

Longitudinal Effects of Pay Increase on Teachers' Job Satisfaction: A Motivational Perspective

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Abstract

The present study investigates the longitudinal effects of a pay-increase schema, known as the teachers' cadre, on teachers' job satisfaction. A total of 155 primary school teachers responded to a questionnaire tapping their overall job satisfaction over four occasions. The results of the study showed that pay increase did not have a significant effect on teachers' job satisfaction. After pay increase, teachers with high academic attainments were significantly less satisfied with their teaching profession than teachers with low academic attainments. After pay increase, male teachers were significantly more satisfied with their teaching profession than female teachers. Length of service did not have a significant effect on teachers' job satisfaction.

Key Words: job satisfaction; teachers' cadre; pay increase; motivation

1. Introduction

Started in 2007, the teachers' cadre; a pay-increase schema, is part of the governmental efforts to upgrade the educational system in Egypt. The first stage of the cadre started with an increase of 50% of all teachers' salaries. In the second stage of the cadre, teachers sit for a series of exams that covered respective disciplines, general knowledge, Arabic language, and social studies. Passing these exams signified that teachers' specializations, their understanding of the requirements and aspects of the educational process, and their proficiency in languages have been verified. Successful teachers could receive a second increase in their salaries between 50 and 150% depending on the length of their teaching experience. Those who failed the exams the first time were given a second chance the following year. Failing the tests a second time however, would deprive the teacher of the second increase in salary although it does not necessarily mean that he or she cannot continue to teach (Egyptian Ministry of Education, 2007).

The importance of pay increase goes beyond its impact on the income of public school teachers in Egypt. Pay increase for professional workers, such as teachers, is also relevant to the psychological theory regarding satisfaction and motivation. Several psychological theories sought to understand the basic configuration of human needs as they related to the workplace. For example, Schaffer's (1953, p.3) interpretation of job satisfaction is one of individual needs fulfillment. Schaffer stated that "Overall job satisfaction will vary directly with the extent to which those needs of an individual can be satisfied in a job are actually satisfied; the stronger the need, the more closely will job satisfaction depend on its fulfillment." (p.3). Schaffer argued that individuals use monetary rewards and salaries to satisfy their physical needs such as food, shelter, and clothing and their psychological needs as a symbol of achievement and recognition.

Furthermore, Maslow's theory of a need hierarchy (Maslow, 1954, 1971) and Herzberg's motivation-hygiene theory (Herzberg, 1966, 1968; Herzberg, Mausner, & Syderman, 1959) proposed that people have higher- and lower-order needs. For Maslow, gratification of lower-order needs, such as security and payment, leads to the emergence of higher-order needs involving social relations, self-esteem, and self-actualization. This is known as the principal of prepotency which states that lower-order needs are prepotent to higher-order needs. Gratification of these higher-order needs was reported to be necessary for true job satisfaction (Ryan & Deci, 2000; Wahba & Bridgewell, 1976).

Herzberg added a new dimension to Maslow's theory and proposed a two-factor motivational theory. Herzberg's theory is based on the notion that the presence of one set of job characteristics or incentives leads to job satisfaction (i.e., motivators), while the presence of another set of job characteristics prevents job dissatisfaction (i.e., hygiene factors). Motivation factors are present in the job itself and can be conceptualized as an inner force that drives individuals to attain personal and organizational goals, for example, opportunity for recognition, achievement, and personal growth. Hygiene factors, on the other hand, can lead to dissatisfaction when not satisfied. However, when satisfied, they do not motivate or lead to satisfaction; they only prevent dissatisfaction (Herzberg, et al. 1959). Thus, satisfaction and dissatisfaction are not on a

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continuum with one increases as the other diminishes, but are independent psychological phenomena. Herzberg et al. (1959) argued that higher and lower-order needs operate independently. Gratification of these lower-order needs is essential to employees' retention but cannot lead to satisfaction or motivation. Satisfaction can only come from the gratification of higher-order needs.

For both Maslow (1954, 1971) and Herzberg et al. (1959), salary is a lower-order need or a hygiene factor and as such cannot lead to true job satisfaction. The findings of several studies within the area of education have supported this notion. For example, Perie and Baker (1997) reported a nonsignificant relationship between salary and benefits and primary school teachers' job satisfaction in the United States. Similarly, Sylvia and Hutchinson (1985) investigated the relationship between primary school teachers' job satisfaction and their perceptions of merit payment (i.e., performance-related payment) in the United States and concluded that "Based upon our findings, schemes such as merit payment were predicted to be counterproductive in service organizations which employ professionally trained people." (p. 841). In Nigeria, Ubom (2001) reported that extrinsic incentives such as merit payment and effective teaching rewards did not have a significant effect on primary school teachers' job satisfaction and effectiveness. Sargent and Hannum (2003) found that salaries and incentives did not have a significant effect on primary school teachers' job satisfaction in China. Mhozya (2007) reported a nonsignificant relationship between salaries and different facets of primary school teachers' job satisfaction in Botswana.

Other motivational theories such as the path-goal theory (Georgopoulos, Mahoney, & Jones 1957), the instrumentality theory (Vroom, 1964), and the expectancy theory (Porter & Lawler, 1968) postulated that rewards would lead to satisfaction if the reward was viewed as leading to a desired outcome. For example, Lawler (1973) focused on expectation rather than need and argued that the overall job satisfaction is determined by the difference between all those things a person feels he/she should receive from his/her job and all those things he/she actually receives. Empirical tests of these theories, however, demonstrated that job satisfaction is a complex process in which the effort level expended by an individual is a function of the forces to expand specific levels of effort, the expectation that a given level of effort will or will not accomplish the task, the valence of the goal accomplishment/failure for job outcomes, the relevance of the job outcomes, the perceived instrumentality of job outcomes for need gratification, and the valence of basic needs of the individual in question (Campbell & Pritchard, 1976).

2. Teachers' job satisfaction and gender

Furthermore, research on job attitudes has identified three primary determinants of career satisfaction, including individual attributes or demographic variables, characteristics of the career itself, and organizational characteristics (Gosnell, 2000).

As far as teachers are concerned, research has revealed contradictory evidences on the relationship between gender and job satisfaction. Several studies have reported that female teachers have higher job satisfaction than male teachers (Ma & MacMillan, 1999; Michaelowa 2002; Spear, Gould, & Lee, 2000). In contrast, Bishay (1996) and Mwamwenda (1997) found that female teachers were less satisfied with their jobs than male teachers. However, some other studies (Gosnell 2000; Sargent & Hannum, 2003) found no relationship between gender and teachers' job satisfaction.

3. Teachers' job satisfaction and length of service

Similar contradictory evidences exist regarding the relationship between job satisfaction and length of service. Bishay's (1996) study showed that length of service correlated positively with teachers' job satisfaction. However, Gosnell (2000) reported a negative relationship between length of service and teachers' job satisfaction. There is evidence to suggest that those with less than five years of service are the most satisfied while those who have been teaching for between 15 and 20 years are the least satisfied (Poppleton & Riseborough, 1991). In line with the findings of Poppleton and Riseborough, Crossman and Harris (2006) reported a curvilinear relationship between teachers' job satisfaction and length of service with least satisfaction being reported by the 11-20 years of service group. In contrast, the studies by Dabo (1998) and Michaelowa (2002) showed no relationship between length of service and teachers' job satisfaction.

4. Teachers' job satisfaction and academic attainments

Equally found to influence teachers' job satisfaction are academic attainments. Dabo (1998), Gosnell (2000), Michaelowa (2002) and Sargent and Hannum (2003) found a significant negative relationship between teachers' academic attainments and teachers' job satisfaction. Results of these studies have indicated that better qualified teachers tended to be less satisfied than less qualified teachers, and thus more likely to leave teaching (Darling-Hammond, 1984; Schlechty & Vance, 1983). Contrary to these studies, Avery (1998) found that academic attainments have no significant impact on teachers' job satisfaction.

5. The present study

Most of the studies on the influence of background characteristics and payment on teachers' job satisfaction has been conducted in Western countries (e.g., Bishay, 1996; Michaelowa, 2002; Mwamwenda, 1997; Sargent & Hannum, 2003; Sylvia & Hutchinson, 1985). The findings of these studies have shown no consensus on the influence of demographic characteristics such as gender, length of service, and academic attainments on teachers' job satisfaction. Furthermore, there were evidences to show that payment has no impact on teachers' job satisfaction. Whether the influence of background characteristics and payment on teachers' job satisfaction applies in the context of Egypt remains an empirical question. In Egypt, teachers' salaries are relatively low compared to the standard of living. Egypt also fits the profile of a masculine culture where earning money signifies one's masculinity and power as an efficient breadwinner (Hofstede, 1980). These differential sex roles within the Egyptian culture appear to offer males more educational opportunities than females (Hofstede, 1998).

Thus, one goal of the present study is to investigate the effect of teachers' background variables (i.e., gender, length of service, and academic attainments) on teachers' job satisfaction. Another goal is to investigate the effect of teachers' pay increase on teachers' job satisfaction. Teachers' job satisfaction was compared at four occasions: (a) One month before applying the first stage of pay increase (**Time 1**), (b) One month after applying the first stage of pay increase (**Time 2**), (c) One month after applying the second stage of pay increase (**Time 3**), and (d) Five months after applying the second stage of pay increase (**Time 4**). The following hypotheses guided the present study:

Hypothesis 1. There will be no effect of pay increase on teachers' job satisfaction.

Hypothesis 2. The effect of pay increase on teachers' job satisfaction will differ across teachers' academic attainments.

Hypothesis 3. The effect of pay increase on teachers' job satisfaction will differ across teachers' gender.

Hypothesis 4. The effect of pay increase on teachers' job satisfaction will differ across teachers' length of service.

6. Methods

6.1 Participants

Data were collected from 155 primary school teachers employed in three Metropolitan public schools in El-Minia governorate in North Upper Egypt. All subjects held full-time posts and had completed at least their first year of teaching. In this study, only teachers who were not managers (head or deputy) were included in the analysis.

6.2 Measurements

6.2.1 Teachers' Job Satisfaction Questionnaire

A number of questionnaires have been developed, based on various theories and models, to measure teachers' job satisfaction. The majority of these questionnaires used three or more of the following domains: work content, autonomy, promotion, personal growth/development, financial rewards, supervision, communication, co-workers, workload, and work demand (Ho & Au, 2006; Lester, 1987; Scott & Dinham, 2003). Although most of these questionnaires were shown to be reliable and valid, the researcher noted that they did not translate easily. In addition, very few of these questionnaires have been constructed to measure job satisfaction among primary school teachers in Egypt. Job satisfaction is influenced by the culture to which

people adhere (Garrett, 1999; Van Houtte, 2006); and therefore, an appropriate measurement of job satisfaction among primary school teachers in Egypt should be developed to take into account the culture and values of primary school teachers at that country. Thus, the Teachers' Job Satisfaction Questionnaire (TJSQ) was developed for use within the present study. The approach to construct the TJSQ was similar to that of Spector (1997), Crossman and Harris (2006), and also Ma and Macmillan (1999) to measure a unidimensional phenomenon, often referred to as overall job satisfaction. Spector (1997, p.2) proposed that "Job satisfaction can be considered as a global feeling about the job or as a related constellation of attitudes about various aspects or facets of the job. The global approach is used when the overall or the bottom line approach is of interest." The TJSQ consisted of 15 items. Teachers responded to each item of the TJSQ on a four-point Likert type scale that ranged from one (*Absolutely Disagree*) to four (*Absolutely Agree*).

6.2.2 Demographic Information Form

This form includes demographic items related to the teacher such as gender, academic attainments, and length of service.

6.3 Procedures

Data collection took place over four occasions between 2007 and 2008. The TJSQ was distributed to teachers during their normal classes at their schools. All teachers were informed that they could deny their participation in data collection without any explanation, penalty, or cost to them. A total of 175 questionnaires were distributed during each of the four occasions of data collection. However, because of sample attrition and logistical problems involving distributing the questionnaires to teachers, a complete dataset was available for only 155 teachers (89% response rate). All questionnaires were returned directly to a research assistant in sealed envelopes to ensure confidentiality.

7. Results

7.1 Teachers' Demographic Characteristics

Teachers' demographic information showed that 80 (52%) were females and 75 (48%) were males. Fifty (32%) taught in education for 3-10 years, 60 (39%) taught for 11-18 years, and 45 (29%) taught for 19-26 years. As for the highest degree earned, 89 (57%) attained a high school certificate while 66 (43%) attained a university degree.

7.2 Descriptive Statistics of the TJSQ

In order to put the data in perspective, the means and standard deviations were calculated for each of the 15 TJSQ items averaged across the four occasions of data collections. These data are reported in Table 1. The data are arranged on the basis of the descending order of their mean values.

The three statements which were most positively received by respondents were as follows: Item 6, "I like the people I work with"; Item 2, "I participate in making important decisions in this school"; and Item 10, "I am satisfied with the social status of my job". The statements to which respondents reacted most negatively involved self-development, incentives and rewards, and salary. In ascending order, these items were as follows: Item 14, "I can learn new things and develop my skills in my job"; Item 12, "I am satisfied with my incentives and rewards"; and Item 7, "I am satisfied with my salary".

7.3 Exploratory factor analysis and reliability of the TJSQ

The TJSQ were piloted with 25 primary school teachers to confirm the content and face validity. Only minimal changes were required. An exploratory factor analysis with principal components ($N = 158$) retained a single factor (labeled teachers' job satisfaction) which explained 47% of the total variance extracted. Table 1 shows the TJSQ item loadings. Over four occasions of data collection, the test-retest reliability (Person's r) of the TJSQ ranged from 0.79 to 0.82 ($p < 0.001$) and Cronbach's alpha ranged from 0.83 to 0.86.

Table 1
Means, standard deviations, and item loadings of the Teachers' Job Satisfaction Questionnaire

Statement	<i>M</i> (<i>SD</i>)	Loadings
6. I like the people I work with.	3.78 (1.35)	0.68
2. I participate in making important decisions in this school.	3.74 (1.10)	0.65
10. I am satisfied with the social status of my job.	3.72 (1.41)	0.62
5. My work gives me a feeling of accomplishment.	3.65 (1.55)	0.81
13. I am evaluated fairly in this school.	3.58 (1.37)	0.63
9. I am generally satisfied with being a teacher at this school.	3.50 (0.98)	0.75
3. I am given respect by my colleagues.	3.42 (1.13)	0.78
8. I am satisfied with my chances for promotion.	3.20 (1.30)	0.65
1. The school administration encourages and supports me.	3.12 (1.52)	0.72
15. I am given a lot of freedom to decide how I do my work.	3.05 (1.20)	0.67
4. I feel there is a great deal of cooperation among staff members in this school.	2.90 (0.94)	0.61
11. I understand clearly the goals and priorities of my school.	2.83 (1.62)	0.72
14. I can learn new things and develop my skills in my job.	2.64 (1.34)	0.77
12. I am satisfied with my incentives and rewards.	1.93 (1.22)	0.70
7. I am satisfied with my salary.	1.85 (1.10)	0.66

Note. $N = 155$. Mean (M) and standard deviation (SD) are averaged over four occasions. Items are ranked according to their averaged mean scores

7.4 Split-plot factorial analysis of variance

The split-plot factorial analysis of variance (ANOVA), also known as the mixed-design ANOVA, is a factorial design in which at least one of the factors is based on independent observations and at least one is based on correlated observations. When a factor is based on independent observations, it makes use of between-group comparisons, as in single-factor ANOVA. When it is based on correlated observations, it makes use of within-subject comparisons as in repeated measures ANOVA (O'Brien & Kaiser, 1985).

The present study employs a split-plot factorial ANOVA to examine the effect of gender, length of service, and academic attainments (between-subjects factors) on teachers' job satisfaction measured over four occasions (within-subjects factors). Following the guidelines of O'Brien and Kaiser (1985), the multivariate approach was adopted to examine the within-subject effects. This approach treats the data as being comprised of a number of measures obtained on a single group of individuals. The multivariate test statistic, Pillai's Trace (F), was used because it is more robust to heterogeneity of variance and is less likely to involve Type I error than comparable tests (Olson, 1976).

The results of the analysis, reported in Table 2, showed that pay increase did not have a significant effect on teachers' job satisfaction, $F(3,141) = 1.24$, ns , $p = 0.005$. Thus, the analysis of the present dataset supported the first hypothesis. Recently, Kittler, Menard, and Phillips (2007) proposed the following guidelines for Eta Squared (η^2): small = 0.01; medium = 0.06; and large = 0.14.

Table 2
The effect of pay increase, teachers' gender, length of service, and academic attainments on teachers' job satisfaction

Factors	<i>df1</i>	<i>df2</i>	<i>F</i>	η^2
Pay increase	3	141	1.24	0.005
Pay increase * Academic attainments	3	141	9.72**	0.12
Pay increase * Gender	3	141	12.43**	0.14
Pay increase * Length of service	6	284	1.11	0.001
Pay increase * Gender * Academic attainments	3	141	0.85	0.005
Pay increase * Academic attainments*Length of service	6	284	0.92	0.007
Pay increase * Gender* Teaching experience	6	284	0.47	0.003
Pay increase * Gender * Academic attainments * length of service	6	284	0.76	0.007

Note. $N = 155$. $df1$ = Hypothesized df . $df2$ = Error df . η^2 refers to Eta Squared for effect size. ** $p < 0.01$.

Table 2 shows that there was a significant interaction effect between pay increase and teachers' academic attainments, $F(3,141) = 9.72$, $p < 0.01$, $\eta^2 = 0.12$. This interaction effect is displayed in Figure 1.

This interaction effect suggested that the impact of the pay increase on teachers' job satisfaction differed significantly across teachers' academic attainments (i.e., high school certificate vs. university degree). Thus, the analysis of the present dataset supported the second hypothesis.

A simple main effect analysis, summarized in Table 3, showed that before applying the first stage of pay increase, teachers who attained a high school certificate and teachers who attained a university degree rated their job satisfaction similarly, $F(1,143) = 0.23$, ns , $d = 0.10$. For Cohen's d , an effect size of 0.2 to 0.3 represents a small effect, around 0.5 represents a medium effect, and 0.8 to infinity represents a large effect (Cohen, 1988). After applying the first stage of pay increase, teachers who attained a high school certificate rated their job satisfaction significantly higher than teachers who attained a university degree, $F(1,143) = 6.11$, $p < 0.01$, $d = 0.47$. The differences among teachers in rating their job satisfaction showed the same pattern after applying the second stage of pay increase, $F(1,143) = 11.43$, $p < 0.01$, $d = 0.60$. When they were followed up five months later, teachers who attained a high school certificate still rated their job satisfaction significantly higher than teachers who attained a university degree, $F(1,143) = 12.15$, $p < 0.01$, $d = 0.69$.

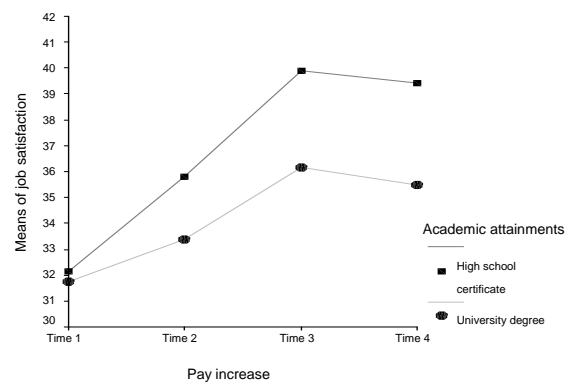


Figure 1. Means of job satisfaction for teachers who attained a high school certificate and teachers who attained a university degree across four times

Table 3
Means of job satisfaction across teachers' academic attainments, gender, and length of service

Pay increase	Academic attainments		$F(1, 143)$	d^*	
	High school certificate	University degree			
	$M(SD)$	$M(SD)$			
Time 1	32.15 (4.3)	31.76 (3.2)	0.23	0.10	
Time 2	35.80 (5.6)	33.36 (4.7)	6.11*	0.47	
Time 3	39.87 (6.7)	36.16 (5.5)	11.43**	0.60	
Time 4	39.40 (5.8)	35.47 (6.5)	12.15**	0.69	
Gender					
	Males	Females	$F(1, 143)$	d	
	$M(SD)$	$M(SD)$			
Time 1	30.51 (5.5)	32.66 (4.6)	6.43*	0.42	
Time 2	37.20 (6.5)	33.18 (5.9)	5.43*	0.64	
Time 3	39.83 (5.8)	35.34 (5.4)	10.34**	0.80	
Time 4	39.69 (6.2)	35.12 (5.7)	9.29**	0.78	
Length of service					
	3-10 Years	11-18 Years	19-26 Years	$F(1, 143)$	η^2
	$M(SD)$	$M(SD)$	$M(SD)$		
Time 1	35.4	34.9	36.2	0.95	0.004
Time 2	37.4	38.5	37.1	0.74	0.007
Time 3	34.3	33.8	35.2	0.62	0.003
Time 4	33.9	34.7	35.5	0.79	0.008

Note. $N = 155$. $d =$ Cohen's d for effect size. * $p < 0.05$, ** $p < 0.01$

Table 2 shows that there was a significant interaction effect between pay increase and teachers' gender, $F(3, 141) = 12.43, p < 0.01, \eta^2 = 0.14$. Thus, the analysis of the present dataset supported the third hypothesis. This interaction effect is displayed in Figure 2. This interaction effect suggested that the impact of pay increase on teachers' job satisfaction differed significantly across male and female teachers. A simple main effect analysis, summarized in Table 3, showed that before applying the first stage of pay increase, female teachers rated their job satisfaction significantly higher than male teachers, $F(1, 143) = 6.43, p < 0.05, d = 0.42$. However, after applying the first stage of pay increase, there was a reversed pattern of gender differences with male teachers rated their job satisfaction significantly higher than female teachers, $F(1, 143) = 5.43, p < 0.05, d = 0.64$. After applying the second stage of pay increase, male teachers continued to rate their job satisfaction significantly higher than female teachers, $F(1, 143) = 10.34, p < 0.01, d = 0.80$. When they were followed up five months later, male teachers still rated their job satisfaction significantly higher than female teachers, $F(1, 143) = 9.29, p < 0.01, d = 0.78$.

Finally, Table 2 shows that there was a nonsignificant interaction effect between pay increase and teachers' length of service, $F(6, 284) = 1.11, ns, \eta^2 = 0.001$. This nonsignificant interaction effect indicates that the effect of pay increase on teachers' job satisfaction did not differ significantly across the three levels of teachers' length of service (3-10 years, 11-18 years, and 19-26 years). Thus, the analysis of the present dataset did not support the fourth hypothesis.

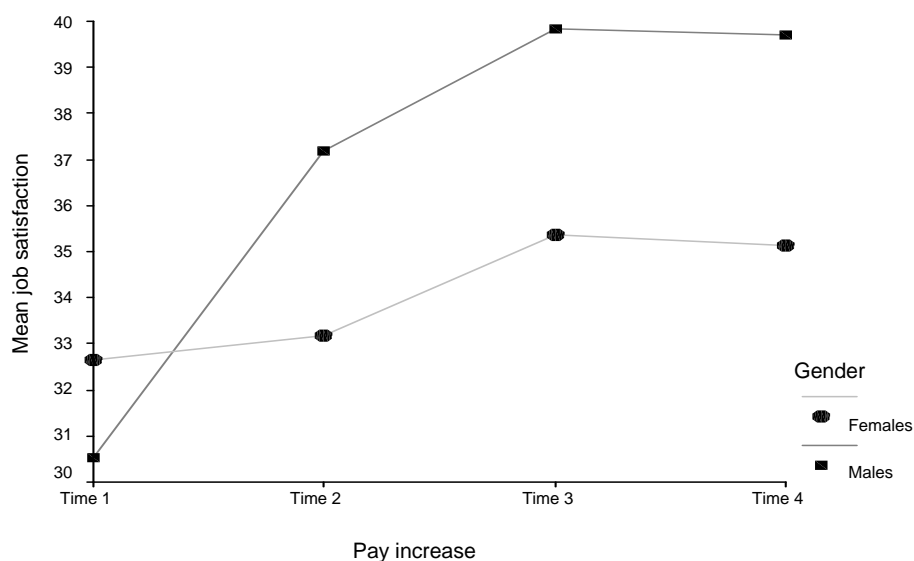


Figure 2. Means of job satisfaction for male and female teachers across four times

Averaging over four occasions, the analysis of the between-subjects effects showed that male and female teachers differed significantly in rating their job satisfaction, $F(1, 143) = 15.83, p < 0.02, d = 0.47$. Male teachers ($M = 36.81, SD = 6.0$) rated their job satisfaction significantly higher than female teachers ($M = 34.10, SD = 5.4$). The analysis also showed that teachers who attained a high school certificate and teachers who attained a university degree differed significantly in rating their job satisfaction, $F(1, 143) = 11.23, p < 0.01, d = 0.50$. Teachers who attained a high school certificate ($M = 36.80, SD = 5.6$) rated their job satisfaction significantly higher than teachers who attain a university degree ($M = 34.18, SD = 4.9$). The number of years of teaching experience did not have a significant effect on teachers' ratings of their job satisfaction, $F(2, 143) = 1.4, ns, \eta^2 = 0.001$.

8. Discussion

The present analyses revealed several notable findings. First, there was a nonsignificant effect of pay increase on teachers' job satisfaction. This finding indicates that teachers' mean ratings of their job satisfaction did not differ significantly before and after applying the new pay-increase schema. Similar findings have been reported in the United States (Perie & Baker, 1997), Nigeria (Ubom, 2001), China (Sargent & Hannum, 2003), and Botswana (Mhozya, 2007).

A possible explanation for this finding is that teachers still feel underpaid compared to other teachers at different educational levels in Egypt. According to the social information processing theory of job satisfaction (Salancik & Pfeffer, 1978), job satisfaction and dissatisfaction are attributions that have to be socially constructed via comparing oneself with others in the career in terms of job responsibilities, payment, and workload. A second possible explanation is that teachers were disappointed with this insufficient pay increase. From the viewpoint of the expectancy theory (Vroom, 1964; Porter & Lawler, 1968; Lawler, 1973), job satisfaction is determined by the difference between all those things a person feels he/she should receive from his/her job and all those things he/she actually receives. The need-fulfillment theory (Schaffer, 1953, p. 3) also states that "Overall job satisfaction will vary directly with the extent to which those needs of an individual can be satisfied in a job are actually satisfied." Furthermore, Herzberg's motivation-hygiene theory (Herzberg et al. 1959) and Maslow's need hierarchy theory (Maslow, 1954) proposed that individuals are not content with the satisfaction of lower-order needs at work such as minimum salary levels or safe and pleasant working conditions. Rather, individuals look for the gratification of higher-order psychological needs such as achievement, recognition, responsibility, and self-actualization. According to Herzberg's motivation-hygiene theory, payment is a lower-order need or a hygiene factor that cannot lead to true job satisfaction. Hygiene factors can lead to dissatisfaction when not satisfied. However, when satisfied, they do not motivate or lead to satisfaction; they only prevent dissatisfaction. The second notable finding concerned the significant interaction effect between pay increase and teachers' academic attainments. This finding indicates that the impact of pay increase on teachers' job satisfaction differed significantly across teachers' academic attainments (i.e., high school certificate vs. university degree). The effect of pay increase on teachers' job satisfaction was consistently stronger for teachers with low academic attainments (i.e., high school certificate) than for teachers with high academic attainments (i.e., university degree). This finding has been repeated in several studies by Dabo (1998), Gosnell (2000), Michaelowa (2002) and Sargent and Hannum (2003). For example, Sargent and Hannum (2003) found that teachers with high academic attainments were significantly less satisfied with their teaching profession and were significantly more likely to state that they wished to change their career than teachers with low academic attainments. Michaelowa (2002) found that teachers' satisfaction with both the profession and working place was reduced when teachers' academic attainments were high.

This finding is contrary to the expectation that more knowledge of the teaching profession and teaching competence, gained through high academic attainments, are relevant to job satisfaction. A possible explanation for this finding is that teachers with high academic attainments face a mismatch between their professional expectations and work realities. This negative effect appears to counterbalance the potential positive effect of facilitated teaching and increased self-confidence the teachers may have as a result of their high academic attainments. Another possible explanation is that teachers with better academic qualifications perceive more alternative career opportunities. The third notable finding concerned the significant interaction effect between pay increase and teachers' gender. This finding indicates that the impact of pay increase on teachers' job satisfaction differed significantly for male and female teachers. Before applying pay increase, female teachers rated their job satisfaction significantly higher than male teachers. One possible explanation for this finding is that females traditionally perceive themselves as teachers and nurturers of children and that, owing to social expectations as well as informal gender stereotypes, they are more likely to desire job satisfaction in their teaching career. According to Lippa (2002), females' communal role includes being caring, nurturing, affectionate, interpersonally sensitive, concerned with the welfare of others, and emotionally expressive. This finding has been confirmed by studies in which female teachers have been observed to experience greater job satisfaction than their male counterparts (Chaplain, 1995; Klecker & Loadman, 1999; Ma & MacMillan, 1999; Michaelowa, 2002; Poppleton & Riseborough, 1991; Spear, Gould, & Lee, 2000). For example, Borg and Falzon (1989) examined stress and job satisfaction among 844 primary school teachers in Malta and reported that more than twice as many male teachers as female teachers

indicated dissatisfaction with their teaching career. Correspondingly, female teachers showed greater job satisfaction than male teachers. After applying pay increase (i.e., Time 2, Time 3, and Time 4), male teachers rated their job satisfaction significantly higher than female teachers. This finding indicates that male teachers tended to be more responsive to the new pay increase than female teachers. A possible explanation for this finding is that male teachers attach more value to money than female teachers. The social role theory (Eagly, 1987; Eagly & Karau, 1991) helps explain why this may be the case. According to this theory, the differing gender roles partially stem from the different roles males and females occupy in the family and the society. Males' agentic role includes being independent, controlling, forceful, ambitious, and dominant. The focus on independence in the agentic role may explain why men, across cultures, repeatedly report stronger attitudes towards money as a way to ensure independence than do women (Lippa, 2002). This is probably correct in a male dominant culture, such as Egypt, where earning money signifies one's masculinity and power as an efficient breadwinner (Hofstede, 1980). For example, Lynn (1993) compared men's and women's attitudes towards money across 20 countries. He found that men scored higher than women in the valuation of money in 14 of the countries and thus he concluded that men are more obsessed with money than are women.

Finally, the present study showed that teachers' length of service did not have a significant effect on teachers' job satisfaction. This finding is consistent with that of Dabo (1998) and Michaelowa (2002) who reported no relationship between length of service and teachers' job satisfaction. One possible explanation for this finding is that young teachers could not adapt to new working conditions or develop effective cope strategies for work-related issues whereas older teachers have accepted their positions in their schools and see limited career prospects.

9. Conclusion

In summary, the findings of the present study showed that a pay-increase schema, known as the teachers' cadre, did not contribute to primary school teachers' job satisfaction in Egypt. Teachers with low academic attainments were more satisfied with their teaching profession than teachers with high academic attainments. Male teachers were more responsive to pay increase and were significantly more satisfied with their teaching profession than female teachers. Length of service was found to have no impact on teachers' job satisfaction.

10. Implications for teachers' development

In general, the findings of the present study underscore three important implications for teachers' professional development. First, it is important to implement an appropriate incentive system that develops not only the extrinsic aspects (i.e., remuneration) but also the intrinsic aspects of teaching. Teachers may not content with the satisfaction of lower-order needs at work such as salary. Rather, teachers look for the gratification of higher-order psychological needs such as achievement, recognition, and self-actualization. Second, an effective incentive system should value teachers' individuality. Teachers are not all the same. They are, of course, different in age, gender, aptitude, experience and subject interest, and in relation to ability, commitment, and professionalism. Each teacher will have individual needs which reflect his/her educational ideologies and values. Most teachers will lie somewhere between the two extremes of "restricted" and "extended" professionalism, and a school staff will typically include a mixture of teachers, reflecting a wide range of different professionalism orientations. Third, the cause of recruiting and retaining quality teachers would be best served by generally upgrading teachers' pay and installation of organizational support system to assist new and/or struggling teachers.

11. Future research

The results presented here suggest the potential value of further research to understand how intrinsic and extrinsic incentives link to teachers' job satisfaction and other aspects of school functioning at different educational levels. It may also be necessary to look beyond the school settings, particularly to questions of esteem and social support networks, to identify other higher-order psychological needs linked to teachers' job satisfaction.

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