform the job as one sees fit (R)	4.36	1.31	4.46	1.32	-.79
Working conditions or environment (W)	4.78	1.40	4.75	1.34	.23
Percent of women in the job (O)	2.64	1.71	3.02	1.95	-2.20
Amount of specialized training required (S)	5.86	1.21	6.08	1.02	-2.22
Responsibility for confidential information (R)	5.31	1.34	5.44	1.23	-1.07
Geographic location of the organization (O)	4.07	1.51	3.77	1.57	2.09
Complexity or difficulty of the job (S)	5.96	0.99	5.97	1.09	-.08
Amount of education required (S)	6.03	1.04	6.06	1.01	-.29
Availability of qualified people for the job (O)	5.39	1.44	5.34	1.32	.44
Whether or not the job is unionized (O)	3.09	1.64	3.17	1.68	-.49
Responsibility for contact with customers or the public (R)	4.48	1.26	4.46	1.33	.13
Amount of travel required (W)	4.70	1.30	4.65	1.33	.37

(table continues)

Table 7 (continued)

Differences between Males and Females Ratings for the Individual Wage and Salary Determinant Questionnaire Items

Items	Males		Females		t
	M	SD	M	SD	
Responsibility for the safety of others (R)	5.66	1.08	5.82	1.14	-1.53
Amount of stress due to working under deadlines (E)	5.41	1.16	5.54	1.22	-1.17
Perceived desirability of the job (O)	4.30	1.31	4.19	1.48	.85
Working varied hours or shifts required (W)	4.65	1.34	4.70	1.42	-.39
Amount of relevant work experience required (S)	5.08	1.09	5.17	1.15	-.84
Percent of minority group members in the job (O)	2.45	1.61	2.62	1.65	-1.09
Responsibility for equipment or process (R)	4.53	1.28	4.61	1.15	-.73
Amount of mental effort required (E)	5.53	1.13	5.41	1.28	1.05
Typical age of people in the job (O)	2.86	1.54	2.77	1.57	.61
Amount of input into company policy (R)	4.72	1.36	4.51	1.44	1.57
Responsibility for ones own errors (R)	4.90	1.51	4.85	1.43	.31
Amount of time spent working outdoors (W)	3.18	1.49	3.14	1.54	.24
Responsibility for material or products (R)	4.57	1.21	4.43	1.30	1.20
Amount of supervision received (R)	4.25	1.39	4.12	1.35	1.04
Monotony of work performed (W)	4.02	1.43	3.94	1.50	.59

(table continues)

Table 7 (continued)

Differences between Males and Females Ratings for the Individual Wage and Salary Determinant Questionnaire Items

Items	Males		Females		t
	M	SD	M	SD	
Amount of accuracy and attention to detail required (S)	5.37	1.05	5.35	1.18	.14
Volume or amount of work required (E)	5.30	1.09	5.53	1.07	-2.30
Amount of initiative and ingenuity required (S)	5.64	1.05	5.70	1.10	-.65
Responsibility for long-range planning (R)	5.39	1.12	5.43	1.17	-.39
Ability to learn quickly required (S)	5.12	1.11	5.21	1.18	-.87
Verbal or written fluency and clarity required (S)	4.91	1.14	5.21	1.21	2.70*
Cost of training new employees for the job (O)	4.15	1.46	4.09	1.57	.45
Type of industry the organization is involved in (O)	4.44	1.54	4.24	1.66	1.32

Note. Due to missing data, minimum  $df = 494$  for all  $t$  - tests. Letter in parentheses after each item indicates the factor that the item is representing: "S" = Skill, "E" = Effort, "R" = Responsibility, "W" = Working Conditions, and "O" which indicates other non-content items.

\*  $p < .01$

## Appendix A - Questionnaire

### SURVEY OF PRIMARY WAGE AND SALARY DETERMINANTS

On the following pages you will find several job characteristics that may be used in determining the salary or wage level for a job. First, we would like you to rate each characteristic based on the degree of importance you think it SHOULD HAVE in determining the level of pay for a job.

For example: Amount of education required

- 7--Very High
- 6--High
- 5--Moderately High
- 4--Medium
- 3--Moderately Low
- 2--Low
- 1--Very Low

If you believe that the amount of education a job requires is very important in determining the pay for that job, you would rate the degree of importance as Very High. This example would then be given a rating of (7). Second, we would like you to rate each characteristic based on the degree of importance you feel ORGANIZATIONS ACTUALLY PLACE on them in determining the level of pay for a job. For example, if you believe that most organizations consider education to be moderately important when setting pay levels, you would rate the degree of importance as Moderately High. This example would then be given a rating of (5).

Following this page are two identical lists of characteristics. On the first set rate the degree of importance you think it SHOULD HAVE in determining the level of pay. On the second set rate the degree of importance you feel ORGANIZATIONS ACTUALLY PLACE on them in determining the level of pay. For each characteristic you are to mark the number corresponding to your choice on the answer sheet in columns 1 - 7. DO NOT mark your choices in columns 0, 8, or 9!

Please keep in mind that these are requirements or characteristics associated with jobs in general. They do not represent the qualifications held by any particular individual or requirements for one particular occupation.



Remember, you are rating the degree of importance you feel the characteristics SHOULD HAVE in determining the level of pay.

- 7--Very High
- 6--High
- 5--Moderately High
- 4--Medium
- 3--Moderately Low
- 2--Low
- 1--Very Low

- 1) Amount of physical effort required.
- 2) Responsibility for supervising others.
- 3) Size of the organization
- 4) Potential health hazards
- 5) Responsibility for cash or finances.
- 6) Amount of freedom to perform the job as one sees fit.
- 7) Working conditions or environment.
- 8) Percent of women in the job.
- 9) Amount of specialized training required.
- 10) Responsibility for confidential information.
- 11) Geographic location of the organization.
- 12) Complexity or difficulty of the job.
- 13) Amount of education required.
- 14) Availability of qualified people for the job.
- 15) Whether or not the job is unionized.
- 16) Responsibility for contact with customers or the public.
- 17) Amount of travel required.
- 18) Responsibility for the safety of others.
- 19) Amount of stress due to working under deadlines.
- 20) Perceived desirability of the job

(continued on next page)

Remember, you are rating the degree of importance you feel the characteristics SHOULD HAVE in determining the level of pay.

- /
- 7--Very High
  - 6--High
  - 5--Moderately High
  - 4--Medium
  - 3--Moderately Low
  - 2--Low
  - 1--Very Low

- 21) Working varied hours or shifts required.
- 22) Amount of relevant work experience required.
- 23) Percent of minority group members in the job.
- 24) Responsibility for equipment or process.
- 25) Amount of mental effort required.
- 26) Typical age of people in the job.
- 27) Amount of input into company policy.
- 28) Responsibility for ones own errors.
- 29) Amount of time spent working outdoors.
- 30) Responsibility for material or products.
- 31) Amount of supervision received.
- 32) Monotony of work performed.
- 33) Amount of accuracy and attention to detail required.
- 34) Volume or amount or work required.
- 35) Amount of initiative and ingenuity required.
- 36) Responsibility for long-range planning.
- 37) Ability to learn quickly required.
- 38) Verbal or written fluency and clarity required.
- 39) Cost of training new employees for the job.
- 40) Type of industry the organization is involved in.

(go on to the second set of characteristics)

Remember, you are rating the degree of importance you feel ORGANIZATIONS ACTUALLY PLACE on the characteristics in determining the level of pay.

- 7--Very High
- 6--High
- 5--Moderately High
- 4--Medium
- 3--Moderately Low
- 2--Low
- 1--Very Low

- 41) Amount of physical effort required.
- 42) Responsibility for supervising others.
- 43) Size of the organization
- 44) Potential health hazards
- 45) Responsibility for cash or finances.
- 46) Amount of freedom to perform the job as one sees fit.
- 47) Working conditions or environment.
- 48) Percent of women in the job.
- 49) Amount of specialized training required.
- 50) Responsibility for confidential information.
- 51) Geographic location of the organization.
- 52) Complexity or difficulty of the job.
- 53) Amount of education required.
- 54) Availability of qualified people for the job.
- 55) Whether or not the job is unionized.
- 56) Responsibility for contact with customers or the public.
- 57) Amount of travel required.
- 58) Responsibility for the safety of others.
- 59) Amount of stress due to working under deadlines.
- 60) Perceived desirability of the job.

(continued on next page)

Remember, you are rating the degree of importance you feel ORGANIZATIONS ACTUALLY PLACE on the characteristics in determining the level of pay.

- 7--Very High
- 6--High
- 5--Moderately High
- 4--Medium
- 3--Moderately Low
- 2--Low
- 1--Very Low

- 61) Working varied hours or shifts required.
- 62) Amount of relevant work experience required.
- 63) Percent of minority group members in the job.
- 64) Responsibility for equipment or process.
- 65) Amount of mental effort required.
- 66) Typical age of people in the job.
- 67) Amount of input into company policy.
- 68) Responsibility for ones own errors.
- 69) Amount of time spent working outdoors.
- 70) Responsibility for material or products.
- 71) Amount of supervision received.
- 72) Monotony of work performed.
- 73) Amount of accuracy and attention to detail required.
- 74) Volume or amount or work required.
- 75) Amount of initiative and ingenuity required.
- 76) Responsibility for long-range planning.
- 77) Ability to learn quickly required.
- 78) Verbal or written fluency and clarity required.
- 79) Cost of training new employees for the job.
- 80) Type of industry the organization is involved in.

(go on to the next page)

Please turn over your answer sheet and provide us with the following demographic information. Please begin in column one.

1 & 2) AGE: Use column one and two for this response. For example, if you are 35 you should mark the number 3 in column one and the number 5 in column two.

3) SEX:       0--Female  
                  1--Male

4) EDUCATION: 0--High school or less  
                  1--Trade or technical school  
                  2--Some college  
                  3--2 year degree  
                  4--4 year degree  
                  5--Some graduate or professional school  
                  6--Graduate degree

5) ARE YOU CURRENTLY A STUDENT? 0--No  
  1--Yes, Part-time  
  2--Yes, Full-time

6 & 7) PRESENT OCCUPATION: Please mark only the column in which your current occupation is listed.

Column 6

- 0--Clerical
- 1--Sales
- 2--Managerial/Supervisory
- 3--Professional (MD, Attorney, Eng.etc.)
- 4--Service (except health related and food service)
- 5--RN/LPN
- 6--Med Tech
- 7--Manufacturing/Semi-skilled labor
- 8--Skilled trades (Carpenter, Electrician etc.)
- 9--Military

(go on to the next page)

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Column 7

- 0--Food service (fast-food, Waiters/Waitresses)
- 1--Bank/Savings & Loan teller
- 2--Self-employed
- 3--Teaching (high school, college etc.)
- 4--Media/Entertainment
- 5--Other/Miscellaneous
- 6--Unemployed

For example, if you are self-employed you would fill in the number 2 on column seven of the answer sheet and leave column six blank.

8) HOW LONG HAVE YOU BEEN IN YOUR PRESENT JOB?

- 0--Less than 1 year
- 1--1 to 2 years
- 2--2 to 3 years
- 3--3 to 4 years
- 4--4 to 5 years
- 5--5 to 6 years
- 6--6 to 7 years
- 7--7 to 8 years
- 8--8 to 9 years
- 9--More than 9 years

THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION

CURRICULUM VITAE

**TRINIDAD ARGÜELLES**

**BIOGRAPHICAL INFORMATION:**

Born: May 10, 1966  
Havana, Cuba

**EDUCATION:**

Doctor of Philosophy, Concentration in Applied Psychology  
Currently enrolled, F.I.U.  
Master of Science in Psychology, F.I.U., 1991.  
B.A. Florida International University, F.I.U., 1989, Psychology.  
Psy. D. Program in Clinical Psychology, Fall 1990, Nova  
University.  
Certificate in Gerontological Studies, F.I.U., 1990.  
Certificate in Nursing Assistant, Dade County Public Schools.

**POSITIONS HELD:**

University of Miami, Research Associate, School of Medicine,  
Department of Psychiatry (Present)  
University of Miami, Psychometrist, Temporary Pool (1989 - 1991).  
Courtelis Company, College Career Work Experience, National  
Presidential Advisory Committee Project, Office Assistant  
(1989).  
Interaction of Cultural and Racial Groups in Urban America. The  
Miami Study. Project based at McGill University, Quebec.  
Summer 1989, Interviewer.  
F.I.U., College Work & Study, Psychology Lab Assistant (1987  
1988).  
Fairlawn Branch Public Library, Library Aid (1986 - 1987).  
Expomar Trading Corporation, Secretary (Summer 1986).  
Overseas Marketing Corporation, Secretary (1985 - 1986).  
Mercy Hospital, Nurse Assistant Trainee (Summer 1984).

**PRESENTATIONS, INTERNSHIPS AND OTHER RELATED ACTIVITIES:**

Personal Adjustment Course. Adjunct Instructor. Fall-Term 1991.  
F.I.U.  
Test-Taking Skills Workshop. Jackson Memorial Anesthesiology  
Dept., Assistant, one session.

(Curriculum Vitae Continues)

- Evaluating the importance of determinants of job worth. Paper presented at a Symposium in SEPA (Southern Psychological Association) meeting. New Orleans. March 22, 1991
- Job Worth Determinants. (Paper presented at F. I. U. Colloquium), January, 1991
- Student Assistant . Cognitive Psychology Course. Summer Term A. F.I.U., 1990.
- Student Assistant. Psychological Testing Course. Summer Term B. F.I.U., 1990.
- Development of Employee Safety and Health Questionnaire. Total Rehab. Inc. Summer 1990. (Field Experience).

**HONORS, AWARDS, AFFILIATIONS, HONOR SOCIETIES:**

- Phi Kappa Phi Honor Society, F.I.U. Chapter (1991)
- Society for Industrial and Organizational Psychology (1990 Present)
- American Psychological Association, Student affiliate (1990-Present).
- National Hispanic Scholarship Fund Recipient (1989, 1990).
- Who's Who Among Students in American Universities & Colleges (1990).
- National Dean's List (1989, 1990).
- Dean's List, F.I.U., (1987, 1988, 1989, 1990).
- Outstanding College Students of America (1989).
- St. Dominic's Catholic Church, Parishioner & volunteer (1981 - present).
- National Honor Society in Psychology, Psi Chi, Corresponding Secretary (1988).
- La Casa de la Cultura Cubana (Home of the Cuban Culture) (1988).
- Federation of Cuban Students, FEC (1987).
- Dade County Youth Fair Creative Writing Special Award (1986, 1988).
- Student Honors Mentor Program, F.I.U. (1986).

**ADDITIONAL QUALIFICATIONS:**

- Languages: Fluent in English and Spanish.
- Computer Languages and Systems: Familiar with SAS, SPSS-X, and BASIC.
- Application Programs: Microsoft Word, Cricket Graph (Macintosh Software).
- Other Skills: Typing.