JOB SATISFACTION OF SOUTH AFRICAN QUANTITY SURVEYORS: A RACIAL ANALYSIS

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A web-based national questionnaire survey was used for a race-based examination of job satisfaction of quantity surveyors in post-*apartheid* South Africa. Issues explored included: how satisfied are 'Non-white' and 'White' quantity surveyors with their jobs; what influences their job satisfaction; what influenced their choice of career; what issues relating to race affect job satisfaction; and to what extent do the two groups experience harassment and discrimination at work? *Significant* differences of opinion arise regarding: main drivers in career choice; feelings of job satisfaction; feelings about recognition by employers of achievements regardless of race; and views on maternity / paternity leave above statutory minima. *Highly significant* differences between 'Non-whites' and 'Whites' arise over issues of: being subjected to greater supervision because of race; not being allowed to contribute meaningfully to the decision-making process; viewing PDI (Previously Disadvantaged Individual) status as a valid basis for promotion; seeing race respresentivity in the profession as important in combating discrimination at work; having personally experienced racial harassment and discrimination at work; and seeing respect for individual diversity in the workplace as important – with 'Whites' viewing these issues less 'empathically' than their 'Non-white' counterparts. The results provide valuable indicators for how the quantity surveying firms can create a more conducive work environment for professional staff.

Key phrases:: Job satisfaction, race, quantity surveyors, South Africa

INTRODUCTION

Employee satisfaction is perceived to be a necessary pre-condition for competitive levels of quality and organizational success (Garcia-Bernal *et al.* 2005). Many attempts have been made at defining 'satisfaction'. It is widely accepted that satisfaction is the '*final state of a psychological process*' (Garcia-Bernal *et al.* 2005). In the case of job satisfaction there is no universal definition of the concept, but according to Davis and Newstrom (1999) it can be thought of as a multi-dimensional concept that includes a set of favourable or unfavourable feelings in terms of which employees perceive their jobs. Job satisfaction refers to the extent to which persons gain enjoyment or satisfaction from their efforts in the workplace (Fogarty 1994). Locke (1976:1300) puts it more simply, defining job satisfaction as '*… a pleasurable or positive emotional experience resulting from the appraisal of one's job or job experience*'. Positive attitudes towards one's job are associated with high levels of

job satisfaction. The converse is also true (Wilson and Rosenfeld 1990). Job satisfaction is clearly multi-dimensional, comprising constructs such as the work itself, salary level, conditions of service, performance appraisal procedures, opportunities for advancement, the nature and extent of supervision, and relationships with co-workers (Brunetto & Farr-Wharton 2002 citing Hackman & Oldham 1980).

Loosemore *et al.* (2003) have highlighted the importance of job satisfaction and motivation to the wellbeing of the construction industry. However, despite the wealth of research in job satisfaction and motivation generally, comparatively little research has been undertaken concerning its application to the construction industry (Asad & Dainty 2005). This is particularly true in respect of design team professionals in general, and the quantity surveying profession in particular. Even more scarce in the literature is race/ethnicity-based examinations of job satisfaction in the construction industry. The purpose of this paper is to report on a race-based study of job satisfaction of quantity surveyors in South Africa. Post-*apartheid* South Africa provides a convenient 'laboratory' for such a study. A web-based national questionnaire survey of 1448 registered quantity surveyors was undertaken, with a final response rate of 10.08% (*n* = 146). Issues explored included demographic factors; factors influencing job satisfaction; choice of career; issues relating to race at work; and harassment and discrimination in the workplace. The issue of gender, whilst dealt with in the context of certain questions, is largely excluded from this analysis. A future paper will report on job satisfaction differences relating to gender using the same data set. The paper provides valuable indicators for how quantity surveying firms can create a more conducive work environment for professional staff.

RESEARCH INTO JOB SATISFACTION

Studies directed at analyzing levels of job satisfaction have centred on differences around diverse variables which can be grouped into two main categories: the personal characteristics of employees; and the characteristics of the job itself (Reiner & Zhao 1999). Research focusing on the first group of characteristics has typically dealt with issues such as: gender (Oshagbemi 2000); age and gender (including sexual harassment) (Moyes *et al.* 2006); rank (Holden & Black (1996); length of service (Oshagbemi 2003); marital status, number of children, and education level (Koustelios 2001); education level (Clark 1997); ethnicity (Sloane & Williams 2000); health (Clark 1997); and psychological well-being (Wright et *al.* 2007). Not all findings

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are conclusive, with evidence of contradictory findings being found amongst researchers (Koustelios 2001).

Research into possible relationships between job satisfaction and the second group of characteristics has included studies on: leadership style (Rad and Yarmohammadian 2006); work characteristics (routine, autonomy, feedback) and characteristics of the work environment (leadership, advancement opportunities and participation) (Irvine & Evans 1995); job security (also affecting employee health, employee turnover, and organizational commitment) (Yousef 1998); disability and workplace characteristics (Uppal 2005); job disamenities (adverse working conditions) (Bockerman & Ilmakunnas 2006); size of business (small businesses) (Davis 2004); and socio- and racio-ethnic differences in perceptions (Friday *et al*. 2004; Friday & Friday 2003).

There is a subtle difference between job satisfaction and motivation. Job satisfaction describes or measures the extent of a person's *contentment* in his or her job. Motivation, on the other hand, explains the driving force(s) behind the pursuit or execution of particular activities or a job. Put another way, job satisfaction measures ''what is' – the level of job satisfaction' while motivation measures ''why' – the explanation(s) for the level of job satisfaction'. The concepts are clearly linked and invariably used interchangeably in practice.

Motivation theories can be broadly classified into *process* and *content* theories (Gilbert & Walker 2001). The former focuses on *how* motivation occurs (e.g. expectancy theory, goal setting theory, etc.), whilst the latter focuses on *what* motivates (e.g. Maslow's (1943, 1954) Hierarchy of Needs, and Herzberg's (1966) Two Factor Theory (Motivation Hygiene Theory), etc.). A comprehensive overview of these theories is provided by Vecchio (1995). Maslow's theory is considered one of the more influential content theories (Asad & Dainty 2005) and has been applied to much research in construction industry motivation (see, for example, Asad & Dainty 2005; Olomolaiye & Ogunlana 1988). It is considered a useful typology for understanding motivational factors in the construction industry (Asad & Dainty 2005).

Job satisfaction and motivation in the construction industry

'Job satisfaction' research in the construction industry has almost solely dealt with '*motivation*', focusing almost exclusively on construction *worker* motivation (see Ogunlana & Chang 1998; Baldry 1995; Olomolaiye 1988, 1990; McFillen & Maloney 1988; Olomolaiye & Ogunlana 1988; Maloney & McFillen 1983, 1986). Whilst the issue of women in construction has been examined (see, for example, Gilbert &

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ISSN 1815-7440

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Walker 2001; Sommerville *et al*. 1993; Dorsey & Minkarah 1993 and Gale & Skitmore 1990), the issue of race has been ignored.

There is a paucity of material dealing with the motivation of *professional* staff (Asad and Dainty, 2005), notable exceptions being the work of Asad and Dainty (2005), Gilbert and Walker (2001), Smithers and Walker (2000), Hammuda and Dulaimi (1997), Barratt (1993) and Chan (1993). More specifically, Asad and Dainty (2005) compared the motivation of three occupational groups (professional persons largely comprising construction managers and quantity surveyors; skilled craft workers; and general operatives) and found that professional staff are motivated largely by intrinsic factors, contrasting markedly with the unskilled workers. Gilbert and Walker (2001) examined the relationship between motivation and gender, particularly whether or not professional men and women are motivated or demotivated by the same variables. They found no significant differences in overall motivation, but highlighted differences with regard to the perceived attractiveness of certain workplace and job characteristics. Smithers and Walker (2000) investigated the effect of workplace environment on the motivation and demotivation of construction professionals. Variables found to be significant factors included long work hours, chaos on site, non-recognition for work done, and colleagues' aggressive management styles. Hammuda and Dulaimi (1997) found that the process of empowering is a motivator for project managers. Barrett (1993) asked UK architects and quantity surveyors to indicate levels of 'wants' and 'gets' of the top three levels of Maslow's Hierarchy of Needs. Needs were determined as the difference between the two. He concluded that both wants and needs of the goals increase at the top of the hierarchy, demonstrating that this aspect of the theory is valid for construction professionals. Using Herzberg's Two-Factor Theory, Chan (1993) examined the motivation of Australian project managers and found that, with increased salary, project managers desired a corresponding increase in achievement, power and control. None of the above studies focused exclusively on the quantity surveying profession.

Race and job satisfaction

A number of studies have examined the racioethnic differences in various job-related outcomes. Friday and Friday (2003) report that such research has focused on differences in job satisfaction (e.g. Lankau & Scandura 1996), organizational commitment (e.g. Tsui *et al*. 1992) and turnover intentions (e.g. Davis 1985). With respect to job satisfaction, mixed results have emerged. For example, studies by Brenner and Fernstein (1984) and Jones *et al*. (1977) found that 'black' employees reported higher levels of job satisfaction than did 'white' employees, whilst studies by

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Tuch and Martin (1991) and Greenhaus *et al.* (1990) found the opposite to be the case. These studies covered a variety of occupations; *inter alia*, blue-collar employees, white collar workers, nurses, and social work staff members. Friday *et al.* (2004) conclude that the literature clearly provides conflicting empirical evidence on racial differences in job satisfaction. None of the above studies focused on design team professionals in general, and quantity surveyors in particular.

Recent literature (e.g. Friday *et al.* 2004) has suggested that the descriptive variable 'race' is not sufficient in explaining racial differences in job satisfaction. They suggest that other dimensions of racioethnicity, such as the socioethnic dimension, may better explain or provide additional insight into differences in job attitudes between races. Friday *et al.* (2004) propose the use of 'orthogonal cultural identification theory', in terms of which an individual may identify with cultures other than the racial group to which he or she belongs, without 'losing' identity with that original group. A unique facet of this theory is that it acknowledges that an individual's cultural environment is constantly evolving (Friday *et al.* 2004). The application of orthogonal cultural identification theory is inappropriate and is clearly beyond the scope of this paper given its purpose.

Post-*apartheid* South Africa: a contextual background to the research

The apartheid legacy in South Africa provides a unique context to examine race-based differences in quantity surveyors' job satisfaction. In terms of *apartheid* legislation, persons were racially classified as 'White', 'Black', 'Coloured', or 'Asian'. The term 'Coloured' was used to describe South Africans who are from mixed descent. The 'Asian' classification included Indians (a large minority grouping in South Africa). For the purposes of enforcing *apartheid*, persons were generally categorized as either 'White' or 'Non-White'.

Post-apartheid South Africa saw the introduction of 'positive discrimination' or 'affirmative action' as a vehicle to assist 'previously disadvantaged individuals' (PDIs) ('Non-whites' and women) (Republic of South Africa (RSA) 1996). BEE ('Black Economic Empowerment') and affirmative procurement policies are examples of mechanisms used to facilitate change. Within the context of the construction industry, affirmative action has, for example, taken the form of preferential procurement in the award of building contracts and the appointment of professional consultants. The latter point has relevance here, as anecdotal evidence suggests that some quantity surveying practices accelerate the advancement of PDI staff ('*window dressing*' or '*fronting*') in order to gain an advantage in the award of public sector commissions, in

terms of which the number of PDIs in the practice in general, and in managerial positions in particular, are important considerations.

Given the legacy of *apartheid* and the current policy of the government to address the inequities of the past, it is considered appropriate to provide the racial 'classification' of respondents i.e. 'Non-whites' and 'Whites'. This classification will be referred to where considered appropriate in the analysis of the data.

The quantity surveying profession in South Africa

The quantity surveying profession in South Africa is regulated by the South Africa Council for the Quantity Surveying Profession (SACQSP), a statutory body in terms of the Quantity Surveying Profession Act (No. 49 of 2000) (RSA 2000) and Regulations promulgated in terms of the Act. Only persons registered with the SACQSP are permitted to call themselves 'quantity surveyors', adopt the letters '*Pr.QS*', and perform work reserved for quantity surveyors. The requirements for registration generally consist of the holding of a 4-year degree in quantity surveying, 3-year's post-graduation practical experience ('articles') under the mentorship of a Pr.QS, and successfully passing an Assessment of Professional Competence (APC). Alternative routes to registration are available, for example, a 3-year degree together with an extended period of practical experience and direct-entry Council examinations. As at June 2007, the SACQSP reported 1756 registered quantity surveyors. A breakdown by race of this total was not possible as the SACQSP do not keep such information.

Questionnaire design

The final survey questionnaire consisted of four sections. Section A focused on demographic issues such as gender, race, citizenship, employment sector, qualification, age, domestic status, income, and employment characteristics (e.g., years of experience). The purpose of these questions was to provide a contextual background against which an analysis by race could be undertaken.

Section B contained questions relating to the *presence* and *importance* of motivating factors by race in promoting feelings of job satisfaction. Factors explored included the salary level, security of employment, recognition and promotion prospects, feelings of personal satisfaction regarding work completed, feedback in terms of performance, task variety, use of initiative, and team participation and social interaction at work. The questions in Section C explored respondents' opinions regarding their career choice. More specifically, this section covered factors influencing the choice of

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quantity surveying as a career, whether or not respondents considered themselves to be well informed regarding a career in quantity surveying (and career prospects) prior to embarking on the career, whether or not expectations had been fulfilled, sources of job dissatisfaction, whether or not they would chose the same career again (or recommend it to others), the ranking of factors they considered important when deciding whether or not to accept a position (e.g., status, salary, degree of team participation, flexible working hours, etc.), and an overall assessment (all things considered) of their current level of job satisfaction in their present position.

Section D covered issues relating to harassment and discrimination at work on the basis of race. Issues explored included whether or not respondents felt discriminated against on the basis of race with respect to salary; the importance of remuneration equity within the workplace; views on parental issues such as flexible working hours and maternity / paternity leave above the statutory minima; their feelings regarding promotion on the basis of one's 'PDI' status' (race and gender) rather than ability; the importance of racial representivity within the organisation; and whether or not respondents had personally experienced racially-based harassment or discrimination at work.

The range of motivational factors and associated issues included within the survey instrument were drawn from the previous studies undertaken by, for example, Uppal (2005), Asad and Dainty (2005), Gilbert and Walker (2001), Smithers and Walker (2000), and Olomolaiye (1988).

Methodology and data collection

The data for this study were collected via a web-based, online questionnaire survey. This data collection instrument was adopted as it would facilitate the comparatively easy (and inexpensive) national coverage of every registered quantity surveyor in South Africa. A pilot web-based study was conducted with the co-operation and involvement of the Cape Town branch of a national firm of quantity surveyors. The questionnaire was tested with regard to respondent understanding, as well as in terms of the mechanics of data collection *per se*. The pilot study demonstrated that all questions were easily understood, data were collected successfully on the system, and so no changes were made. The full survey was launched in May 2007. The SACQSP emailed all registered quantity surveyors for whom email addresses were on record ($N = 1448$), requested their participation in the survey, and provided a link to a URL where the questionnaire could be completed on-line. A period of 3 weeks was allowed for responses and contact details were provided in the event of queries.

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By due date 98 responses had been received, representing a response rate of 6.77%. To increase the number of returns the deadline was extended by two weeks, by which time 146 submissions had been received. The final response rate of 10.08% (*n* = 146) is considered adequate for a survey of this nature (Oppenheim 1992), an assessment confirmed by an independent statistician.

Generally, the questions in Sections B and D of the questionnaire consisted of a sequence asking respondents to rate each motivating factor in terms of its '*presence*' and '*importance*'. Rating was carried out using 6-point Likert scales (see Nunnally & Bernstein 1994) for *presence* and *importance*. For example, respondents were asked about the *presence* of job security in their employment, followed by a question asking how *important* that particular factor is in influencing their feelings of satisfaction or dissatisfaction with their occupation. A score representing the 'subjective emotion' for each factor was obtained by determining the product of the ratings for the *presence* and *importance*. This methodology follows that of Gilbert and Walker (2001), Smithers and Walker (2000), and Olomolaiye (1988), who successfully adopted the Michigan organisational assessment rating technique. Readers are referred to Bass *et al*. (1974) for a detailed explanation of magnitude estimations of expressions of frequency and amount for avoiding overlapping of understanding by respondents.

The data were analysed using SPSS for Windows. Unless otherwise stated, percentages given below relate to the responses to individual questions.

Analysis of the data

In this section the results of the data analysis are presented. In the following section the results are interpreted and discussed.

Sample profile

An examination of the respondents by race reveals that the majority are 'White' (83.3%), male ('Non-white': 88%; 'White: 83%) and South African citizens ('Non-white': 79%; 'White': 98%). Most report being employed in the private sector ('Non-white': 70%; 'White': 82%), in professional quantity surveying practices ('Non-white': 91%; 'White': 83%), and holding a four-year full-time degree or equivalent ('Non-white': 61%; 'White': 88%). Insofar as the personal circumstances of respondents is concerned, 83% ('Non-white': 75%; 'White': 85%) report being married or in a relationship and 75% are parents ('Non-white': 58%; 'White': 78%).

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Insofar as age is concerned, only 11% of respondents ('Non-white': 22%; 'White': 8%) are under the age of 30. The single largest grouping in the case of 'Non-whites' is the 30-34 age grouping (30%), whilst for 'Whites' it is the '45 and older' age group (51%). In contrast, only 17% of the 'Non-white' respondents fall into that age grouping. The age profile of responding quantity surveyors is considered relevant given a possible relationship between job satisfaction, racial grouping and age. Issues relating to this include maturity, experience, and stage in the family life-cycle.

The employment circumstances of respondents reflect differences between the different racial groups. Whilst differences in salary is not necessarily a race issue, insofar as remuneration is concerned, although 59% of 'Non-whites' and 80% of 'Whites', respectively, receive an annual salary of R300000 (1 Pound Sterling = R14.10 as at 3rd August 2007) or more, a greater proportion of 'Non-whites' (36%) than 'Whites' (17%) receive a salary in the lower range of R180000 to R300000 per annum (p=0.06) With regard to experience, marked differences are evident (p<0.01). More specifically, 64% of 'Whites', compared to only 22% of 'Non-whites', claim to have had more than 15 years experience. Sixteen percent of the 'Whites' report less than 10 years experience in the industry compared to 30% of their 'Non-white' counterparts.

Insofar as 'seniority' within the profession is concerned, it is noteworthy that, despite the apparent differences in salary and experience, there appears little difference between the two groups, with 58% of 'Non-whites' and 56% of 'Whites' (p=1.00), respectively, reporting being either sole proprietors, directors or partners. With regard to the length of time respondents have been with their present organisation, significant differences between the groups emerge (p<0.01). More specifically, whilst 59% of 'Whites' and 42% of 'Non-whites', respectively, report service lengths of exceeding 5 years, 50% of 'Non-whites have served less than two years with their current organisation. Only 14% of 'Whites report this. As would be expected, the profile of responses from the two groups regarding the number of years they have served under their present line manager largely corresponds to the length of service data.

Factors influencing feelings of job satisfaction

As described above, 6-point Likert scales were used to explore the *presence* and *importance* of motivating factors in promoting feelings of job satisfaction. The relative *importance* to 'Non-'whites' and 'Whites' of the factors tested is shown in Table 1(a). The scores for each factor were calculated for each group on the basis of the mean

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responses. The ranked factors of importance were then clustered on the basis of correspondence with Maslow's need-based hierarchy (see Asad and Dainty, 2005) and are shown in Table 1(b). Statistics relevant to the overall sample are provided for the purposes of comparison.

The relative importance (ranking) of each Maslow factor was then determined from the mean Likert scores. Composite variables (with scores for each participant), derived from the original questions, were created for each Maslow group that was associated with more than one question. This approach meant that a person with a missing value for any of the questions was effectively excluded. The means of the factor groupings, along with their standard errors, differences, and associated p-values are displayed in Tables 1(a) and 1(b). The relative weightings of the factors within each cluster are not known, and are not easily capable of determination.

The *presence* of factors affecting the job satisfaction of 'Non-white' and 'White' quantity surveyors is depicted in Table 2(a). A similar procedure to that described above was used to determine a score for each factor, as well as the relative rank of *presence* for the factors (with mean values). The differences in the means of the two groups, together with their standards errors and associated p-values, are also shown. The product of the ratings for the *presence* and *importance* scores yielded a score representing the 'subjective emotion' for each factor; essentially a 'job satisfaction score' (see Table 2(b)). The various motivating factors were then ranked in terms of the derived job satisfaction scores. The product means, their differences, and associated p-values are also shown in Table 2(b). Again, statistics relating to the overall sample are provided.

It should be noted that (in the questionnaire) the salary variable was measured slightly differently to the other factors. This was an oversight that required a numerical adjustment. More specifically, the presence variable for salary was a 3-point scale rather than a 6- point scale like the rest. This obviously biases the product score downwards. Tables 2(a) and (b) include the product scores for the salary variables where the presence scores have been adjusted upwards. The midpoint of the 6-point scales is 3.5 while the midpoint for the 3-point scale is 2.0 and therefore the adjustment was made by increasing the 3-point scores by 1.75 (3.5/2.0).

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Table 1(a): Classification and *importance* of *individual* motivating factors by race according to Maslow's Hierarchy of Needs

Motivating factors grouped according to Maslow's Hierarchy of Needs	Importance of individual factors: mean scores (+/- std error)							
	Overall	Rank	'Non-white'	Rank	'White'	Rank	Difference	*P-*value
1. Physiological needs								
a Money	2.08 (+/- 0.08)	9	2.21 (+/- 0.19)	10	2.06 (+/- 0.09)	9	0.15 (+/- 0.21)	*p*=0.40
2. Safety needs								
a Job security	2.03 (+/- 0.10)	8	2.17 (+/- 0.25)	9	2.00 (+/- 0.11)	7	0.17 (+/- 0.27)	*p*=0.50
3. Belonging needs								
a Job promotion prospects	2.12 (+/- 0.12)	10	2.04 (+/- 0.26)	7	2.14 (+/- 0.13)	10	0.09 (+/- 0.29)	*p*=0.89
b Feedback on past performance	1.89 (+/- 0.08)	6	1.87 (+/- 0.22)	6	1.89 (+/- 0.08)	6	0.02 (+/- 0.23)	*p*=0.66
c Participation in a team	1.59 (+/- 0.05)	3	1.67 (+/- 0.14)	4	1.57 (+/- 0.05)	3	0.10 (+/- 0.15)	*p*=0.56
d Social interaction	2.61 (+/- 0.11)	11	3.00 (+/- 0.32)	11	2.53 (+/- 0.11)	11	0.47 (+/- 0.34)	*p*=0.18
4. Need for esteem								
a Recognition of achievements	1.84 (+/- 0.08)	5	2.04 (+/- 0.29)	7	1.80 (+/- 0.08)	4	0.24 (+/- 0.30)	*p*=0.83
5. Need for self-actualisation								
a Self-satisfaction from the work done	1.42 (+/- 0.05)	1	1.54 (+/- 0.15)	1	1.40 (+/- 0.05)	1	0.14 (+/- 0.16)	*p*=0.40
b Challenging and creative work	1.77 (+/- 0.07)	4	1.57 (+/- 0.14)	3	1.81 (+/- 0.08)	5	0.25 (+/- 0.16)	*p*=0.21
C Varied and non-repetitive work	1.97 (+/- 0.07)	7	1.71 (+/- 0.18)	5	2.03 (+/- 0.08)	8	0.32 (+/- 0.19)	*p*=0.06
D Low degree of supervision (autonomy)	1.53 (+/- 0.05)	2	1.54 (+/- 0.16)	1	1.53 (+/- 0.06)	2	0.02 (+/- 0.17)	*p*=0.77

Scale values: 1 = Very important; 6 = Unimportant; *P*-values from the Mann-Whitney test

Table 1(b): *Importance* of motivating *factor groupings* by race according to Maslow's Hierarchy of Needs

Motivating factors grouped according to Maslow's Hierarchy of Needs	Importance of factor groupings: mean scores (+/- std error)							
	Overall	Rank	'Non-white'	Rank	'White'	Rank	Difference	*P-value*
1 Physiological needs a Money	2.08 (+/- 0.08)	5	2.21 (+/- 0.19)	5	2.06 (+/- 0.09)	5	0.15 (+/- 0.21)	*p*=0.40
2 Safety needs A Job security	2.03 (+/- 0.10)	3	2.17 (+/- 0.25)	4	2.00 (+/- 0.11)	3	0.17 (+/- 0.27)	*p*=0.50
3 Belonging needs a Job promotion prospects b Feedback on past performance c Participation in a team d Social interaction	2.06 (+/- 0.06)	4	2.12 (+/- 0.16)	3	2.05 (+/- 0.06)	4	0.07 (+/- 0.17)	*p*=0.75
4. Need for esteem a Recognition of achievements	1.84 (+/- 0.08)	2	2.04 (+/- 0.29)	2	1.80 (+/- 0.08)	2	0.24 (+/- 0.30)	*p*=0.83
5. Need for self-actualisation a Self-satisfaction from the work done b Challenging and creative work c Varied and non-repetitive work d Low degree of supervision (autonomy)	1.67 (+/- 0.05)	1	1.58 (+/- 0.13)	1	1.68 (+/- 0.05)	1	0.11 (+/- 0.14)	*p*=0.20

Scale values: 1 = Very important; 6 = Unimportant; *P*-values from the Mann-Whitney test

Table 2(a): *Presence* of individual motivating factors by race

Motivating factor	Presence of individual factors: mean scores (+/- std error)							
	Overall	Rank	'Non-white'	Rank	'White'	Rank	Difference	P-value
Salary (with presence adjusted)	3.31 (+/- 0.10)	8	3.58 (+/- 0.21)	10	3.26 (+/- 0.11)	8	0.32 (+/- 0.27)	*p*=0.21
Security of employment	2.83 (+/- 0.13)	6	2.83 (+/- 0.30)	5	2.83 (+/- 0.14)	7	0.01 (+/- 0.34)	*p*=0.91
Prospects for promotion	3.48 (+/- 0.16)	10	3.23 (+/- 0.36)	8	3.54 (+/- 0.17)	10	0.31 (+/- 0.40)	*p*=0.41
Feelings of personal satisfaction and accomplishment	2.09 (+/- 0.09)	2	2.04 (+/- 0.19)	1	2.10 (+/- 0.10)	2	0.06 (+/- 0.21)	*p*=0.93
Recognition for achievements above normal responsibilities	3.37 (+/- 0.13)	9	3.22 (+/- 0.34)	7	3.39 (+/- 0.14)	9	0.18 (+/- 0.37)	*p*=0.55
Opportunity to do challenging and creative work	2.82 (+/- 0.13)	5	3.35 (+/- 0.33)	9	2.71 (+/- 0.14)	4	0.63 (+/- 0.36)	*p*=0.07
Varied and non-repetitive work	2.70 (+/- 0.10)	4	2.58 (+/- 0.22)	4	2.73 (+/- 0.12)	5	0.14 (+/- 0.25)	*p*=0.77
Regular feedback on performance	3.73 (+/- 0.12)	11	3.73 (+/- 0.26)	11	3.73 (+/- 0.14)	11	0.00 (+/- 0.30)	*p*=0.87
Low degree of supervision and encouraged to show initiative	1.93 (+/- 0.10)	1	2.33 (+/- 0.29)	3	1.84 (+/- 0.10)	1	0.49 (+/- 0.30)	*p*=0.09
Participation in a working team	2.13 (+/- 0.09)	3	2.27 (+/- 0.15)	2	2.10 (+/- 0.11)	2	0.17 (+/- 0.18)	*p*=0.10
Opportunities for social interaction and the development of close friendships	2.83 (+/- 0.11)	6	3.00 (+/- 0.28)	6	2.79 (+/- 0.12)	6	0.21 (+/- 0.31)	*p*=0.47

Scale values: 1 = Very important; 6 = Unimportant; *P*-values from the Mann-Whitney test

Table 2(b): Factor product scores (subjective emotion of job satisfaction) by race

Motivating factor	Product scores (Presence x Importance): mean scores (+/- std error)							
	Overall	Rank	'Non-white'	Rank	'White'	Rank	Difference	*P-*value
Salary (with presence adjusted)	6.95 (+/- 0.34)	8	8.07 (+/- 0.85)	10	6.73 (+/- 0.37)	9	1.34 (+/- 0.93)	*p*=0.12
Security of employment	5.72 (+/- 0.40)	6	6.88 (+/- 1.38)	9	5.49 (+/- 0.39)	5	1.38 (+/- 1.43)	*p*=0.66
Prospects for promotion	7.70 (+/- 0.62)	10	6.05 (+/- 0.89)	6	8.06 (+/- 0.73)	11	2.01 (+/- 1.15)	*p*=0.34
Feelings of personal satisfaction and accomplishment	3.10 (+/- 0.19)	1	3.33 (+/- 0.49)	1	3.06 (+/- 0.20)	2	0.27 (+/- 0.53)	*p*=0.66
Recognition for achievements above normal responsibilities	6.08 (+/- 0.34)	7	6.09 (+/- 1.14)	7	6.08 (+/- 0.34)	7	0.01 (+/- 1.19)	*p*=0.45
Opportunity to do challenging and creative work	5.01 (+/- 0.29)	4	4.95 (+/- 0.61)	4	5.02 (+/- 0.33)	4	0.06 (+/- 0.70)	*p*=0.74
Varied and non-repetitive work	5.56 (+/- 0.31)	5	5.00 (+/- 0.91)	5	5.68 (+/- 0.32)	6	0.68 (+/- 0.97)	*p*=0.13
Regular feedback on performance	7.01 (+/- 0.34)	9	6.64 (+/- 1.14)	8	6.37 (+/- 0.39)	8	0.26 (+/- 1.21)	*p*=0.73
Low degree of supervision and encouraged to show initiative	3.12 (+/- 0.21)	2	3.83 (+/- 0.67)	2	2.96 (+/- 0.20)	1	0.87 (+/- 0.70)	*p*=0.32
Participation in a working team	3.52 (+/- 0.19)	3	3.90 (+/- 0.46)	3	3.45 (+/- 0.21)	3	0.46 (+/- 0.51)	*p*=0.32
Opportunities for social interaction and the development of close friendships	8.15 (+/- 0.55)	11	9.92 (+/- 1.65)	11	7.80 (+/- 0.57)	10	2.12 (+/- 1.75)	*p*=0.43

Scale values: 1 = Very important; 6 = Unimportant; *P*-values from the Mann-Whitney test

Overall levels of job satisfaction

Quantity surveyors' overall levels of job satisfaction for the two groups are shown in Table 3. A variety of response options were provided, ranging from 'I love it' to 'I hate it' on a 7-point Likert scale. The percentage response against each category is given. Perceptions of the degree to which aspects of quantity surveying practice cause job dissatisfaction are given in Table 4.

Table 3 Overall feelings of job satisfaction by race (n = 142)

Feeling of job satisfaction	Responses	
	'Non-white' (n=23)	'White' (n=119)
I love it	8.7%	14.3%
I like it very much	13.0%	31.9%
On the whole I like it	69.6%	41.2%
I am indifferent to it	8.7%	8.4%
I am not really keen on it	0.0%	3.4%
I dislike it a great deal	0.0%	0.0%
I hate it	0.0%	0.8% (n=1)

Scale values: 1 = I love it; 7 = I hate it: Mean value = 2.61; Fisher's exact test: p-value=0.22

Table 4 Aspects of the job giving rise to job dissatisfaction by race (n = 137)

Aspects of job	Responses	
	'Non-white' (n=22)	'White' (n=115)
Interactions with other professionals	9.1%	13.9%
Measuring quantities of builders' work	27.3%	22.6%
Preparation of final accounts	18.2%	16.5%
The provision of cost estimates	9.1%	7.0%
Project administration	18.2%	15.7%
Other	18.2%	24.3%

Note: 1 = Interactions with other professionals; 5 = Project administration; Fisher's exact test: p-value=0.96

A function of professional life is the requirement to sometimes undertake overtime (paid or unpaid) to meet the work demands of the organization. Overtime is invariably done at the expense of leisure and family time. Quantity surveyors' opinions regarding overtime as a source of dissatisfaction and access to leisure time were explored using 'yes', 'no' and 'not applicable' questions (with the exception of overtime). The results are shown in Table 5.

Table 5 Overtime as a source of dissatisfaction by race

Overtime versus leisure time	'Non-whites'			'Whites'			P-value
	Yes	No	Not applicable	Yes	No	Not applicable	
Paid overtime is a source of job dissatisfaction to me (n=22; 119)	0.0%	18.2%	81.8%	1.7%	21.8%	76.5%	p=0.85
Unpaid overtime is a source of job dissatisfaction to me (n=22; 120)	18.2%	31.8%	50.0%	19.2%	30.0%	50.8%	p=1.00
Access to me leisure time is very important in influencing my feelings of job satisfaction (n=23; 119)	78.3%	21.7%	-	87.4%	12.6%	-	p=0.32

P-values from Fisher's exact test

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Choice of career

Comparative data relating to factors influencing the choice of career by quantity surveyors are shown in Table 6.

Table 6 Factors influencing career choice by race (n = 141)

Factor of influence	Responses	
	'Non-white' (n=24)	'White' (n=117)
Status of the profession	12.5%	0.0%
Family / tradition	4.2%	13.7%
Salary	12.5%	31.6%
Security	25.0%	8.5%
None (drifted into career)	33.3%	29.1%
Other	12.5%	17.1%

Fisher's exact test: p-value=<0.01

Table 7 indicates the two groups' opinions (with the benefit of hindsight) regarding their choice of career. Aspects covered are: were they well informed about a career in quantity surveying; has their career to-date fulfilled their expectations; would they choose the same career again; would they consider moving to another type of career in the built environment; and would they recommend a career in quantity surveying to others?

Finally, respondents were provided with a number of factors on a 6-point Likert scale and asked to rank their importance when choosing a career. The overall ranking of the factors was determined by calculating the mean score of each factor. The results (as well as standard errors for the means) are given in Table 8.

Table 7 Respondents' feelings regarding their choice of career by race

Opinions regarding choice of career	'Non-whites'				'Whites'				P-value
	Definitely 'yes'	Probably 'yes'	Probably "no"	Definitely 'no'	Definitely 'yes'	Probably 'yes'	Probably ' no'	Definitely 'no'	
Well informed about career choice? (n=24; 119)	4.2%	45.8%	33.3%	16.7%	10.1%	37.8%	35.3%	16.8%	p=0.85
Fulfilment of career expectations? (n=24; 117)	25.0%	58.3%	12.5%	4.2%	23.9%	61.5%	12.8%	1.7%	p=0.78
Choice of same career again? (n=24; 119)	16.7%	54.2%	29.2%	0.0%	21.8%	47.1%	23.5%	7.6%	p=0.57
Consideration of alternative built environment employment? (n=24; 118)	20.8%	45.8%	12.5%	20.8%	10.2%	39.0%	39.8%	11.0%	p=0.03
Recommend a career in quantity surveying to others? (n=24; 119)	29.2%	50.0%	20.8%	0.0%	22.7%	52.1%	21.0%	4.2%	p=0.85

Scale values: 1 = Definitely 'yes'; 4 = Definitely 'no'; P-values from Fisher's exact test

Table 8 Ranking of factors considered important in choosing a career by race

Factors considered in career choice	'Non-whites'		'Whites'		Difference	
	Ranking (mean) score (+/- std error)	Rank	Ranking (mean score) (+/- std dev)	Rank	Mean score (+/- std error)	*P*-value
Having a job with a high position (status) [Belonging need] (n=24; 119)	2.42 (+/- 0.30)	3	3.03 (+/- 0.16)	6	0.62 (+/- 0.34)	*p*=0.12
Working as part of a supportive team [Belonging need] (n=22; 115)	2.64 (+/- 0.38)	6	2.88 (+/- 0.16)	5	0.24 (+/- 0.41)	*p*=0.47
Good salary [Physiological need] (n=24; 118)	2.17 (+/- 0.30)	2	1.83 (+/- 0.08)	2	0.34 (+/- 0.31)	*p*=0.64
Security of employment [Safety need] (n=24; 119)	2.42 (+/- 0.29)	3	2.38 (+/- 0.13)	3	0.04 (+/- 0.32)	*p*=0.86
Doing work which is personally satisfying [Esteem need] (n=24; 119)	**1.75 (+/- 0.29)**	**1**	**1.80 (+/- 0.11)**	**1**	**0.05 (+/- 0.31)**	***p*=0.49**
Flexible working hours (n=24; 119)	2.58 (+/- 0.31)	5	2.86 (+/- 0.16)	4	0.27 (+/- 0.35)	*p*=0.63

Scale values: 1 = most important; 6 = least important); *P*-values from the Mann-Whitney test

Issues relating to race at work

Using 6-point Likert scales, the *presence* and *importance* of factors relating to race in influencing feelings of job satisfaction were determined and are shown in Tables 9 and 10, respectively. These tables provide the means and standard errors for the whole sample as well as for the racial groups, and associated *p*-values. Table 11 summarises the responses of the two groups regarding issues relating to race at work. Means are given for Likert scale questions and proportions for categorical responses. Standard errors for the difference in proportions are not calculated under the assumption that the proportions are equal; p-values are from either the Fisher's exact text or the Mann-Whitney test. The issues covered encompass participation in decision-making, degree of supervision, promotion on the basis of PDI status, the importance of professional status and race representivity as means of combating discrimination in the workplace, the importance of respecting individual diversity at work, and whether or not respondents had experienced racial discrimination or harassment at work.

Table 9 *Presence* of the factors in influencing feelings of job satisfaction by race

Factors	Presence of factor: mean scores (+/- std error)				
		Race			
	Sample	'Non-white'	'White'	Difference	*P*-value
Remunerated at a level below equivalent colleagues due to race (n = 23; 110)	3.85 (+/- 0.16)	3.54 (+/- 0.35)	3.92 (+/- 0.17)	0.38 (+/- 0.39)	p=0.27
Employer permits flexible working hours for parents to facilitate absences from work during normal working hours (n = 22; 104)	2.17 (+/- 0.11)	2.05 (+/- 0.24)	2.19 (+/- 0.12)	0.15 (+/- 0.27)	p=0.63
Adherence by the employer to statutory minima in respect of maternity and paternity entitlements (n = 22; 97)	2.05 (+/- 0.10)	2.09 (+/- 0.25)	2.04 (+/- 0.12)	0.05 (+/- 0.27)	p=0.88
Recognition by employer of achievements regardless of race (n = 23; 108)	2.40 (+/- 0.13)	3.09 (+/- 0.33)	2.25 (+/- 0.13)	0.84 (+/- 0.36)	p=0.01
Provision of secure physical environments at work for staff (n = 24; mode = 112)	2.87 (+/- 0.15)	3.25 (+/- 0.35)	2.79 (+/- 0.17)	0.46 (+/- 0.39)	p=0.23

Scale values: 1 = Strongly agree; 6 = Strongly disagree; *p*-values are from the Mann-Whitney test.

Table 10 *Importance* of the factors in influencing feelings of job satisfaction by race

Factors	Importance of factor: mean scores (+/- std error)				
		Race			
	Sample	'Non-white'	'White'	Difference	*P*-value
Remuneration being fair and equitable regardless of race (n = 24; 118)	1.44 (+/- 0.07)	1.54 (+/- 0.23)	1.42 (+/- 0.07)	0.13 (+/- 0.24)	p=0.69
Flexible working hours for parents to facilitate absences from work during normal working hours (n = 24; 118)	1.96 (+/- 0.08)	1.71 (+/- 0.19)	2.02 (+/- 0.09)	0.31 (+/- 0.21)	p=0.14
Provision by the employer of maternity and paternity entitlements above the statutory minimum (n = 22; 107)	3.05 (+/- 0.14)	2.45 (+/- 0.26)	3.18 (+/- 0.16)	0.72 (+/- 0.31)	p=0.06
Equality in recognition by employer regardless of race (n = 24; 115)	1.47 (+/- 0.07)	1.42 (+/- 0.13)	1.48 (+/- 0.08)	0.06 (+/- 0.15)	p=0.88
Provision of secure physical environments at work for staff (n = 24; 117)	1.63 (+/- 0.06)	1.58 (+/- 0.15)	1.64 (+/- 0.07)	0.06 (+/- 0.16)	p=0.67

Scale values: 1 = Very important; 6 = Unimportant; *p*-values are from the Mann-Whitney test.

Table 11 Factors relating to the workplace by race

Factors	Importance / Prevalence of factor: mean scores or proportions (+/- std error)				
		Race			
	Sample	'Non-white'	'White'	Difference	*P*-value
Not allowed to contribute meaningfully to the decision-making process (n=18; 91)	14% (3%)	33% (11%)	10% (3%)	23% (12%)	*p*=0.02
Importance of participation in decision making (n=24; 117)	1.72 (0.07)	1.46 (0.12)	1.77 (0.08)	0.31 (0.14)	*p*=0.07
Subjected to a high degree of supervision because of race (n=23; 106)	5.12 (0.11)	4.22 (0.32)	5.32 (0.10)	1.10 (0.34)	*p*<0.01
Promotion on the basis of "PDI" status is acceptable (n=23; 117)	6% (2%)	22% (9%)	3% (2%)	18% (9%)	*p*<0.01
Professional status is important in combating perceptions of discrimination in the work place (n=23; 112)	2.26 (0.10)	1.87 (0.15)	2.34 (0.12)	0.47 (0.19)	*p*=0.13
Race representivity in the QS profession is important in combating discrimination in the work place (n=24; 115)	3.52 (0.13)	2.83 (0.29)	3.68 (0.14)	0.85 (0.33)	*p*=0.02
Personally experienced racial harassment (n=7; 12)	13% (3%)	29% (10%)	10% (3%)	19% (10%)	*p*=0.02
Personally experienced racial discrimination (n=14; 37)	36% (4%)	58% (10%)	31% (4%)	28% (11%)	*p*=0.02
I consider respect for individual diversity within the workplace to be important (n=24; 118)	1.66 (0.07)	1.29 (0.10)	1.75 (0.08)	0.45 (0.13)	*p*=0.01

Means are given for Likert scale questions (scale values: 1 = Very important; 6 = Unimportant) and proportions for categorical responses; std. errors for the difference in proportions are not calculated under the assumption that the proportions are equal; p-values are from either Fisher's exact text or the Mann-Whitney test.

Harassment and discrimination at work

The results relating to perceptions of harassment and discrimination at work are shown in Tables 12 and 13, respectively. In general the small sample sizes preclude definitive inferences, suffice it to say that instances of harassment and discrimination are present in the quantity surveying workplace.

Table 12 Extent to which harassment has been personally experienced at work by race

Form of harassment	Frequency ('yes')		*P*-values
	'Non-white'	'White'	
Sexual harassment	8.3% (n=2)	3.3% (n=4)	*p*=0.26
Racial harassment	29.2% (n=7)	10.0% (n=12)	*p*=0.02
On the basis of sexual orientation	4.2% (n=1)	0.0% (n=0)	*p*=0.17
On the basis of religious affiliation	8.3% (n=2)	1.7% (n=2)	*p*=0.13
On the basis of gender	8.3% (n=2)	5.8% (n=7)	*p*=0.65

P-values from Fisher's exact test

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DoE accredited
ISSN 1815-7440

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Table 13 Extent to which discrimination has been personally experienced at work by race

Form of discrimination	Frequency ('yes')		*P*-value
	'Non-white'	**'White'**	
On the basis of educational background	16.7% (n=4)	5.0% (n=6)	*p*=0.06
On the basis of race	58.3% (n=14)	30.8% (n=37)	*p*=0.02
On the basis of sexual orientation	4.2% (n=1)	0.8% (n=1)	*p*=0.31
On the basis of religious affiliation	8.3% (n=2)	3.3% (n=4)	*p*=0.26
On the basis of physical disabilities	4.2% (n=1)	0.0% (n=0)	*p*=0.17
On the basis of gender	12.5% (n=3)	12.5% (n=15)	*P*=1.00

P-values from Fisher's exact test

Finally, respondents' opinions concerning the importance of respect for individual diversity within the work place were tested using a 6-point Likert scale (1 = very important; 6 = unimportant).

Discussion of the results

The findings indicate that the majority of the respondents may be considered to be 'White', South Africa citizens, senior professionals, with considerable experience. Most consider themselves to be paid an average, to above average, salary. Insofar as salary as a motivating factor is concerned, a majority claim that salary is 'important' to 'very important'; with no significant differences between the groups (*p*>0.20) (see Table 2(a)). A function of professional life is the requirement to sometimes undertake overtime (paid or unpaid) to meet the work demands of the organization. Overtime is invariably done at the expense of leisure and family time. Neither 'Non-whites' nor 'Whites' view being required to do <u>paid</u> overtime as a source of job dissatisfaction (*p*=0.85), contrasting sharply with those who report that having to do <u>unpaid</u> overtime is a source of job dissatisfaction (*p*=1.00) (see Table 5). Overwhelmingly, both groups ('Non-whites': 78%; 'Whites: 87%) see access to their leisure time as being very important in influencing feelings of job satisfaction (*p*=0.32). Clearly, unpaid overtime, whether voluntary or involuntary is a source of job dissatisfaction for many quantity surveyors. Quantity surveyors value their leisure time, but are prepared to make sacrifices in this regard if they receive payment.

Factors influencing feelings of job satisfaction

Table 1(a) reveals that the two groups differ slightly with regard to the ranking of the *three* most *important* factors (amongst the 11) influencing their job satisfaction, albeit not significantly ($p \geq 21$). The 'Non-whites' rank personal satisfaction and accomplishment, a low degree of supervision and being encouraged to take the initiative, and undertaking challenging and creative work the highest. Their 'White' counterparts agree with the first two, but rate participation in a team above doing

challenging and creative work. Overall, differences between the two groups are not significant ($p \geq 21$), although the issue of doing varied and non-repetitive work is marginal (p=0.06). The least important factor to both groups is social interaction (close friendships at work). When the factors of *importance* are grouped in terms of Maslow's Hierarchy of Needs (see Table 1(b)), the pre-eminence of those factors relating to the 'need for self-actualisation' becomes apparent; being deemed to be the most important as a group by "Non-whites' and 'Whites' (p=0.20). The 'need for esteem' grouping is ranked second (p=0.83). The 'Non-whites' and 'Whites' differ in their ranking of the third and fourth groupings (i.e. belonging needs vs. safety needs), but not significantly ($p \geq 0.50$). Money, a 'physiological need' and an extrinsic reward, is ranked last (p=0.40). The standard errors for these mean estimates show a significant difference between self actualisation and the physiological, safety, and belonging needs. The differences between the other Maslow groups do not appear to be greater than the random variation that could be expected in the sampling process. Further corroborative evidence for the relative ranking of these factor groups could be found by examining differences created from adjacently ranked variables across the sample. Quantity surveying firms need to appreciate the role of 'self-actualisation' factors as motivators of professional staff.

When compared to the findings relating to professional staff (n = 38) of Asad and Dainty's (2005) study of job motivational factors for disparate occupational groups (construction management, quantity surveying and supervisory) within the UK construction sector, certain differences emerge. Their study found that professionals, whilst demonstrating a significant desire for intrinsic rewards, also desired money and job security; these two factors being ranked first and fourth, respectively. Interestingly, in that study job security was rated as being of equal importance to feelings of accomplishment. Reasons for these differences are not readily apparent, but may have arisen because of cultural differences between the industries, or the bias of construction managers (n = 23) and supervisors (n = 8) in the sample.

The findings relating to undertaking challenging and creative work with autonomy and receiving recognition within the organisation accord with those of Asad and Dainty (2005) and Dollard *et al*. (2000). The latter study found that a lack of autonomy and support can result in frustration, job strain and burn-out. Being part of a team, participating in the decision-making process, and being allowed to use one's initiative, relate to the employees' need for empowerment. This finding is consistent with previous research (Hammuda & Dulaimi 1997) where empowerment was found to be a powerful motivating factor. Empowerment has also been associated with higher morale, improved teamwork, and greater enthusiasm towards work (Umiker

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1992). Effective teams and teamwork have been associated with increased output, greater creativity, increased work quality and higher morale amongst team members (Schermerhorn *et al.* 2003). In contrast to the findings of Asad and Dainty (2005), job security and job promotion were not ranked as highly as motivating factors by respondents. These results are not surprising given the shortage of professional quantity surveyors in South Africa, particularly given the demands being placed on the industry by preparations for the 2010 Soccer World Cup (large *stadia* and infrastructure projects).

Table 2(a) reveals no significant differences in the presence at work of motivating factors by race, although the differences are marginal in some cases e.g. opportunity to do challenging and creative work (p=0.07), a low degree of supervision (p=0.09), and participation in a working team (p=0.10). The *presence* in the workplace of factors influencing job satisfaction (Table 2(a)), when combined with the perceived *importance* of those same factors (Table 1(a)), yields a *job satisfaction rating score* for each factor (see Table 2(b)) (Smithers & Walker 2000). Consideration of these scores indicates that low levels of supervision, high feelings of personal satisfaction and accomplishment, participating in an effective team, and the opportunity to do challenging work are currently the main drivers of job satisfaction amongst quantity surveyors. Differences between the two groups of respondents regarding these four factors are not significant ($p \geq 0.32$). Quantity surveying practices need to note these drivers and empower staff accordingly.

Overall levels of job satisfaction

The vast majority of participating quantity surveyors appear to like the work they do (see Table 3). Whilst more 'Whites' (46%) than 'Non-whites' (22%) report that they 'like it very much' or 'love it', the differences overall are not significant (p=0.22). A small minority of both groups (about 8%) appear indifferent to the job. Comparatively few quantity surveyors experience high levels of job dissatisfaction at all times; certain aspects of the work obviously giving rise to job dissatisfaction to a greater or lesser degree – most notably the measurement of builders' work, project administration, and the preparation of final accounts. Reasons cited under 'Other' included: perceived incompetence of other professionals; poor documentation from, and lack of faith in, designers; bureaucracy; dealing with government officials (political interference); disparaging attitudes displayed towards 'White' women by 'Black' male clients; contractual disputes; professional appointments made on the basis of affirmative action; and dealing with 'incompetent' emerging contractors. The

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provision of cost estimates appears to give rise to the least job dissatisfaction (see Table 4). Differences between the groups are not significant ($p=0.96$).

Choice of career

Significant differences ($p<0.01$) exist between the groups regarding their reasons for choosing a career in quantity surveying (see Table 6). Many respondents ('Non-whites': 33%; 'Whites': 29%) report 'drifting' into the career. Salary, despite its comparative lack of perceived importance as a factor influencing job satisfaction, is cited by the 'Whites' (32%) as a main driver ('Non-whites: 13%) for having chosen a career in quantity surveying. The main driver for 'Non-whites' (25%) is job security ('Whites': 9%). The perceived status of the profession was not at all influential for 'Whites' (0%), but influenced a minority of 'Non-whites' (13%). Conversely, family / tradition influenced some 'Whites' (14%), but comparatively few 'Non-whites' (4%). 'Other' reasons included: a liking for working outdoors; a love of buildings and architecture; an interest in the construction sector; an interest in property and property development; an aptitude for figures; and as a result of an aptitude test.

With the benefit of hindsight, approximately half of both groups of quantity surveyors indicated that they were either 'probably' or 'definitely' not well informed about their choice of intended career ($p=0.85$) (see Table 7). Most ('Non-whites': 83%; 'Whites: 85%; $p=0.78$)) claim to have 'probably' or 'definitely' experienced fulfilment with regard to their career expectations (whether informed or not), although a minority of participants ('Non-whites: 25%; 'Whites': 24%) said so with absolute conviction. When asked if they would choose the same career again, whilst a clear majority of each group said that they 'definitely' or 'probably' would, nearly 30% of both groups claimed that they most likely would not. Differences between groups are not significant ($p=0.57$). Interestingly, 'Non-whites' and 'Whites' differ significantly ($p=0.03$) as to whether they would consider moving into a different field of employment within the built environment, with more 'Non-whites' (21%) than 'Whites' (10%) emphatic about this. When asked whether or not they would recommend a career in quantity surveying to others, no significant differences exist between the groups ($p=0.85$) with 79% of 'Non-whites' and 75% of 'Whites', respectively, stating that they would 'probably' or 'definitely' do so. Clearly, not all quantity surveyors are experiencing sustained levels of job satisfaction. These findings correspond with the results pertaining to overall levels of job satisfaction.

The importance, when choosing a career, of doing work that is personally satisfying (esteem need) and of being paid a good salary (physiological need) are confirmed

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(see Table 8), with no significant differences between the groups $(p \geq 0.49)$. These two attributes were given the highest rankings and their standard errors confirm a significant difference between these two factors and the rest. Interestingly, and in contradiction with the findings relating to the importance of factors giving rise to job satisfaction (see Table 1(a)), physiological needs (salary) and safety needs (job security) are ranked as comparatively important (2nd and 3rd, respectively). It would seem that the importance of such factors changes over time with increased maturity and self confidence in one's worth. Flexible working hours, having a job with high status, and working as part of supportive team are seen as less important (no significant differences between groups; although the issue of status is more important to 'Non-whites' (*p*=0.12).

Issues relating to race at work

Earlier work by Gale (1991) and Gilbert and Walker (2001) investigated whether men and women perceive the same issues (variables) at work to be motivating and de-motivating. The relatively low numbers of women in the industry is said to be related, directly or indirectly, to perceived male domination at work. No similar, race-based research appears to have been conducted in the construction industry. Given the classification in South Africa of 'Non-White' persons, together with women, as PDIs for the purposes of affirmative action, it was decided not to restrict the issue of gender to women. Rather, gender differences in questions were ignored because, for example, men ('Non-white' or 'White') might conceivably view flexible working hours for paternal duties as extremely important. Thus, in exploring the *presence* and *importance* of the factors relating to race in influencing feelings of job satisfaction, relevant questions were gender 'neutral' (see Tables 9 and 10).

The majority of quantity surveyors ('Non-whites: 88%; 'Whites': 93%) rate highly the *principle* of remuneration being fair and equitable regardless of race, and there was no significant difference between the two groups (*p*=0.69). When the *reality* of the situation is examined, whilst a majority of 'Non-whites' and 'Whites' stated that they are not discriminated against in terms of salary, large proportions of both groups ('Non-white': 42%; 'White': 28%) claim that they are. The difference between the groups is not significant (*p*=0.27). Both groups consider equality in recognition of achievements by employers to be important (*p*=0.88). In reality, however, significant differences (*p*=0.01) in this regard between the groups emerge with 44% of 'Non-white' compared to 76% of 'Whites' 'agreeing' or 'strongly agreeing' that this is in fact the case. Employers need to take account of these feelings of marginalisation on the part of 'Non-whites'.

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Whilst there is considerable support from both groups (>70%) for flexible working hours, differences by race in respect of both the importance (p=0.14) and presence (p=0.63) of this factor are not significant. A clear majority of both groups (>80%) report that their organisations adhere to the statutory minimums with respect to maternity and paternity leave (p=0.88), although 'marginally' significant differences (p=0.06) exist between the groups with more 'Non-whites' (55%) than 'Whites' (37%) seeing entitlements *above* the minimum as 'important' or 'very important'.

Whilst a secure working environment [safety needs] is deemed important by the vast majority (90%) of all quantity surveyors, nearly 30% of them claim not to work in a safe and secure environment. There was no significant difference between the way 'Non-whites' and 'Whites' responded to the presence (p=0.23), or importance (p=0.67), of a secure working environment. Given current crime levels in South Africa, security is an important consideration.

Table 11 summarises results with respect to issues of *race in the workplace*, with significant differences clearly evident. Whilst the majority (84%) of all respondents see promotion on the basis of one's PDI status rather than on ability as unacceptable, clear differences between the two groups are evident (p<0.01); with 22% of 'Non-whites' compared to 3% of 'Whites viewing it as an acceptable practice. Management needs to be sensitive to this issue.

Although a majority of both groups ('Non-whites: 57%; 'Whites': 90%) do not see themselves as being subjected to a high degree of supervision because of their race, more 'Whites' (55%) than 'Non-whites' (17%) are emphatic about this. Significant differences exist between the two groups on the issue of supervision and race (p<0.01). Significant differences also exist between the two groups regarding not being allowed to contribute meaningfully to the decision-making process (p=0.02), with 33% of 'Non-whites' (compared to 10% of 'Whites') claiming this to be the case. Most respondents ('Non-whites': 96%; 'Whites': 87%) stress the importance of participation in decision-making, with a marginally significant difference between the groups (p=0.07). Management needs to be cognisant of this issue.

Regarding whether or not professional status is important in combating perceptions of discrimination in the workplace, although more 'Non-whites' (83%) than 'Whites' (71%) state that it is, the difference between the groups is not significant (p=0.13). When similarly questioned regarding race representivity, the difference in responses between the groups is significant (p=0.02); with 42% of 'Non-whites' compared to 27% of 'Whites' stating that it is important.

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Harassment and discrimination at work

Details relating to the extent to which harassment and discrimination have personally been experienced at work are shown in Tables 12 and 13, respectively. Whilst incidences of harassment do occur, their frequency is comparatively small with the exception of racial harassment. Of those who claim to have experienced racial harassment, a larger proportion are 'Non-white' (29%), with a significant difference between the two groups (p=0.02). Few respondents from either group report sexual harassment at work (p=0.26). Harassment on the basis of gender (p=0.65), sexual orientation (p=0.17), and religious affiliation (p=0.13) appears minimal. Management needs to be alert to these practices and implement remedial and supportive action where necessary.

With reference to Table 13, perceived discrimination in the workplace appears to be more widespread, particularly with regard to race, gender, and educational background. Racial discrimination appears to be the most widespread, being reported by 58% of 'Non-whites' and 31% of 'Whites' (p=0.02). It is not clear whether the incidences of racial discrimination are 'active' rather than in a 'passive' form associated with affirmative action. More 'Non-whites' (17%) than 'Whites' (5%) report discrimination on the basis of educational background, with a marginally significant difference between the groups (p=0.06). This feeling of discrimination may result from the fact that 39% of 'Non-whites', compared to 19% of 'Whites', do not hold a 4-year university degree or its equivalent. Respondents from both groups (13%) have experienced gender discrimination, but the group differences are not significant (p=1.00). Incidences of discrimination on the basis of sexual orientation, religious affiliation and physical disability are minimal and differences between the groups not significant. Again management needs to be sensitive to these issues.

Finally, whilst the majority ('Non-white': 100%; 'White': 87%) regard respect for individual diversity in the workplace to be 'important' or 'very important', there is a significant difference between the two groups in this response (p=0.01) with 45% of 'Whites' (compared to 71% of 'Non-whites') seeing it as 'very important'. Such intolerance is contrary to the provisions of the South African Constitution (RSA 1996).

CONCLUSIONS

This paper has focussed on a race-based examination of job satisfaction of professional quantity surveyors in post-*apartheid* South Africa. An overview of research relating to the nature of job satisfaction was provided. Motivation theory was

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introduced and previous research into job satisfaction and motivation in the construction industry was discussed, with particular reference to race. The racial context of the research was explained, and the dearth of literature relating to quantity surveyors' job satisfaction in general, and racial differences in particular, was noted.

The focus of this research centred on a number of issues, namely: how satisfied are 'Non-white' and 'White' quantity surveyors with their jobs; what influences their job satisfaction; how did they choose a career in quantity surveying; what issues relating to race affect job satisfaction; and to what extent do the two groups of quantity surveyors experience harassment and discrimination at work?

Significant differences of opinion between the 'Non-white' and 'White' respondents exist on a number of issues. Although high proportions of both groups 'drifted' into the career, the main driver for 'Whites' in choosing a career was salary; for 'Non-whites' it was job security. More 'Whites' (46%) than 'Non-whites' (22%) have strong positive feelings regarding their levels of job satisfaction. Conversely, more 'Non-whites' (21%) than 'Whites' (10%) would consider moving to a different field of employment in the built environment. More 'Whites' (82%) than 'Non-whites' (68%) have positive feelings about recognition by employers of achievements regardless of race, this disparity becoming more pronounced when considering those who are emphatic about this issue. 'Non-whites' (55%), significantly more than 'Whites' (37%), see maternity / paternity leave above statutory minimums to be important.

Highly significant differences between 'Non-whites' and 'Whites' arise over issues of: being subjected to greater supervision because of race; not being allowed to contribute meaningfully to the decision-making process; viewing PDI status as a valid basis for promotion; seeing race respresentivity in the profession as important in combating discrimination at work; having personally experienced racial harassment and discrimination at work; and seeing the importance for respect for individual diversity in the workplace – with 'Whites' viewing these issues less 'empathically' than their 'Non-white' counterparts. The results provide valuable indicators for how the quantity surveying firms can create a more conducive work environment for professional staff.

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