

*UNIVERSITY OF BELGRADE
TECHNICAL FACULTY IN BOR
MANAGEMENT DEPARTMENT*

**INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT**



**STUDENTS SYMPOSIUM ON STRATEGIC
MANAGEMENT**

BOOK OF PROCEEDINGS

**Hotel "JEZERO" – Bor
23-25. May 2014.**

INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT

STUDENTS SYMPOSIUM ON STRATEGIC
MANAGEMENT

P R O C E E D I N G S

Bor's Lake, 23-25 May 2014



**The conference is also supported by the
international Visegrad Fund (V4),
<http://visegradfund.org>, in the form of the Small
Grant Project**

**Konferencija je takođe podržana od strane
međunarodnog Višegrad fonda (V4),
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Book of abstracts of 10th International May Conference on Strategic Management – IMKSM2014

Publisher: University of Belgrade, Technical Faculty in Bor, Management Department

In front of the publisher: Prof. dr Milan Antonijević, Dean of Technical Faculty in Bor

Editor-in-Chief: Prof. dr Živan Živković, Technical Faculty in Bor

Technical Editor: Prof. dr Ivan Mihajlović, Technical Faculty in Bor

Co - Editor: Doc. dr. Predrag Đorđević, Technical Faculty in Bor

ISBN: 978-86-6305-019-8

Published in 300 copies

Bor – May 2014.

TESTING HERZBERG'S DUALITY THEORY: ANALYZING JOB SATISFACTION AMONG STATE ADMINISTRATION EMPLOYEES

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Abstract: Although academics have not reached a universal agreement on the definition of job satisfaction, a significant group of researchers regards it as a multidimensional structure and refer to it as the degree to which people enjoy doing their jobs (Chien, 2013). The concept of job satisfaction has been a research interest to many academics; however motivation and job satisfaction studies in the public administration have been rare. The same applies for the Macedonian public administration- there were rare attempts to scrutinize and understand job satisfaction among these employees. By applying a quantitative approach, this research analyses how personal and job characteristics impact job satisfaction among 532 public administration employees in three cities in Republic of Macedonia. This study also attempts to assess the effect of Herzberg's motivators and hygiene factors on overall job satisfaction. The data was analyzed using principal component analysis (PCA), t-test, and a multiple regression analysis was conducted to evaluate the predictive weight of the constructs in the conceptual model. The results show that several personal characteristics have a significant relationship with most dimensions of the perceived work environment and job satisfaction; however it provides inconclusive support of the duality theory. The significance of this research is not only in its testing of the duality theory, but in the contribution to the knowledge and understanding of levers that would improve job satisfaction among the public administration employees. Based on the research results, recommendations will be discussed for managers of public administration, as well as implications for academic researchers in the relevant field.

Keywords: job satisfaction, quality of worklife, public administration, Herzberg, motivation

1. INTRODUCTION

Despite the fact that the academic world has not reached a consensus on a universal definition of job satisfaction, researchers agree that it is *a multidimensional structure measured by the degree to which people enjoy doing their job* (Chien, 2013). It represents a measure for quality of work life and has been shown to influence behavior, performance, loyalty and tendency of workers to leave the organization (Price and Mueller, 1986; Savić et al, 2014). The impact of job satisfaction among public administration employees attitudes has been a leading area of research in the developed world for years (Schmidt; 1976; Park et al, 1988; Write and Davis, 2003; Kim, 2005; Bullens and Broeck, 2007). But surprisingly, very limited number of studies have been conducted on job satisfaction in the

context of the public administration in developing. This study has been conducted to fill the existing research gap and to explore the relationship between personal, job characteristics and workplace environment on job satisfaction in Macedonia, through the lenses of Herzberg's two factor theory.

2. HERZBERG'S DUAL FACTOR THEORY

The emergence of Herzberg's dual factor theory challenged the dominant theoretical assumptions that "job satisfaction and dissatisfaction could be presented on a continuum, at the midpoint of which, an individual would experience a neutral public being neither satisfied nor dissatisfied" (Jones and Lloyd, 2005, p.932). Herzberg suggested that the work composites of two main sets of items: motivators and hygiene factors (Hodson, 2014). Using the critical incident method, Herzberg asked a sample of 200 male engineers and accountants to describe either a time when they felt exceptionally good or a time when they felt exceptionally bad about their job (Herzberg, 1959). When employees were describing when they felt exceptionally bad, they were often describing the hygiene factors. These are related to the environmental factors in the workplace and are underlined by its physical and psychological conditions, and include: supervision, company policy and administration, relationship with supervisor, work conditions, salary, relationship with coworkers, personal life, subordinates, status and security. In case absence of one or more of these hygiene factors occurs, the result will be experienced job dissatisfaction by the employee. While the hygiene factors dealt with the primary disruptions in the external workplace context, the motivators deal with the internal states of the employees mind (Hodson, 2014). When respondents in Herzberg's research described a situation when they felt exceptionally good about their job, spoke of motivators. These include: responsibility, personal growth opportunities, achievement, recognition, opportunities for promotion and work itself. An improvement in motivators result in an increased job satisfaction, thus a deterioration in one or more motivators would prompt a move in the opposite direction (leading to no job satisfaction). This research caused a plethora of other replication studies. Some of the studies were summarized in Herzberg's book *The Work And Nature Of Man* (1966) and supported the findings of his theory. In addition, a range of researchers severely criticised Herzberg's research on the grounds of sample selection and a single measure of job attitude (Ewen, 1964); poor respondent recall (Hardin, 1965), the role of money as a hygiene factor was disputed (Opsahl and Dunnette, 1966) or that in a recall study ego defences would be invoked when respondents are asked to attribute the sources of work dissatisfaction, whilst attributing sources of satisfaction to personal achievement and capability (Vroom, 1964). Furthermore some researchers believe that job satisfaction and its determinants are changing over the working life of employees (Katz, 1978) or employees may create their own satisfaction when tasks become redundant (Roy, 1960; Burawoy, 1979). It is interesting to note that when Herzberg's theory was tested, a pattern emerged that created two "types" of psychologists who diverged dramatically on their findings. Researchers that used the critical incident method (used by Herzberg) received results consistent with his theory and supported the duality theory. On the other hand researchers that used research methods such as survey, supported the uniscale model that conflicts with Herzberg's theory. This resulted in a plethora of critiques that Herzberg's results were method bound (Hulin and Smith, 1965). Although critiques of Herzberg's theory could point to alternative results from the application of other research methods, no one could

clearly explain why Herzberg's method produced the same results with such consistency (Jones and Lloyd, 2005)

3. JOB SATISFICATION OF PUBLIC ADMINISTRATION EMPLOYEES

The interest of scholars in motivation and job satisfaction of public administration employees dates back to the beginnings of public administration. The basis for this interest is the prevailing concern that the motivation of public administration employees directly affects the quality and content of public outputs (Perry and Wise, 1990). The last fifty years have brought dramatical changes to the public administration through a change in its scope, internal structure and the management of the public services (Farnham and Horton 1996; Steijn, 2002). In 1995 Robert Behn wrote that motivating public sector employees has become one of the 'biggest' questions of public management. Yet, typical research on job satisfaction has mainly been concerned with private sector employees, offering only limited understanding of what consists and drives the motivation of public sector employees (Houston, 2005). The Public Service Motivation (PSM) theory treats public service as a calling (sense of duty), thus assuming that these employees are driven by the commitment for the common good, rather than simple self-interest (Brewer and Sleden, 1998; Crewson, 1997; Houston, 2005). A range of studies made efforts to analyze different determinants of public administration employees such as personal characteristics (Reiner and Zhao, 1999; Bright, 2005; Dehart-Davis et al., 2007;), work preferences (Brewer et al., 2000; Bright, 2005), effectiveness of public-sector diversity management programs (Naff and Kellogg, 2003), impact of perceptions (Scott and Pandey, 2005), tendency for charitable giving (Houston, 2006), volunteering (Reed and Selbee, 2001) socio-economic status (Goss, 1999); and the connections between motivation, job satisfaction, and turnover intentions of public administration employees (Naff and Crum, 1999; Bright, 2008). However little empirical attention has been given to evaluating job-satisfaction levels among public-sector employees. Given that the monetary reward system in the public sector systematically differs from that of the private sector (in terms of pay, benefits, and material value), it seems likely that studies of financially driven job satisfaction levels among private-sector employees may not be applicable to public-sector employees. (DeSantis and Durst, 1996; Brewer and Selden, 2008; Brewer, Sleden and Facer, 2000). Attempts have been made to investigate the valuing of intrinsic awards in contrast to extrinsic ones and have found that public employees pay less emphasis on extrinsic motivators such as higher pay (Jurkiewicz et al, 1998), and more emphasis on service to society and the importance of meaningful work (Crewson, 1997; Houston, 2000). In addition, perceptions of recognition, discrimination and external relations were the best explanatory variables for of job satisfaction (Johnsrud and Rosser, 1999). Volkwein and Parmley found that teamwork (which is considered as a synonym for positive relationships with colleagues) is partially associated with satisfaction. In summary, these studies do not give a clear explanation as Herzberg's theory suggest. The academic literature does not have a conclusive notion of what comprises the job satisfaction among public administration. Therefore, this study seeks to deepen the academic understanding of this phenomenon.

4. RESEARCH QUESTIONS AND RESEARCH MODEL

The research is modeled around previous research done in the field (Smerek and Peterson, 2007; Volkwein and Parmley, 2000). Based on the review of the academic

literature, the following research question were set (1) What is the influence of personal and job characteristics on job satisfaction? And (2) Is Herzberg's dual factor theory relevant in the context of the Macedonian public administration? The dependent variable is Job Satisfaction and is build on three items from the questionnaire (1) Comparison of current job to the ideal job; (2) Overall satisfaction with current job and (3) Extent to which the current job meets the expectation set at the start of employment. Personal characteristics include age, gender, and ethnic minority status. Job characteristics are: working position, tenure and supervisory role. The research also identifies 10 work place dimension (Table 2) extracted using participative component analyses.

5. RESEARCH APPROACH

For the purpose of the research, a survey was conducted among public administration employees in four cities in Republic of Macedonia. The survey was distributed in person among the public administration employees. The survey was anonymous and no marks were printed on the questionnaires that could identify the respondent. The researcher left a printed copy of the questionnaire to each of the employees and a box in which the employees could leave their completed questionnaires. This method of distribution was selected for the following reasons (1) Previous social research found that employees are less likely to use "don't know" or "refuse to answer" in self administered questionnaires (SAQ), compared to i.e. computer assisted self administered questionnaires (ACASI) (Turner et al., 1998); (2) this method may results in less misreporting due to the availability of the researcher to answer any misunderstandings (Gideon, 2012); (3) ACASI approach requires that all the respondents are computer literate and have experience in online completion of questionnaires, which is not the case with all employees of the public administration and (4) the researcher can encourage hesitant employees about the anonymity of the survey (Mensch et al, 2008). The questionaiire was consisted of 109 items covering the following topics: of training and development; recognition and praise; collaboration and teamwork; communication; alignment with mission and goals; and feelings about one's job. The responses to each of the questions were measured on the five-point Likert type scale. The second part of the survey was consisted of five questions that gathered demographic data about the respondents: gender, age, education, tenure and working position. The questionaiire represented an adapted version of a research instrument originally developed by Smerek and Peterson (2007).

6. POPULATION AND SAMPLE

The survey was administered among 650 employees from the Macedonian public service sector. All of the employees were working in local administrations of municipalities in Macedonia. A total of 532 questionnaires were returned completed to the researchers, resulting in an overall response rate of 85.8%. Taking into consideration the specific population in the study, public administration of local municipalities in Macedonia, the results of the survey may vary compared to other sectors of public administration (i.e. those working in ministries of internal affairs). In other words, this sample may have different determinants of job satisfaction compared to individuals form other public administration departments.

Table 2. Results from Principal Component Analysis of Work Environment and Job Satisfaction

TABLE 2 - Results from Principal Component Analysis of Work Environment and Job Satisfaction			
	Loading	Loading	
Job satisfaction ($\alpha=0.834$)			
Imagine your ideal job. How well does it compare with your current job?	0.688	Supervision ($\alpha=0.933$)	
Overall, how satisfied are you with your job?	0.655	My supervisor effectively communicates and cooperates with employees	
Think about the expectation you had when you started your current job. To what extent does your job fulfill these expectations?	0.663	My supervisor makes good decision for the organization	
Recognition ($\alpha=0.834$)			
Expressions of thanks and appreciation are common in my department	0.71	My supervisor manages to create and sustain an environment of trust	
My contributions are valued by the members of my department	0.621	I feel that the supervisor cares about me as a person	
My good work is recognized by the colleagues	0.587	The supervisor cares about the family life of the employees	
In last week I have received recognition for doing something well	0.567	Overall rating of the supervisor	
My contribution are valued by members of the wider community	0.525	My supervisor is an ethical decision maker	
I get recognition everytime I do something extraordinary	0.511	My supervisor gives me constructive feedback	
Work itself ($\alpha=0.872$)			
My job gives me a sense of accomplishment	0.768	My supervisor treats me with respect	
I enjoy the type of work I do	0.725	My supervisor is available for contact and consultation / he is easily approachable	
My job gives me a feeling of making a difference in the community	0.709	My supervisor always gives me feedback	
I make a difference in my department	0.662	My supervisor takes my opinion into account	
I am perfectly fit for this job	0.654	My supervisor is manages low performing employees effectively	
My job is interesting	0.58	My supervisor understand where the organization is at this moment	
Opportunities for advancement ($\alpha=0.890$)			
I understand what is required for me in order to advance in my job	0.801	My supervisor cares about the future of the organization	
Opportunities for advancement exist in the department where I work	0.751	Salary ($\alpha=0.821$)	
Information about vacancies is readily available to employees	0.65	I am paid fairly for the work I do	0.842
Internal candidates receive fair opportunities for applying for open positions within the company	0.663	My salary is competitive	0.824
Professional growth opportunities ($\alpha=0.887$)			
My supervisor informs me on the opportunities for my advancement	0.81	The amount of my salary is an important part of the decision to stay with this organization	0.813
I went through necessary training in order to get ready for my job	0.798	Relationship with colleagues ($\alpha=0.912$)	
There is someone in the organization who encourages and supports my professional development	0.697	I can always count on my colleagues for help	0.901
In this last years, a person from the organization has consulted me about the opportunities for my professional progress	0.682	Me and my colleagues work as a team	0.898
In the last year, I have been offered opportunities for learning and advancing professionally	0.651	My colleagues care and support each other	0.888
The organization is interested in my professional growth	0.647	At least one person at my department cares about me as a person	0.879
My colleagues are interested in professional growth opportunities	0.644	I am trusted by my colleagues	0.875
I had opportunities to develop and learn during my work	0.567	I trust my colleagues	0.869
Responsibility ($\alpha=0.862$)			
My opinion is considered by my colleagues	0.684	When I first came to this department, I was made to feel welcome	0.651
I have control over the work I do	0.663	I respect my colleagues	0.855
I have the necessary tools and equipment to do my job well	0.628	I am respected by my colleagues	0.831
The workplace enables me to do my job appropriately	0.59	My colleagues nurture a positive working environment	0.819
The design of the workplace supports the amount of privacy necessary for my job	0.579	We make new colleagues in our department to feel welcome	0.728
I have independence in the work I do	0.575	Core values ($\alpha=0.710$)	
I have a say in my department	0.535	Our everyday work is governed by a clear and consistent set of values	0.643
		Not respecting organizational core values will get you in trouble	0.51
Good feeling about organization ($\alpha=0.923$)			
		I have a strong feeling of belonging to the organization	0.882
		I am strongly committed to the organization	0.846
		I always say that I work at a great place	0.824
		I enjoy discussion my work at the organization with other people	0.754
		I care about the future of the organization	0.729

6. ANALYSIS OF DATA

After the gathering of the research data, a principal components factor analysis (PCA) with oblimin rotation was performed in order to examine the factor structure of the data. Principle component analyses is used to discover components that underlie performance on a group of variables by looking at all variance of the data. This analyses is recommended as a factor extraction method due to the clearness of its statistical procedure and the desirable statistical nature of the factor score estimates (Nakata, 2006). In order to determine whether the sample was adequate for performing PCA, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and a Bartlett's test for sphericity were conducted. KMO serves as a qualitative index of the strength and relations among variables (Hancock, 2002). In cases when the KMO value is below 0.6, then it is not advisable to perform factor analyses. The calculated KMO value was 0.803 thus was considered adequate for factor analyses. The results indicated that the correlation matrix was adequate and PCA can be performed. The items that did not clearly load into a single factor or which did not have a minimal value of 0.5, were removed from the analysis. A total of 71 questions from the original 109, converged in ten factors. For each of these factors a reliability test was conducted ranging from 0.510 to 0.901, with an average reliability of 0.71. Table 1 presents the reliability results for each of the extracted factors.

7. RESEARCH RESULTS

The PCA analysis resulted in the extraction of ten workplace factors. For the purpose of the research, a comparison of these factors was made with the motivators and hygiene factors found in Herzberg's theory. Regarding the motivators, *recognition*, *work itself*, *advancement*, *growth opportunities* and *responsibility*, resulted from the principle component analysis. In accordance to the original survey model used, there were no related items for *achievement* in the survey. The item *positive attitude towards organization* was classified as an intrinsic factor (Smerek and Peterson, 2007). In terms of the hygiene factors in Herzberg's theory, less similarities were found with the survey results. Comparable factors did not emerge for *company policy and administration*, *personal life* and *work conditions*. In addition the survey had questions that fell under the following hygiene factors: *status*, *security* and *relationship with subordinates*, but they did not emerge as single factors. In line with Smerek and Peterson's recommendation, the item *core values* was included as a hygiene factor since its absence would lead to a dissatisfying workplace (p.241). In order to address the first objective of the research, t-test analyses was conducted to analyze the relationship of gender, ethnic minority status and supervisory role on job satisfaction (Table 3). The results from the t-test indicated that overall females had higher reported satisfaction levels with their workplace compared to males. Females were more satisfied in seven out of ten workplace factors. It is interesting to note that women were less satisfied compared to their male colleagues with their *work itself*, *supervision* and *good relationship with coworkers*. The greatest gender discrepancy was found in *recognition*, where females had much higher scores compared to their male colleagues. The analysis did not find statistical significant gender difference on item *presence of core values*. These findings are in line with the research done by Kim (2005) who found that female workers were more satisfied with their job compared to their male counterparts in public administration in Seoul. Considering the ethnic minority status, the overall job satisfaction level of minorities is lower (M=3.2) compared with non-minority employees (M=3.7). Both groups exhibited the same level of satisfaction on items *opportunities for growth* and *responsibility*.

Table 3. T – test and correlation of personal and job characteristics with workplace factors and job satisfaction (N=573)

Factor	Age		Tenure		Gender			Supervisory role			Ethnic Minority status			
	r	Sig	r	Sig	Male	Female	Sig	Supervisor	Non-Supervisor	Sig	Non-minority	Minority	Sig	
Motivators	Recognition	0.04		0.01		3.4	3.8	*	3.8	3.1	**	3.5	3.1	/
	Work Itself	0.05		0.03		4.1	3.9	**	3.9	3.5	*	4	4.1	**
	Opportunity for advancement	-0.04		-0.07	**	3	2.9	**	4	3.2	**	3	2.9	**
	Opportunities for Growth	-0.02		-0.11	**	3.2	3.5	**	4.1	3.2	*	3.2	3.2	**
	Responsibility	-0.03		-0.03		3	3.4	**	4	3.3	**	3.3	3.3	*
	Positive feelings about organization	0.09	**	0.01		3.7	3.8	*	4.3	3.8	/	3.6	3.2	**
Hygiene factors	Supervision	-0.06	*	-0.09	*	3.5	3.2	*	4.8	3.3	**	3.3	3	*
	Satisfaction with salary	0.04		-0.02		3.1	3.2	**	3.2	3.1	**	3.2	3.4	**
	Good relationship with co-workers	0.03		0.06	**	4.2	4	**	3.8	4.1	*	4.2	3.5	**
	Presence of core values	-0.05	**	-0.04		3.4	3.7	/	3.9	3.5	**	3.4	3.3	*
	Job Satisfaction	0.12	**	-0.02	*	3.5	3.7	*	3.9	3.4	**	3.7	3.2	**

* $p < 0.05$ (two tailed t-test) ** $p < 0.01$ (two tailed t-test)

Minority employees were more satisfied compared to the non-minority employees in terms of the *salary* and *work itself*. The greatest differences in responses is seen on opinion about *good relationship with coworkers*. The analysis did not find statistical significant gender difference on item *recognition*. Regarding the supervisory role of the respondents, the t-test results indicated that employees who had supervisory roles had overall higher levels of job satisfaction compared to those who did not supervise other employees. Respondents with supervisory role have lowest satisfaction levels with their *salary*, while those without any supervisory role had lowest satisfaction with *salary and recognition*. The greatest difference is found in the responses regarding the *responsibility*, followed by *opportunities for growth* and *responsibility*. Although this is not surprising as a finding, it is uncertain whether it performing of supervisory role that influences the respondent to give a more positive feedback regarding those items. Least similarities between the two groups were found in the *satisfaction with salary*. This is in line with the findings from Lambert (2004) and Samad (2006). The results from the performed correlation of personal and job characteristics with the ten workplace factors and job satisfaction are presented in Table 4. Age of employees has a small, but significant positive correlation with *positive feelings about organization* and *job satisfaction*. This means that job satisfaction and positive feelings about the organization, increase with the employee's age. Age had a significant negative correlation with opportunities for growth meaning that that *growth opportunities* decline as the worker ages. On the other hand a small, but significant negative correlation is found between age of employees and *supervision* and *good relationship with colleagues*. On the other hand, the longer the tenure of employees in the organization the less satisfied they are with the *opportunities for their advancement, supervision* and *opportunities for growth*. Significant positive relationship is observed between *tenure* and *relationships with colleagues*. Lastly, the research examines the relative influence of workplace dimensions, personal and job characteristics on job satisfaction. The model explains 53% of the variance in the dependent variable ($R^2=0.53$). The analysis shows that the only variables from the personal and work characteristics with significant positive coefficients are age and tenure. None of the remaining work and personal characteristics had significant coefficients with job satisfaction. It should be noted that gender, ethnic status and supervisory role did not exhibit impact on the dependent variable. From the motivators, *work itself* was the variable with the highest influence

($\beta=0.37$; $p<0.01$), followed by *opportunity for advancement* ($\beta=0.17$; $p<0.01$), and *responsibility* ($\beta=0.16$; $p<0.01$). From the hygiene factors, four were significant predictors of job satisfaction: *satisfaction with salary* ($\beta=0.16$; $p<0.01$), *supervision* ($\beta=0.11$; $p<0.01$) and *good relationship with colleagues* ($\beta=0.03$; $p<0.01$). The analysis of the results from the model suggests that the workplace environment contributes more to predicting the job satisfaction level compared to personal and job characteristics. However, this model does not provide a clear delineation of job satisfaction factors as in the Herzberg's theory (although the significance of *work itself* is in line with Herzberg's findings).

8. DISCUSSION

The regression model analyzed three personal and two job characteristics as predictors for job satisfaction of employees. They found that age and tenure were significant predictors of job satisfaction. The role of age in explaining job satisfaction was examined by earlier research. In example Herzberg et al (1957) suggested that the relationship between age and job satisfaction was U-shaped. Although discarded at first, mainly because of insufficient sample sizes, latter studies have confirmed this relationship (Janson and Marin, 1982; Kacmar and Ferris, 1989) In example the research done by Clark, Oswald and Warr (1996) found that job satisfaction initially declined, bottoming at the age of 31 years, then increased in linear manner until the individual is 60 years old. Some of the explanations provided are that as workers get older their their expectations decline, therefore making them easier to please (Janson and Marin, 1982). Then work alternatives are of less interest to older workers, while young workers have more energy and risk taking behavior therefore making them more interested in work alternative (Pond and Greyer, 1987; 1991). However, the same researchers investigated age as a predictor of job satisfaction which considering the type of work conducted. They found that age is not a significant predictor of job satisfaction among blue-collar workers compared to white collar workers. Interestingly, Sarker et al (2005) have analyzed whether age and tenure are individual determinants of job satisfaction. They found that The employee age is not significantly associated with overall job satisfaction level, but that tenure is. The researchers also found that there is a significant relationship between tenure and certain aspects of satisfaction i.e. job, pay and fringe benefits, but the effect of tenure on satisfaction is significantly modified by age. In terms of the workplace environment the results of the research indicate that the most powerful predictor of job satisfaction is work itself. This is also in line with previous research done in the field i.e. McInnis (1999) found that work itself and autonomy to be the most significant predictors of job satisfaction among administration workers in Australia. Smerek and Peterson (2007) found work itself to be one of the most significant determinants of job satisfaction in a sample of 1031 university administrators. They suggest that although changing this variable is difficult, still job redesign offers a viable framework for this endeavor (p.247) Furthermore, the regression analysis suggests that workplace environment had a much higher influence on job satisfaction compared to the personal and job characteristics. Apart from the work itself, supervision, salary, colleagues, as well as opportunities for advancement and growth are significant predictors of job satisfaction. Taking into account that the personal and job characteristics are more difficult (if somewhat impossible) to modify, the values of the workplace determinants are perceptually based and can be modified more easily. Therefore paying more attention to communication within the department, human relations and

providing growth and advancement opportunities, should impact job satisfaction among public administration employees.

8. LIMITATIONS OF THE RESEARCH

One of the limitations of applying Herzberg's two factor theory is in the methodology used in the research. Previous studies done in the field have found that the usage of the critical incident method (used in the original Herzberg analysis) delivered results that supported Herzberg's conclusion; on the other hand research using other methods delivered results supporting an unisolar theory of job satisfaction thus directly conflicting Herzberg's approach (Behling, Labovitz and Kosmo, 1968). Taking into account the impact that methodological approach has on the obtained research results, the theoretical and practical implications of this study should be treated with caution. Another limitation is that the impact of temperamental predispositions to job satisfaction is not included in the analysis. In general outcomes of different personality types in the workplace are generally unknown in the context of job satisfaction, however Smerek and Peterson (2007) consider that previous life experience prior to entering the current position, influences the level of job satisfaction as well. Finally, the research does not analyze the differences in job satisfaction taking into consideration the level of education of employees, since employees with higher levels of education i.e. master or doctorate degree, may differ in the determinants of job satisfaction in comparison to their colleagues with secondary or university education.

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