

AGE INFLUENCES ON THE JOB SATISFACTION OF CONSTRUCTION WORKERS: EVIDENCE FROM SOUTH AFRICA

Nicholas Chileshe¹ and Theodore C. Haupt²

¹*Faculty of Development and Society, Built Environment Division, Sheffield Hallam University, City Campus, Howard Street, Sheffield, S1 1WB, UK*

²*Cape Peninsula University of Technology, Southern African Built Environment Research Centre, Faculty of Engineering, PO Box 1906, Bellville 7535, Cape Town, South Africa.*

Using descriptive statistics from the South African Construction workers, this paper investigates the impact or influence of age on various aspects of job satisfaction and its subsequent effects on outcomes such as indifference, lack of alertness, motivation and dejection. Controlling for type of work done and length of service in current employment, poor recognition of abilities, job dissatisfaction and indifference are found to be the key drivers of job satisfaction for younger construction workers whereas lack of alertness, dejection and lack of confidence for the older construction workers. The factors leading to positive worker satisfaction in both old and younger workers are relationship with workmates, relationship with supervisor and personal health whereas negatively are personal development, quality of life and satisfaction with occupation. Overall the findings suggest that although both younger and older workers ranked the relationship with workmates as being poor, age did not have an influence on the effects of the aspects of work, however the differences were significant for one of the job satisfaction effects with younger workers reporting higher scores on "Indifference" whereas the younger workers ranked poor recognition of abilities as the most effect in comparison to the older workers who reported suffering from a lack of alertness as the most ranked effect.

Keywords: construction workers, job satisfaction, South Africa, questionnaire.

INTRODUCTION

The main objectives of this paper are to identify the major variables affecting the relative aspects of work within the South African Construction Industry and to investigate the impact of age on the satisfaction derived from work. While there have been several worker and job satisfaction studies in various industries, a few of them are within the African context as the majority of the published literature focuses on the developed countries. Furthermore despite the existence of a range of intervention strategies used to assess the satisfaction derived by workers from various industries, little research has been undertaken to examine if these interventions can be applied to the South African Construction Industry. There are therefore two gaps in knowledge. First, there is a lack of study in the African, particularly South Africa, context. Second, the past studies have focussed on service, manufacturing and academia related organizations. This study had the aim of overcoming these two gaps to achieve the objectives stated at the start of this paper. Thus the noted omission has been the

¹ N.Chileshe@shu.ac.uk [Corresponding Author]

² Hauptt@cput.ac.za

motivation for this research project. Furthermore, studies on impact of age, type of work and length of service in employment on overall workers satisfactions present mixed findings, with the two main schools of thought being the fact that there would be a difference between the levels of job satisfaction among the younger and older workers. The other school claiming that there is no difference between the different age groups. One reason for the contradictory results could be the lack of standardized measuring methods. (Eskildsen *et al.* 2003). Accordingly, deciding on whether to use single or multiple-item measures in the measurement of job satisfaction might be a key to the standardized measures (Oshagbemi, 1999). Thus the motivation for this paper is to address the identified omissions by reporting on the impact of age on job satisfaction among workers and the testing of the Herzberg's two factor theory within the South African construction industry. These findings have an implication for productivity within the South African construction industry context. The findings could be used to develop an improved quality of life model whose impact could be evaluated longitudinally in subsequent years.

Three key elements which underline the impact of motivation and hygiene factors among the workers in the construction industry were identified and translated into research questions to operationalize the research. These were:

- What is the level of satisfaction relative to aspects of work within the construction industry?
- Does the age of the workers influence their perceptions of the job satisfaction levels?
- Does working within the construction industry lead to the following job effects: lack of alertness, poor self image, lack of confidence, job dissatisfaction, indifference, dejection and poor recognition of abilities?

The paper is structured as follows; first an extensive literature review on the job satisfaction in various industries is presented, with the main focus on the key concepts job content (intrinsic component) and job context factors (extrinsic component), Second, a brief overview of the advocated theoretical conceptual framework which summarizes the relationship among the control variables (personal factors), independent variables (hygiene and motivational factors) and dependent variables (job satisfaction effects) is presented. This is followed by an explanation of the research methodology adopted. Following on from the research methodology, the statistical methods employed and the interpretation of the findings are next, the focus of which is to compares how satisfaction derived from work differs across the young and older workers. The paper concludes with a discussion and implications for future research.

LITERATURE REVIEW

Literature review indicates that a lot has been written about job satisfaction in various industries. The classification of research areas on workers and job satisfaction in general fall into the following themes or categories:

- Prediction of psychological wellbeing in terms of workers health and job satisfaction (Love and Edwards; 2005)
- Impact of corporate wellness on stress, satisfaction and absenteeism (Ho, 1997)
- Linkages between organizational networking and cultural organizing (Fletcher, 2002)

- Impact of age on job satisfaction (Rhodes, 1983; Okpara, 2004, Hickson and Oshagbemi, 1999; Luthans and Thomas, 1989; Oshagbemi, 2004; and Eskildsen *et al.*, 2003)
- Linkages between customer satisfaction and service workers perceived control (Yagil, 2002)
- Barriers to empowerment (Greasley *et al.* 2005; Holt *et al.*, 2005)
- Assessment of universal forms of work commitment (Freund and Carmeli, 2003)
- Testing the applicability of Herzberg's two-factor theory (Bassett-Jones and Lloyd, 2005; Ruthankoon and Ogunlana; 2003).
- Relevance of job satisfaction and how it impacts the physical and mental well being of employees (Oshagbemi 2000a)
- The linkages between the length of service in employment and satisfaction have also been examined in the academia related organizations (Oshagbemi, 2000b)

However within South Africa, the research on motivation among construction workers is scant. Some studies such as Hinzelman and Smallwood (2004) investigated the underlying causes of declining productivity of site managers among general contractors within the South African context; however the influence of age was not explored. Other studies have examined the organizational change process and employee behaviour (Robertson, 1994). Satisfaction with co-workers' behaviour has an impact on the overall job satisfaction. Oshagbemi (2000c) found gender to play an important role in the inter personal relationships. Although the research was drawn among the academic staff, lessons learnt can be tested for applicability across different industries, more so in construction where work is team based.

Motivation through monetary issues is also important as demonstrated by Oshagbemi and Hickson (2003). The study investigated the linkages between pay satisfaction and job satisfaction and found a strong positive relationship between pay satisfaction and gender. Holt *et al.* (2000) provided an overview of the empowerment concept in the context of construction management. Their findings suggested that employees (or workers) cognitive growth controlled their fundamental behaviour towards their work environment. They further identified recognition as one of the characteristics of a construction-oriented empowerment system. Accordingly, it would act as a motivator, by placating the aspirations of individuals and rewarding enthusiasm for change and improved performance. However, the majority of the studies have focused on service and manufacturing industries within the developed economies. Although some studies are available within the African context and developing economies, the emphasis has been in the service industries and among managers.

For example Okpara (2004) investigated the personal characteristics of job satisfaction among IT managers with the Nigerian context and found that the managers were satisfied with their job, co-workers and supervision whereas promotion and pay were found to be dissatisfiers. Hinzelman and Smallwood (2004) although within the South African context focussed on site managers and identified feedback, self-fulfilment, and advancement /promotion as the top factors causing dissatisfaction amongst the employees. However, within the Construction industry, very few studies are available notwithstanding the importance of the industry in terms of its contribution to the GDP and employment terms. For example Agumba *et al.* (2003) observe that from the South African perspective, the construction industry contributes 3% to the GDP. Furthermore, due to the nature of the work which is very

much team based factors such as relationship with co-workers and relationship with the supervisors are of great importance within the industry.

RESEARCH CONCEPTUAL FRAMEWORK

In achieving the aims and objectives of this research, a robust methodology is being developed as part of an on-going process. This was encapsulated in conceptual framework for the study comprising the *control variables* (i.e. personal factors such as age and length of service in the current employment), process factors were the six items grounded in the Herzberg's two factor theory and the content or outcome factors comprising of the eight job effects.

Definition of Worker Satisfaction, Hygiene Factors and Motivators

Before considering the issues around the aspects of workers job satisfaction within the South African construction industry, it is necessary to define what is meant by the terms "job satisfaction", "hygiene factors", and "motivators". Oshagbemi (2003) identifies job satisfaction as an important attribute which organizations desire of their employees. Within the UK construction project manager's context, Love and Edwards (2005) define job satisfaction as a function of the match between the rewards offered by the work environment and the individual's preferences for those rewards. It has also being defined as positive affect of employees towards their jobs or job situations (Locke, 1976). The general consensus seems to relate to the environment and the employee. Herzberg's *et al.* (1959) proposed two factors influencing motivation at work as hygiene factors that demotivate when they are inappropriate, and motivators that sustain effort. (Bassett-Jones and Lloyd, 2005).

RESEARCH METHODOLOGY

To investigate the influence of age on the job satisfaction of construction workers, the following research methodology was employed in the study.

Sample

This study issued 300 questionnaires to randomly selected construction workers within the Western Cape Province. A total of 65 useable questionnaires were returned providing a response rate of 21.67 percent. Of the 65 usable responses, 13 (20 per cent) were from bricklayers, 29 (44.6 per cent) were from general workers, 2 each (3.1 per cent) from the following: site office workers, concrete and cement mixers, and electricians, 1 each (1.5 per cent) from the workers by type of construction work done: plumbing, management, technicians, block laying, air conditioning and painting, 6 (9.2 per cent) were from carpenters and joiners and 4 (6.2 per cent) were from site supervisors. Table 1.0 shows the frequency of the respondents according to their age

Table 1: Breakdown of respondents by age

Age	Frequency	Percentage
Less than 40 Years	37	56.9
> 40 Years	28	43.1

Measurement Instrument

The data collection instrument was a self-administered structured questionnaire. The questionnaire was pre-tested by sending it to randomly selected South African universities of technology and construction related organizations. Based on the feedback, the questionnaire was modified. Piloting is necessary as it is very difficult to

predict how respondents will interpret and react to questions (Gill and Johnson 1991). Another reason for piloting would be to estimate the probable number of refusals and non-contacts and then compare the effectiveness of various ways of reducing non-responses. (Moser and Kalton, 1979). The instrument is grounded in Herzberg's *et al.* (1959) work of two factor theory. This was divided into three parts, as follows: demographics, job satisfaction survey and job effects. The first part (demographics) sought information pertaining to age, type of work, years of service in construction and current employment whereas the second part was the job satisfaction survey. The questionnaire used in this part was designed to measure job satisfaction of construction workers and comprised six items namely: (1) personal health; (2) quality of life; (3) personal development; (4) relationship with workmates; (5) relationship with supervisor; and (6) satisfaction with occupation

Each item in the job satisfaction instrument was measured from a range of (1) representing excellent satisfaction to (5) representing poor satisfaction. Thus (3) represented indifference, i.e. neither satisfied nor dissatisfied. (Oshagbemi, 2000). The third part sought to measure the effects of job satisfaction comprised eight items namely: (1) poor recognition of abilities; (2) job dissatisfaction; (3) indifference; (4) lack of alertness; (5) lack of motivation; (6) dejection; (7) lack of confidence; and (8) poor self image. Each item in the job satisfaction effects instrument was measured from a range of (1) representing minimum (never) to (5) maximum (all the time). Thus (3) represented neutral effects, i.e. neither never or all the time.

STATISTICAL METHODS

The primary focus of the study presented in this paper was to determine whether differences existed in job satisfaction between the young and older construction workers. *Statistical Package for Social Sciences* (SPSS) computer program was used to analyse the data generated by the research questions. Analysis of Variance (ANOVA), and separate independent t-test were used for the analysis. According to Pallant (2005), an independent-samples t-test is used when you want to compare the mean score, on some continuous variable, for two different groups of subjects. The overall reliability of the process factors (aspects of worker satisfaction) measured by the coefficient alpha cronbach was 79.0 percent.

RESULTS AND DISCUSSION

In order to investigate the impact of the age of the construction workers on job satisfaction, respondents were asked to specify their age, and subsequent analysis grouped them into two categories of younger (less than 40) and older workers (more than 40). Davis (2004) used a similar classification in her job satisfaction survey among employees in small businesses. However other studies have taken a different classification, for example Kabacoff and Stoffey (2001) divided younger (25-35) and older (45-55). The rationale for the omission of the middle group (36-44) was to show the distinctive nature of the two age bands (Oshagbemi, 2004). As illustrated in Table 1.0, the majority (56.9%) of the workers were young. The age of respondents ranged from 18 to 65, with a mean of 38.306 (SD = 11.54). The relative few plumbers, managers, technicians, and electricians appear to be a representative of these skills shortage of manpower in the South African construction industry.

Impact of Age on Job Satisfaction

In Table 2.0, means and standard deviations of the 6 job satisfaction items are also presented for the full sample, younger and older construction workers. As can be seen from Table 2.0, older workers were slightly more satisfied with their jobs when compared with their younger counterparts. The overall job satisfaction score was 3.586 for older workers versus 3.701 for the younger workers. However both the young and older workers ranked personal development and quality of life as the two most important job satisfaction factors.

Table 2: Job satisfaction scores by age

Job Satisfaction Factors	Total Sample (N=65)		Younger Workers (N= 37)		Older Workers (N =28)	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std Dev
HF ₁ =Relationship with Workmates	4.771	0.529	4.784	.479	4.704	.609
HF ₂ =Relationship with Supervisor	4.016	1.118	3.886	1.183	4.222	1.013
MF ₁ =Personal Health	3.459	1.467	3.389	1.440	3.593	1.500
HF ₃ =Satisfaction with Occupation	3.361	1.426	3.351	1.585	3.407	1.152
MF ₂ =Quality of Life	3.131	1.372	3.324	1.396	2.889	1.311
MF ₃ =Personal Development	2.856	1.618	2.971	1.562	2.704	1.706
Overall Job Satisfaction Score	3.599		3.701		3.586	

This implies that there appeared to be no widespread quality of life problems amongst the workers. This finding is very useful as workers perform various functions according to their trade which impact upon productivity. Interestingly, both groups ranked relationship with supervisor and workmates as poor. The overall mean for the full sample (mean = 3.131) also indicates that the level of dissatisfaction was not extremely high. Separate independent t-test was carried out in order to find out the effects of age in the worker job satisfaction levels. The results are shown in Table 3.0. There was no significant difference ($p>0.05$) in scores for young and older workers in all of the six job satisfaction items.

Table 3: Results of t-test comparing job satisfaction scores of younger and older workers

Job Effects	Levene's Test of Equality of Variances		t-test for Equality of Means			Significant Difference (Yes or No)
	F	Sig	t	df	Sig. (2 tailed) ($p<0.05$)	
Relationship with Workmates	1.546	.218	.589	62	.558	No
Relationship with Supervisor	2.818	.098	-1.181	60	.242	No
Personal Health	.035	.852	-.546	61	.587	No
Satisfaction with Occupation	6.739	.012	-.164	62	.870	No
Quality of Life	.127	.723	1.264	62	.211	No
Personal Development	1.164	.285	.643	60	.523	No

The inference to be made is that age does not have an influence on the factors impacting worker satisfaction within the South African construction industry.

Effects of Job Satisfaction

In Table 4.0, rankings based on the mean scores of the 8 job satisfaction effects or outcomes are also presented for the younger and older construction workers. The two categories had differences in the rankings of the outcomes. Overall, the older workers had a slightly lower effect of negative aspects emanating from job satisfaction

(average impact = 17.777) outcomes on the aggregate of the eight effects. One finding from Table 4.0 is that younger workers ranked poor recognition of abilities as the factor having the most negative impact whereas poor self image was least ranked (mean = 1.941).

Table 4: Rank comparison of job satisfaction effects scores by age

Job Satisfaction Effects	Younger Workers (< 40 years old) N=34			Old Workers (> 40 years old) (N =28)		
	Mean ¹	Std. Dev	Rank	Mean ¹	Std. Dev	Rank
JSE ₁ =Poor Recognition of Abilities	2.912	1.264	1	2.286	1.512	4
JSE ₂ =Job Dissatisfaction	2.647	1.276	2	2.250	1.506	5
JSE ₃ =Indifference	2.559	1.236	3	1.926	1.035	8
JSE ₄ =Lack of Alertness	2.529	1.328	4	2.615	1.444	1
JSE ₅ =Lack of Motivation	2.441	1.284	5	2.115	1.339	6
JSE ₆ =Dejection	2.412	1.237	6	2.357	1.337	2
JSE ₇ =Lack of Confidence	2.265	1.214	7	2.296	1.235	3
JSE ₈ =Poor Self Image	1.941	1.153	8	1.929	1.184	7
Total JSE ₁₋₈ =Overall Impact	19.706			17.777		

Interestingly enough, the old workers ranked “lack of alertness” (mean = 2.615, Rank = 1st) as the factor having the most negative impact whereas “Indifference” was least (mean = 1.926, rank = 8th) impacting on them. This indicates a consistent finding from the literature that age has an impact on the satisfaction derived from work and is directly correlated to motivation. The old workers became less motivated with time. Luthans and Thomas (1989) in their empirical study found some correlation between age and job satisfaction. Factors such as recognition are an integral part of an empowerment system as advocated by Holt *et al.* (2000). Ruthankoon and Ogunlana (2003) further observe that positive recognition occurs when employees are praised or their ideas are accepted. It is also suggested that empowered employees can lead to a reduction on the emotional strain (Greasley *et al.*, 2005). However the limitations with the achievement of empowerment are also recognized by the authors. One reason put forward is the fragmented nature of construction work with an over reliance on virtual teams.

One of the three explanations provided was that older workers experienced increased pressures from factors such as changing technologies. Within the academia, Hickson and Oshagbemi (1999) discovered that in teaching job satisfaction decreases with age. The inference to be drawn is that although construction industry work by nature is very labour intensive, the same principles might apply. Furthermore, it remains to be tested whether older workers can be presented with flexible post-career in constructions though the benefits to be gained are a lot within academia related environment. (Arrowsmith and McGoldrick, 1997). In order to ascertain whether the differences in the ranking and means of the effects shown in Table 4.0 were significant, separate independent t-test was carried out in order to find out the effects of age on the outcomes of job satisfaction levels. There was no significant difference in scores for young and older workers in all of the eight effects apart from “indifference” where younger workers reported higher scores than the older workers ($t = 2.132, p < 0.05$). The inference to be made is that age does not have an influence on the effects of job satisfaction for workers within the South African construction industry.

LIMITATIONS, CONCLUSIONS AND FUTURE RESEARCH

Some limitations of the research need to be acknowledged. The sample is relatively small (65), comparable to others studies that have looked at the worker satisfaction levels within the construction industry (Hinzelman and Smallwood, 2004.) within the South African context, as such it is not representative and the findings presented are not generalisable to a wider population of workers in the South African Construction Industry. However the findings represent a snapshot of the reality of the perceptions of workers relative to the satisfaction levels within the South African Construction Industry. Usage of quantitative approaches normally requires a large number of cases representing the population of interest, in order to determine the statistical significance of results. Therefore, while the results cannot be generalized at this stage, further research should confirm the findings of this study. One major implication is that the Herzberg's two factor theory of motivation has hitherto been based on white-collar workers and its applicability to blue-collar workers such as construction bricklayers, general workers and site based persons remain to be tested. This study confirms the applicability of age-job satisfaction related issues in a developing economy such as South Africa which is an under-researched area. Due to this, there is a possibility of bias playing role in the outcome of the study. Therefore this study can be duplicated in other economies particularly the less developed ones within the African context.

Despite the numerous studies on the job satisfaction instruments used in the manufacturing and service industries, they are no substitute for information about applicability of these empirical scales among the construction workers. It expands the effort of studying job and worker satisfaction across the developing economies and particularly within the African context. Although the descriptive statistics used in this research paper are taken from within the South African Construction Industry, the factors and range of intervention strategies used to assess satisfaction are universal and of interest to the Construction Industry in general. The findings of this study have shown that although both young and old workers ranked the relationship with work mates as being poor, age did have an impact on the effects of the aspects of work with older workers suffering from a lack of alertness and dejection as the two most ranked effects. These findings are consistent with those found in the literature. For example Okpara (2004) though his study focused on managers in the IT sector, age was found to affect the levels of job satisfactions. On the other hand, young workers felt their abilities were not being recognized and job dissatisfaction as the most negative impacts.

In the study, age did not exhibit any significant differences in their rankings of all the six factors associated with job satisfaction. However younger workers reported higher scores than the older workers on "indifference" for the outcome factors. Despite the lack of significant differences in the seven outcome factors between the young and older construction workers, the top four rankings were different. The contribution of this paper can summed up under the following areas; testing of instruments typically developed using samples of large companies in well developed economies but in a less studied context such as construction measure job satisfaction of workers; and contribution to theory building efforts within the discipline of organization behaviour and motivational theory. As asserted by Hinzelman and Smallwood (2004), the findings of Herzberg's two factor theory of motivation have not been replicated. Okpara (2004) further corroborates the testing of instruments with high reliability and validity originating in the west can be adopted and used in non-western cultures such

as South Africa for example. The study also extends the work of such authors as Okpara (2004); Davis (2004); and Ruthankoon and Ogunlana; (2003) among others.

One major implication emerging from this study is the challenge of finding ways of valuing contributions of both the younger and older workers within the construction industry. The impact of the length of service in construction industry on the overall job satisfaction could be investigated.

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