Two profiles of schoolteachers: a discriminant analysis of job satisfaction

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Abstract

Using discriminant analysis, this study attempts to construct profiles of two types of teachers: those with a low level of job satisfaction and those with a high level of job satisfaction. In addition to their background and demographic characteristics, teachers' perceptions of their occupation and of their principals' leadership styles (transformational or transactional) are examined as predictors that discriminate between teachers with low and high levels of satisfaction. The results suggest that teachers with a low level of satisfaction can be reliably distinguished from teachers with a high level of satisfaction by their occupational perceptions, principals’ leadership styles, and a number of their demographic characteristics. Implications of the findings for school principals and teachers are discussed.

Keywords: Teacher job satisfaction; Principals' leadership styles; Teacher attitudes; Teacher characteristics; Survey research

What distinguishes a teacher with a high level of job satisfaction (HS) from a teacher with a low level of job satisfaction (LS)? Does each type of teacher have a different profile of attributes? In this study, I attempt to identify the predictors that discriminate between teachers with LS and teachers with HS. The unique contribution of this work lies in its attempt to characterize each type of teacher by relating to principals’ leadership styles and to demographic variables. If we are able to determine the importance of each factor in predicting membership in each category (LS and HS), we should then be able to use these factors to discriminate between teachers likely to be highly satisfied in their jobs and those likely to have a low level of job satisfaction.

1. Theoretical framework

1.1. Teacher job satisfaction

Teacher job satisfaction has been studied as an overall construct and as a facet construct (Holdaway, 1978). In his research, Holdaway found that overall satisfaction was closely related to “working with students, societal attitudes, status of teachers, recognition, and achievement” (p. 46). Zigarelli (1996) refers to teacher job satisfaction as a single, general measure that is a statistically significant predictor of effective schools. Evans (1997), who...
addresses problems of the conceptualization and construct validity of teacher job satisfaction, claims that the concept is ambiguous. She argues that the source of the ambiguity is the lack of a clear distinction between “satisfactory” and “satisfying”, which results in problems of construct validity. Evans suggests reconceptualizing “job satisfaction” in terms of its two constituents: job fulfillment and job comfort. The former refers to one’s assessment of how well the job is performed, and is based on the assumption that achievements enhance both job-related and achievement-related satisfaction. The latter relates to the degree to which one is satisfied with the conditions of the job. In the current study, which emphasizes the global notion of this concept, teachers’ job satisfaction was examined using both dimensions.

It is important to study teacher job satisfaction because of its effect on teacher retention. Hall, Pearson, and Carroll (1992) found that teachers who were planning to leave the profession reported less satisfaction and a more negative attitude toward teaching as a career and toward the school administration. Teacher job satisfaction was found to be associated with teacher quality and retention, and with organizational commitment and organizational performance in reference to the following school areas: academic achievement, student behavior, student satisfaction, teacher turnover, and administrative performance (Ostroff, 1992; Mathieu, 1991).

Relatively few studies on teachers’ job satisfaction have examined the relationship between teachers’ demographic characteristics and their job satisfaction. Plidal (1982), for example, found that a teacher’s years of experience was positively correlated with intrinsic rewards conceptualized by the importance attached to “reaching students” (p. 6). With regard to school location, rural teachers were found to be less satisfied (e.g., Haughey & Murphy, 1984) than suburban teachers (Ruhl-Smith, 1991). In terms of gender, female teachers expressed greater job satisfaction than their male counterparts (e.g., Chapman & Lowther, 1982; Watson, Hatton, Squires, & Soliman, 1991).

In 1997, the National Center for Education Statistics (1997) (NCES) in the US published a report on job satisfaction among American teachers. The report was based on a large and comprehensive database of over 40,000 teachers in a complex and random sample of schools. The sample was stratified by state, sector, and school level. It encompassed both elementary and secondary, private and public schools throughout the United States. It analyzed the 1993–1994 Schools and Staffing Survey (SASS) data collected by the NCES that examined a wide range of schools, teachers and work characteristics. The second section of this three-part study compared characteristics of the most satisfied and the least satisfied teachers. The most salient finding of the study was that workplace conditions constitute a distinguishing factor between the most satisfied and the least satisfied teachers: “The most satisfied teachers worked in a more supportive, safe, autonomous environment than the least satisfied teachers” (p. 32). Overall, the more satisfied group consisted mostly of female teachers, teaching grades 1–4 rather than grades 5–8, in private rather than public schools, and with less teaching experience than their less satisfied counterparts.

Although the NCES report is comprehensive, it is only one report, and very few other studies have been conducted in this area. All in all, empirical work on demographic attributes of teachers has been relatively limited. Hence, in this study, I aimed to investigate how such attributes characterize HS teachers as compared with LS teachers. Among the organizational variables considered are school size, school level (elementary, junior high, or high school), and school location (e.g., city or village). Among the personal variables are gender, religion, seniority, age, birthplace, and parents’ birthplace.

Research on teacher job satisfaction has focused mainly on the effects of exogenous variables such as the principal’s leadership style and strategies of decision-making on teachers’ contentment and rate of burnout (Kirby, Paradise, & King, 1992; Koh, Steers, & Terborg, 1995; Silins, 1992). Since these researchers attempted to identify the factors that best predict teacher job satisfaction and to test for significant differences among a number of satisfaction sub-scales, they usually used regression analyses and multivariate analysis of variance (MANOVA), respectively.
This study uses discriminant analysis, a method used to assess whether or not a set of variables discriminates between two groups of individuals. Discriminant analysis produces discriminant function coefficients for each predicting variable, which shows the importance of each variable. The coefficients are standardized to remove the effects of differing means and standard deviations. The signs of the coefficients in the discriminant analysis have no special meaning because the dependent variable, teacher job satisfaction, is treated as a nominal variable, and positive or negative associations have no meaning.

Identifying two sets of characteristics which generate two profiles of teachers, LS and HS, may help us to understand the differences in teacher quality and retention, and as such, may contribute greatly to the body of knowledge in this area. Specifically, this study asked the following two questions: First, can teachers with high vs. low job satisfaction be clearly distinguished from each other? Second, what are the factors that predict teachers’ job satisfaction?

2. Method

2.1. Participants

From a sample of 930 teachers in the northern part of Israel, 745 (80%) responded and returned usable questionnaires. The teachers taught in elementary (51%), junior high (20%) and high schools (26%). Sixty-four percent of the teachers taught in urban schools, 26% in rural areas, and the rest (10%) in other areas. Twenty-four percent of the schools had 400 students or less, 60% had 401–1000 students and 16% of the schools had more than 1000 students. Sixty-six percent of the respondents were women; 62% were Jewish and the rest were non-Jewish (mostly Muslims). Of the Jewish teachers, almost 90% were female. Of the non-Jewish teachers, the majority (70%) were male.

2.2. Research instrument

A quantitative questionnaire using Likert scales was administered in 1997 to 930 teachers. The respondents were asked to consider their school principal, and answer a number of questions that related to the principal’s leadership style, their perceptions of the teaching occupation, and their satisfaction with various aspects related to work in school. In addition, background and demographic information was collected through a set of questions about organizational and personal characteristics. The questionnaire was pre-tested on a group of 35 teachers. After incorporating a number of changes (e.g., clarifying statements and omitting items that were ambiguous), and a retest using five additional teachers, the revised questionnaire was finalized.

The section of the questionnaire that addressed teacher satisfaction was taken from a questionnaire on principals’ and teachers’ job satisfaction, that had been previously administered and validated (Tarabeh, 1995). This was a 25-item questionnaire on a 7-point Likert scale, from 1 (never) to 7 (always). In his work on an Israeli sample of teachers, Tarabeh identified four dimensions that described teachers’ satisfaction: fulfillment of expectations ($\alpha = 0.93$); guidance and assistance from the Ministry of Education ($\alpha = 0.88$); internal conditions of work ($\alpha = 0.81$); and relationship with students and parents ($\alpha = 0.72$). The $\alpha$ coefficient for the entire questionnaire was $\alpha = 0.94$ (Tarabeh, 1995). Some of the categories, such as esteem, growth, and social relations with others, had been identified in Wanous and Lawler’s work (1972).

In the current study, respondents were asked to indicate how frequently they felt satisfied with various aspects such as cooperation with other teachers, student achievement, support of supervisors, physical conditions of the school, and school budget.

The section addressing transformational and transactional leadership was taken from the Multifactor Leadership Questionnaire (MLQ) (Bass, 1985). The questionnaire was translated into Hebrew and adapted to the Israeli setting. It was a 27-item questionnaire with a 5-point scale, from 1 (not at all) to 5 (very typical), which asked the respondents about the leadership style of their principal, according to the three categories of transformational leadership (charisma/inspiration,
personal consideration, and intellectual stimulation), and the two categories of transactional leadership (contingent reward and management by exception). A sample of items that represents transformational leadership includes the following: “principal projects himself/herself as a role model”; “principal displays talent and ability to cope with decision-making”; “principal presents new challenges and projects”; and “principal believes in the teachers’ ability to deal with obstacles”. A sample of items representing transactional leadership includes “principal focuses his/her attention on finding exceptions, deviations and weaknesses in teachers”; “principal does not hesitate to remark on mistakes and errors that call for his/her intervention”; “principal tells staff members what to do in order to receive rewards for the efforts”; and “principal doesn’t bother the teachers if they don’t bother him/her”.

The MLQ was tested by Bass in a number of studies. One of these studies was conducted on a sample of 256 supervisors and managers of a Fortune 500 firm in the US (1985, pp. 225–229). In this study, the coefficient \( \alpha \) reliabilities per scale were as follows: charisma, \( \alpha = 0.94 \); individual consideration, \( \alpha = 0.87 \); intellectual stimulation, \( \alpha = 0.89 \); contingent reward, \( \alpha = 0.83 \) and management-by-exception, \( \alpha = 0.70 \). (More about the structural validity of the MLQ can be found in Tepper & Percy, 1994.)

The section addressing teachers’ occupational perception was a 28-item questionnaire, on a scale from 1 (disagree strongly) to 5 (agree strongly), which asked about various facets of the teaching occupation (Yaniv, 1982). Coefficient \( \alpha \) ranged from \( \alpha = 0.54 \) to \( \alpha = 0.93 \), indicting that some subscales were relatively high and others relatively low in their internal reliability. From the original questionnaire, five sub-scales were used in the present study: perceived status, perception of the profession, professional identity, perceived autonomy, and professional competence. These included items such as “my line of work gives me high status”; “there are always promotion opportunities for a talented teacher”; “I feel free to try out new ideas and teaching methods in the classes that I teach”; and “teaching gives me the feeling that I can change people”.

Although the original research instruments were tested for validity and reliability by their authors, the factorial constructs were retested. Principal component analysis with varimax rotation was performed on each of the scales on a random sample of the respondents to test for scale validity. Cronbach’s \( \alpha \) were calculated for each factor and yielded values similar to those found in the original studies. The findings of the factor analyses and the Cronbach \( \alpha \) provided additional confirmation of the content validity of the factors.

Background and demographic variables included items about organizational and personal attributes. Since in the current study, the emphasis was on the overall effects of the variables, an overall scale was constructed for each of the factors using the mean score of each: transformational leadership, transactional leadership, teacher’s occupational perception, and teacher’s occupation. For each factor, the reliability measure, Cronbach’s \( \alpha \), was calculated (see the appendix).

3. Results

Initially, teachers’ job satisfaction was investigated in order to identify the LS and HS teachers. Based on the variable distribution (ranging from 1 to 7), low level of satisfaction was determined as equal to or smaller than 3.72 (15.7%), and high level of satisfaction was set as equal to or greater than 5.80 (14.3%). Consequently, 222 respondents (30% of the total number of respondents) were included in the analysis: 116 (52.3%) LS teachers and 106 (47.7%) HS teachers. The rest, 523 respondents (70%), were in the mid-range of the scale, and were considered moderate in job satisfaction. This group of respondents was excluded from the analysis.

Of the LS teachers, 41% taught in elementary schools, 22% in junior high, 20% in high schools, and 17% in vocational schools. Twenty-seven percent of the teachers taught in schools of 400 students or less, 58% in schools of 401–1000 students and 15% in schools with more than 1000 students. Sixty-seven percent of the schools were in urban locations, 24% in rural areas and the rest...
(9%) taught in other areas. Of the HS teachers, 64% taught in elementary schools, 13% in junior high, 8% in high schools and 15% in vocational ones. Thirty-nine percent of the schools had 400 students or less, 47% had 401–1000 students and 14% had more than 1000 students. Fifty percent of the schools in which HS teachers taught were in urban locations, 36% in rural areas, and the rest (14%) in other locations.

In the next stage, statistical differences were tested between low and high levels of teachers’ job satisfaction in relation to the predictors. The $\chi^2$ test was used for nominal variables, and the $t$-test was applied to continuous variables. Based on these tests, it was determined which of the variables discriminated between low and high levels of satisfaction. The variables that showed differences between low and high levels of teacher job satisfaction were teacher’s occupational perception, principals’ transformational leadership, principals’ transactional leadership, school level, gender, religion, and the birthplace of the teacher’s father. Lastly, discriminant analysis was conducted to predict group membership from a set of the statistically significant predictors. Table 1 presents the results of the discriminant analysis. It shows that the variable with the largest effect on job satisfaction is teacher’s occupational perception (0.769), followed by principal’s leadership style, transformational or transactional (0.672 and −0.230, respectively) (Table 1).

Discriminant analysis maximizes the between-groups differences on discriminant scores and minimizes the within-groups differences. The eigenvalue is one statistic for evaluating the magnitude of a discriminant analysis. In the present analysis, the eigenvalue was very high (2.256). This implies that the between-groups differences are much greater than the within-groups differences. Wilks’ $\lambda$ indicates how good the discriminating power of the model is. Therefore, this measure is reflective of the variables’ importance: the lower the value of Wilks’ $\lambda$ the higher the percent of explained variance of the dependent variable since the percent of explained variance is calculated as $[1-(\text{Wilks'}\ \lambda)]100$. In our analysis, teacher’s occupational perception indicates that differences between LS and HS teachers account for 58% of this variable variance. Wilks’ $\lambda$, in the case where all the functions are in the analysis (0.30), indicates that differences between the two groups of satisfied teachers account for 70% of the variance in the predicting variables. The high value and the significance of the $\chi^2$ imply that the discriminant functions discriminate very well between LS and HS teachers. The discriminant analysis also revealed that for both the LS and HS teachers a high percentage of the cases were correctly classified (95% and 93%, respectively). Overall, 94% of the original cases were correctly classified.

The differences between the LS and HS teachers with regard to the predicting variables (demographic variables, and teachers’ perceptions of their occupation and their principals’ leadership styles) that were found statistically significant are described in Tables 2 and 3. Table 2 provides the results of the $\chi^2$ test for demographic variables. The data analysis revealed two different profiles of LS and HS teachers: teachers who were classified as having low satisfaction (LS) were male, and taught in large schools (with over 400 students) in urban locations. Teachers who were classified as highly satisfied (HS) with their job were female, Jewish, and taught in large schools. It is important to note that the two variables, gender and religion,
are mutually dependent. As indicated, the overwhelming majority of the Jewish teachers (almost 90%) were female, while a very large majority of the non-Jewish teachers (about 70%) were male. Consequently, there is great similarity for HS teachers between the findings regarding gender and those regarding religion.

Among the teachers who taught grades 1–3, almost 25% reported a high level of satisfaction from the job as compared to the percent who reported a low level, 12.4%. Among the high school teachers, 36.3% reported a low level of satisfaction as compared to only 16.2% who reported a high level. With regard to the birthplace
of the teachers’ fathers, the data reveal that among respondents whose fathers were not born in Israel, 99% were Jews, while among respondents whose fathers were born in Israel, 75% were non-Jews. Since these results also reflect the teachers’ religions, utmost care must be taken in interpreting them. Demographic characteristics that did not show statistical significance include teacher’s age, seniority at work, and education.

Table 3 presents the results of the t-test for teachers’ perception of their occupation and principal’s leadership styles. The LS teachers perceived their principal as more transactional and less transformational, and did not view their teaching occupation as professional (as compared to HS teachers). The HS teachers perceived their principal as more transformational and less transactional, and viewed their occupation as a profession.

4. Discussion

The data analyses delineated the characteristics of the LS and the HS teachers. The results suggest that LS teachers were mostly male, taught in large schools in the city, perceived their principal as a transactional leader, and did not view their teaching job as a profession. The HS teachers were mainly female, Jewish, taught in large schools, perceived their principal as a transformational leader, and viewed their teaching job as a profession.

The findings of this study support the NCES findings (1997) regarding the weak association between individual and school characteristics and teacher job satisfaction. As indicated in the NCES report, “certain teacher background variables and school characteristics are only weakly related to teacher satisfaction, and they are not nearly as useful in predicting a teacher’s satisfaction with teaching as a career” (p. 51). Nevertheless, female teachers who taught in elementary schools were found in the large-scale NCES survey to be more satisfied in their jobs than male teachers, a result similar to that of the present study on a sample of Israeli teachers. In both the NCES and the current study, more highly satisfied teachers were found among the teachers of grades 1-3 as compared to those in the higher grades. (Since virtually all Israeli schools are public schools, no comparison regarding job satisfaction could be made between teachers in public vs. private schools.) The present work has thus confirmed the relatively low degree of importance attached to demographic variables as compared to the contribution of other variables such as teachers’ perceptions of their occupation and of their principals’ leadership styles. This conclusion supports other research that found that teacher job satisfaction is positively related to participative decision-making and to transformational leadership (Bogler, 1999; Kirby et al., 1992; Koh et al., 1995; Rossmiller, 1992; Silins, 1992). With regard to teacher’s perception of their occupation, other studies found that teachers were most satisfied with the feeling of personal development (Dinham & Scott, 1998), and that perceived autonomy in the classroom was positively correlated with job satisfaction (Kreis & Brockoff, 1986).

5. Implications

The present study reveals two profiles of schoolteachers, one of teachers with a high level of job satisfaction, and one of those with a low level. The groups can be distinguished by the teachers’ perceptions of the teaching occupation and their principals’ leadership styles, as well as by a number of demographic characteristics. The findings of this research have important implications for both principals and teachers. Principals need to be aware of the effect that teachers’ perceptions of their occupation can have on their level of job satisfaction. They should therefore be attentive to the various components of this factor, especially those that reflect the “professional” facet of this vocation. Teachers who perceive the teaching job as a profession that is highly significant to their lives feel greater job satisfaction, and this, in turn, can affect their teaching quality and their intent to remain in the teaching profession. Since teachers expressed a higher level of satisfaction when they perceived their principal as a transformational
leader, principals should also consider adopting a transformational leadership style.

Although only few personal and school attributes were found to be characteristic of the least satisfied teachers, these, too, should be acknowledged by both the principals and the teachers themselves. Male teachers working in large schools in a city, who are found to have a low level of job satisfaction, should be given greater attention. These teachers themselves also need to take these findings into account in order to match their job expectations to the reality that they are likely to encounter.

This portrayal of more and less satisfied teachers clearly reflects only the Israeli teaching milieu. It would be interesting and rewarding to conduct a cross-cultural study to compare the profiles of teachers with different levels of satisfaction in other countries. It would also be interesting to study how teachers and teaching in general are viewed by others. How do students, their parents and other members in the community view the teachers? Such a study could be conducted in only one area, or in a number of countries to provide the basis for a comparative study. The present research adds another block to the edifice of knowledge on teacher’s job satisfaction by investigating it from another angle, that which delineates the attributes of teachers with low and high levels of job satisfaction.

Appendix

Reliability indices, means, and standard deviations of the study scales are shown in Table 4.

### Table 4

<table>
<thead>
<tr>
<th>Scale</th>
<th>Reliability&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Mean&lt;sup&gt;b&lt;/sup&gt;</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>Teacher’s satisfaction (25 items; N = 677 teachers)</td>
<td>0.96</td>
<td>4.73&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.99</td>
</tr>
<tr>
<td>Transformational leadership (17 items; N = 682 teachers)</td>
<td>0.94</td>
<td>3.64&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.75</td>
</tr>
<tr>
<td>Transactional leadership (10 items; N = 712 teachers)</td>
<td>0.77</td>
<td>2.34&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.67</td>
</tr>
<tr>
<td>Teacher’s occupational perception (28 items; N = 702 teachers)</td>
<td>0.93</td>
<td>3.19&lt;sup&gt;d&lt;/sup&gt;</td>
<td>0.60</td>
</tr>
</tbody>
</table>

<sup>a</sup>Cronbach’s z.

<sup>b</sup>Rating scale: 1 = never; 7 = always.

<sup>c</sup>Rating scale: 1 = not at all; 5 = very typical.

<sup>d</sup>Rating scale: 1 = disagree strongly; 5 = agree strongly.

### References


