Paul Bowen, Peter Edwards, Helen Lingard & Keith Cattell

Harassment and discrimination experienced by quantity surveyors in South Africa

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Abstract

This article examines the workplace discrimination and harassment experiences of professional quantity surveyors in South Africa and explores the relationship between harassment, discrimination and perceived workplace stress. An online survey is administered and 177 responses (12.2% of the target population) received. Descriptive and inferential statistics are used to analyse the response data. A minority of respondent quantity surveyors claim to experience workplace harassment and discrimination on gender and ethnic grounds. Respondents also indicate that they feel underpaid and that their ethnicity adversely affects their job security. The article reports on sexual harassment and gender-based harassment and discrimination. Harassment and discrimination are found to correlate with higher perceived levels of workplace stress. Strategies designed to address and counter harassment and discrimination in quantity-surveying practices should be implemented or reinforced as part of broader stress management programmes. Employers have a major role to play in this, but professional associations should also take part. Previous research into work stress focused on the experiences of workers in developed countries. This research provides insight into the problem of workplace harassment and discrimination in the unique context of post-apartheid South Africa. It supports the link between harassment and discrimination and perceived levels of personal stress in this context.

Keywords: Harassment, discrimination, workplace stress, quantity surveyors, South Africa

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Prof. Paul (P.A.) Bowen Department of Construction Economics and Management University of Cape Town Private Bag Rondebosch 7701 Cape Town South Africa. Phone: +27 (0)21 650 3443 email: <paul.bowen@uct.ac.za>

Dr Peter Edwards Program Director – Construction Management (Offshore) School of Property Construction & Project Management RMIT University GPO Box 2476 Melbourne 3001 Australia. Phone: +61 3 9925 2198 email: <peter.edwards@rmit.edu.au>

Prof. Helen Lingard School of Property Construction & Project Management RMIT University GPO Box 2476 Melbourne 3001 Australia. Phone: +61 3 9925 3449 email: <helen.lingard@rmit.edu.au>

Prof. Keith (K S.) Cattell Head of Department of Construction Economics and Management University of Cape Town Private Bag Rondebosch 7701 Cape Town South Africa. Phone: +27 (0)21 650 2452 email:<keith.cattell@uct.ac.za>

Abstrak

Die artikel ondersoek diskriminasie in die werkplek en teisteringervarings van professionele bourekenaars in Suid-Afrika en ondersoek die verband tussen teistering, diskriminasie en oënskynlike werkstres. 'n Aanlyn-opname is gedoen en 177 antwoorde (12.2% van die teikenbevolking) is ontvang. Beskrywende en afgeleide statistiek is gebruik om die data te ontleed. 'n Onbeduidende aantal van die bourekenaarrespondente dui aan dat daar teistering in die werkplek sowel as geslags- en etniese diskriminasie ondervind word. Respondente dui ook aan dat hulle onderbetaal word en dat etnisiteit hul werksekuriteit negatief beïnvloed. Seksuele en geslagsgebaseerde teistering sowel as diskriminasie is aangemeld. Teistering en diskriminasie korreleer met hoë waargenome vlakke van werkstres. Strategieë wat ontwerp is om teistering en diskriminasie aan te spreek, moet geïmplementeer of versterk word in bourekenaarpraktyke as deel van 'n breër stresbestuurprogram. Werkgewers het 'n groot rol om te speel hierin, maar professionele verenigings moet ook betrokke wees. Vorige navorsing oor werkstres het gefokus op die ervarings van werkers in ontwikkelde lande. Hierdie navorsing bied insig oor die probleem van werkplekteistering en diskriminasie in die unieke Suid-Afrikaanse post-apartheid konteks. Dit bevestig die verband tussen teistering en diskriminasie en waargenome vlakke van stres in hierdie konteks.

Sleutelwoorde: Teistering, diskriminasie, werkplekstres, bourekenaars, Suid-Afrika

1. Introduction

Construction is a high-risk industry for work-related stress (Lingard & Francis, 2004: 991; Pocock, Skinner & Williams, 2007: 31; Love, Edwards & Irani, 2010: 650). Project work is characterised by considerable dynamism and uncertainty, elevating its stressful nature. Work hours in construction are long and unexpected events often compromise the ability to meet project objectives (Lingard, Francis & Turner, 2010: 1085). The construction industry has also traditionally been characterised by interpersonal and inter-role conflict, known work stressors (Leung, Skitmore & Chan, 2007: 1064; Loosemore & Galea, 2008: 127). Work-related stress is a major challenge to the health of working people (Health and Safety Executive (HSE), 2006: 31). Houtman (2005: 2) reports that, in the 2000 European Working Conditions Survey (EWCS), work-related stress was the second most common work-related health problem across 15 European Union countries.

Previous research has found that sexual and racial discrimination and harassment are commonplace in the construction industry in several parts of the world. In the USA, Goldenhar, Swanson, Hurrell, Ruder & Deddens (1998: 26) reported that 51% of a sample of female construction workers had experienced sexual harassment or discrimination in the 12 months preceding a survey. Loosemore & Chau (2002: 96) found that 40% of Asian construction workers in an Australian sample felt that they had suffered discrimination at work. Dainty & Lingard (2006: 113) report the comparative prevalence of

subtle, but damaging forms of sex discrimination in the construction industries of the UK and Australia.

The present research forms part of a larger study examining the workplace stress experienced by construction professionals in South Africa. The study focuses on the relationship between workplace stress and job demand, control and support factors, the effects of workplace stress, the coping mechanisms adopted by professionals in an attempt to militate the effects of stress, and the role of harassment and discrimination as work-related stressors. Data were collected from architects, engineers, quantity surveyors, as well as from project and construction managers *via* an online survey (*N*=676). Earlier papers have reported on the comparative levels of perceived job stress and job demand, control and support (JDC/S) factors (Bowen, Edwards & Lingard, 2013a); the comparative relationship between job stress and harassment and discrimination at work (Bowen, Edwards & Lingard, 2013b); stress, stress effects and coping mechanisms (Bowen, Edwards, Lingard & Cattell, 2013a), and predictive modelling of stress as a function of JDC/S factors (Bowen, Edwards, Lingard & Cattell, 2013b).

Using the data emanating from the quantity surveyor respondents, this article reports on the relationship between quantity surveyors' workplace stress and experiences of harassment and discrimination at work. The research aims to compare and contrast the harassment and discrimination experiences of quantity surveyors juxtaposed against their perceived levels of workplace stress, with particular focus on gender and ethnicity. Issues explored include unwanted physical contact, and unwanted references of a sexual nature, by line managers and colleagues. It also examines harassment and discrimination by line managers and colleagues, feeling underpaid for work done, and experiencing job insecurity – each in terms of language, ethnicity, religion, gender, and sexual preference.

South Africa's apartheid legacy provides a unique context to examine workplace stress among construction professionals. The contribution of this work lies in its examination of the work stress experienced by quantity surveyors in a developing country characterised by economic hardship and social problems.

2. Background to the study

Under pre-1994 apartheid legislation, persons were racially classified as 'White', 'Black', 'Coloured', or 'Asian'. The term 'Coloured' was used to describe South Africans of mixed race descent. The 'Asian'

classification included Indians (a large minority grouping in South Africa). For the purposes of enforcing apartheid, persons were generally categorised as either 'White' or 'Non-White' (using this term as a broad, non-pejorative descriptor). Klug (1999: 5) highlights complexities associated with the 'language of race' – focusing on the definition and use of the words 'racial' and 'ethnic'; the vocabulary of colour ('black', 'white', etc.) in the language of race, and the notion that 'White' is an ethnic category.

Post-apartheid South Africa saw the introduction of 'positive discrimination' or 'affirmative action' as a vehicle to assist previously disadvantaged individuals (PDIs) who were broadly identified as 'Non-Whites' and women (RSA, 1996: s.217(2-3)). Black Economic Empowerment (BEE) and affirmative procurement policies are examples of mechanisms used to facilitate change. Within the construction industry, affirmative action has taken the form of preferential procurement in the award of building contracts and the appointment of professional consultants in terms of which the number of PDIs in the practice, in general, and in managerial positions, in particular, is an important consideration. Women, along with 'Black' people have been deemed to be 'historically disadvantaged individuals' (HDIs) for the purposes of affirmative action policies (RSA, 2000: s.2(1)(d); DPW, 2001: cl.2; DTPW, 2002: cl.1.7).

In the period January-March 2013, the construction industry employed just over one million people, or 7.5% of the employed population of 13.6 million. Of these economically active persons, 6.4% are in professional occupations and, of these, 57% are male. Gender discrimination persists in the labour force, with women continuing to be distinctly over-represented in clerical, service, and health-related occupations, while men tend to be over-represented in management, professional, craft, operator and elementary occupations. Of the persons employed in the construction industry, 88% are male (Mutedi, 2013: 16). Compared to professional women in the general economy, the percentages of professional women in construction are reportedly far lower (CBE, 2013: 7), specifically engineers (3%); architects (19%); quantity surveyors (15%), and project and construction managers (3%).

Similarly, in January-March 2013, the ethnic distribution of persons employed in the economy was 'Black' 71%; 'Coloured' 11%; Indian 4%, and 'White' 14% (Stats SA, 2013: 4). According to the CBE (2013: 8), 'Whites' account for 77% of registered professional engineers, 73% of architects, 74% of quantity surveyors, and 82% of project

and construction managers. Clearly, 'Whites' are disproportionately represented as professionals in the South African construction industry.

2.1 Discrimination

Discrimination is defined as "a set of behaviors that create societal, psychological and physical barriers that prevent minority group members from obtaining parity with majority group members" (Landry & Mercurio, 2009: 193). Discrimination includes sexist or racist 'put downs' and unfair treatment by employers, supervisors or co-workers (Goldenhar *et al*., 1998: 21; Caplan, Aujla, Prosser & Jackson, 2009: 22). Discrimination is related to negative mental health outcomes (Williams, Neighbors & Jackson, 2003: 200; Pavalko, Mossakowski & Hamilton, 2003: 29) and is a risk factor for work-related stress (King, 2005: 202; Dollard, Skinner, Tuckey & Bailey, 2007: 3; De Haas, Timmerman & Höing, 2009: 391).

Discrimination may be conceived as a more significant stressor than general 'daily hassles', because it threatens a person's goals and sense of value as a person (Landry & Mercurio, 2009: 193). Consistent with the conceptualisation of discrimination as a stressor, the experience of discrimination is reported to impact negatively on job satisfaction (Ensher, Grant-Vallone & Donaldson, 2001: 56) and mental health (Landrine, Klonoff, Corral, Fernandez & Rosesch, 2006: 80; Hoobler, Rospenda, Lemmon & Rosa, 2010: 438). In addition, Ong, Fuller-Rowell & Burrow (2009: 1267) explored the process whereby racial discrimination leads to diminished mental health, and reported that stressors have a tendency to multiply and create other stressors, in a process known as stress proliferation. Wadsworth, Dhillon, ShawBhui, Stansfeld & Smith (2007: 18) show that there is a strong association between racial discrimination and perceived work stress, and that 'Black' women who reported experiencing racial discrimination at work have higher levels of psychological distress. Ferfoija (2005: 51) points to the damaging effects of discrimination based on sexual preferences; specifically, threats of dismissal, forced resignations, and implicit harassment (structural violence). Cobas & Feagin (2008: 390) identify the racism in language struggles, and how the language of 'Whites' can be used to sustain their political-economic domination. Thus, the experience of chronic discrimination predicts more frequent experiences of daily discrimination and negative events, resulting in higher levels of distress. Some research has not distinguished between the concepts of discrimination and harassment; however, in the present study, the concepts are examined separately.

2.2 Harassment

Like discrimination, harassment can be sexual or ethnic or based on another point of difference between people, such as language, religion or sexual preference. However, whereas discrimination involves unequal treatment and/or the lack of positive opportunities, harassment involves threatening verbal or physical conduct or exclusionary behaviour that is directed at the recipient because of his/her ethnicity/race, language, religion, sex or sexual preference. Harassment of various forms has been identified as a significant stressor. For example, Schneider, Hitlan & Radhakrishnan (2000: 4) report that ethnic harassment is negatively related to well-being (i.e., life satisfaction, post-traumatic stress, and health conditions). Sexual harassment and general workplace harassment have also been linked to maladaptive coping behaviours, including problem drinking (Rospenda, 2002: 142). Sexual harassment is a specific category of harassment that includes such behaviours as making "unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature" (Schneider, Swan & Fitzgerald, 1997: 401). Schneider *et al.* (1997: 411) also report that even relatively low levels of sexual harassment have a significant impact on mental health, over and above the effects of general job stress. In addition, Raver & Nishii (2010: 238) indicate that gender and ethnicity-based harassment have a cumulative negative effect on workers' psychological well-being. That is, when more than one form of harassment is experienced, each new type of harassment adds to the target individual's level of stress and strain outcomes. Nielsen & Einarsen (2012: 309) state that exposure to bullying is associated with both job-, health- and well-being-related outcomes, such as mental and physical health problems, symptoms of post-traumatic stress, burnout, increased intentions to leave, and reduced job satisfaction and organisational commitment. Biaggio (1997: 89) points to homophobic prejudice at work against lesbians, impacting on lesbians in the form of negative attitudes and denigrating or destructive acts, and by means of actual discrimination, whether overt or subtle.

2.3 Workplace stress

Transactional models of stress suggest that stress occurs as a result of the relationship between a person and his/her environment when the environment is perceived as taxing, exceeding a person's resources and threatening his/her well-being (Lazarus & Folkman, 1984: 19).

Previous research has also shown that construction professionals experience high levels of work stress. However, this research has nearly always taken place in developed economies such as Australia (Lingard & Sublet, 2002; Love *et al*., 2010), the United Kingdom (UK) (Djebarni, 1996) or Hong Kong (Leung, Chan & Olomolaiye, 2008). Consequently, the extent to which the findings apply to developing countries such as South Africa is not known. Furthermore, little research has considered harassment and discrimination as work-related stressors in the construction sector, despite the research evidence suggesting that discrimination/harassment occur in construction and are linked to the experience of work stress. It is, therefore, important that the relationship between discrimination, harassment and stress be better understood in the construction context.

This research aims to:

- Explore experiences of discrimination, harassment and work stress among quantity surveyors in the developing nation of South Africa, and
- Examine the relationship between discrimination, harassment and perceived levels of workplace stress in the South African construction industry context.

3. Research method

A questionnaire survey was developed. The survey sought demographic, cultural and professional background information from respondents; determined levels of perceived workplace stress, and examined a range of stressors, including participants' experiences of harassment and discrimination in the workplace. The catalogue of survey items includes closed, dichotomous, declarative and rating questions. Questions are drawn from the works of Loosemore & Chau (2002) on racial discrimination in construction; Ferfoija (2005) on discrimination and harassment on the basis of sexual orientation; Sang, Dainty & Ison (2007) on gender as a risk factor for occupational stress; Cobas & Feagin (2008) on language as a vehicle of oppression; Caplan *et al*. (2009) on ethnic and religious discrimination in the construction industry; Raver & Nishii (2010) on ethnic and gender harassment, and Love *et al*. (2010) on workplace stress, support and mental health.

Survey participants were asked whether they had been harassed or discriminated against as a result of their language, race, religion, gender or sexual preference in the twelve months preceding the survey administration. This period was chosen to reflect recent

(and thus more reliable) rather than past memory. The questions were posed in relation to their interactions with colleagues as well as their line manager. Response options are "Yes" (indicating that harassment or discrimination had occurred); "No" (no occurrence), and "not applicable". The "not applicable" option is included to cater for instances such as a 1-person practices or branch offices. The analysis excludes those responses. This scale was internally consistent (α = 0.90). Survey participants were also asked to indicate whether they had experienced unwanted suggestions about, or reference to sexual activity; or unwanted physical contact or unwanted physical contact of a sexual nature in the same twelve-month period. This scale was internally consistent (α = 0.83). They were asked whether they felt that they were underpaid for their efforts or that their job security was affected/threatened due to their language, race, religion, gender or sexual preference. This scale was internally consistent (α = 0.64). The Cronbach's alpha for each scale ranged from 0.64 to 0.90, indicating internal consistency.

While no definitions of the various constructs *per se* were provided, the information in the covering letter to the questionnaire, the information in the Introduction to the questionnaire, and (indeed) the actual questions themselves provide ample insight into the issues of stress, harassment, and discrimination. The pilot study also served to confirm the efficacy of the questionnaire.

Exploratory factor analysis (EFA) was not performed on the variables. EFA is a data-reduction technique, essentially reducing a large set of variables into smaller sets or components (Pallant, 2010: 181). It is used in the compilation of tests and scales. Factor analysis (FA) helps create coherent subscales from an initial, large number of individual scale items or questions. We are not developing a psychometric scale. When the observed variables are dichotomous, as in this instance, FA is not really appropriate. Binary variables yield counts which can be analysed using contingency tables – as was done in this study.

In the South African context, language (e.g. English, Afrikaans, Zulu, Xhosa, etc.) and religion (e.g., Christian, Hindu, Muslim, etc.) can be used pejoratively or as a means of discrimination. Given South Africa's apartheid past, issues of ethnicity, culture, and gender are particularly important in any consideration of workplace harassment and discrimination.

Participants were also asked to assess their own stress levels on a 1 to 10 scale, ranging from 1=minimum ('feeling little or no stress') to 10=maximum ('highly stressed'). No intermediate scale intervals

were defined. Occupation stress indicator (OSI) scales (involving appropriate subscales of [and sub-subscales within]: job satisfaction; mental and physical health; personality type; control; job pressure; and coping with stress) are extremely complex and not without considerable criticism (Kline, 2000a: 631). The development of such a scale is beyond the scope of this article. The 10-point stress 'scale' used in this article can more properly be described as a form of 'perception metric', indicating the degree of a condition being perceived to be felt at a point in time. Such metrics are used by social psychologists (Kline, 2000b: 122). It is not possible to construct a scale involving only one, interval-based, variable. Nor is it possible to undertake factor analysis on such a 'scale'.

The purpose of this article is not to examine the causal relationships between a dependent variable (stress) and a series of predictor variables. It was never the intention to derive a predictive model; hence, regression analysis (logistic or hierarchical) is not performed. The research aims to compare and contrast the harassment and discrimination experiences of professional quantity surveyors juxtaposed against their perceived levels of workplace stress.

The survey was administered online to all registered quantity surveyors (professional registration is a legal requirement in South Africa). Following a pilot online study to test the adequacy of the questionnaire, the full survey was conducted between September and November 2010. Registered quantity surveyors were emailed using an email address list provided by the Registrar of the SA Council for the Quantity Surveying Profession (SACQSP), provided with an explanatory letter, given a URL where the questionnaire could be accessed online, and asked to participate.

Using a web-based distribution method encourages potential respondents to express their views in a simple and 'safe' way, particularly when issues may be sensitive. Undertaking this study through the auspices of a respected statutory council provides a valid way of targeting sample groups. However, care is needed in over-generalising the findings of such surveys, since the sample is, to a large extent, self-selecting.

The difficulty associated with demonstrating validity in questionnaire surveys is acknowledged (Platt, 2001: 33). The analysis is based mainly on statistical significance testing. Consequently, the results do not establish with any certainty a causal link between any of the demographic, harassment, and discrimination factors, and reported stress at work. The results may be suggestive of such links but, more in-depth research would be necessary to establish its validity. This

study adopted a self-reporting survey measurement method. Therefore, the findings may have the potential risk of common method variance and the validity of data may be questioned.

The sample size, to some extent, militates against validity concerns, as do the significance of the correlations between perceived workplace stress level and the harassment and discrimination variables.

Ethical considerations in the form of the absence of deception; privacy and confidentiality, and accuracy were observed (Christians, 2005: 139). Institutional ethical clearance was also obtained.

The data were analysed using the Statistical Package for the Social Sciences (SPSS) (Ver. 21.0 for Mac) software application. Where cross-tabulation was used to establish degrees of association between categorical variables, Pearson's chi-square test (or Fisher's Exact Test where applicable) for independence was applied at the 5% (p=0.05) level of significance. The Mann-Whitney U Test was used to examine whether respondents who had, or had not experienced various forms of harassment or discrimination reported significantly different levels of perceived stress. Ethnic differences were analysed by grouping the 'Non-White' categories ('African', 'Indian', and 'Coloured') together, because of the comparatively smaller numbers of respondents in each of these four categories.

A total of 1.449 quantity surveyors received the request to participate in the survey, and 177 completed the questionnaire online (N=1449; n= 177). Discounting email 'bounces', this represents a response rate of 12.2%. This level of response is typical for web-based surveys of this nature (Fricker, 2008: 207).

4. Results

4.1 Sample profile

The majority of the respondents are male (80%; n=139), 'White' (81%; n=143), married (including common law marriages) (77%; n=137), English-speaking (53%; n=93), and older than 40 years (59%; n=104). While nearly two-thirds of all respondents are at least 40 years old, 40% (n=71) are older than 50 years. The majority of the respondents are located in the populous provinces of Gauteng (44%; n=74), Western Cape (22%; n=37), KwaZulu-Natal (12%; n=21) and the Eastern Cape (11%; n=19). The dominant religion of respondents is reported to be Christianity (86%; n=150). Compared to the most recent SACQSP statistics, females are over-represented in this study (20% compared

to 15%), as are 'Whites' (81% compared to 74%) (CBE, 2013: 7-8). The biases of the sample in terms of gender, ethnicity, and age need to be acknowledged when drawing inferences from the data. Missing data account for slight differences in reported percentages.

Years of experience in the construction industry vary between respondents. Specifically, nearly half (49%; n=84) report more than 20 years' experience. By contrast, only a quarter (n=43) have at least 10 years' experience. Years of experience is significantly related to gender (p=0.005) and to race (p<0.001), with 'White' men having worked longer.

Of all the respondents, 40% (n=70) have been with their present firm for five or less years. Nearly a quarter (22%; n=39) of the respondents have been with the same firm for over 20 years. Service length is significantly related to gender (p<0.001) and race (p=0.004). Again, 'White' males have worked longer for their current firms.

Overall, the construction industry professionals who participated in the survey may generally be described as experienced practitioners in private practice, mostly 'White', male, English-speaking, in a stable relationship, and in a stable work environment. These sample characteristics will be borne in mind in the following sections.

4.2 Overall levels of workplace stress

Using a 10-point scale (1=minimum stress; 10=maximum stress, with no defined intermediate scale intervals), survey respondents were asked to rate the level of stress they perceive to experience at work. The results are shown in Table 1.

Table 1: Survey respondents' self-assessment of workplace stress (n=160)

Perceived levels of workplace stress	*Frequency(%) (n)*
Level 1 (minimum)	4% (n=6)
Level 2	6% (n=10)
Level 3	10% (n=16)
Level 4	9% (n=14)
Level 5	10% (n=17)
Level 6	16% (n=25)
Level 7	21% (n=33)
Level 8	17% (n=27)

Perceived levels of workplace stress	*Frequency(%) (n)*
Level 9	6% (*n*=10)
Level 10 (maximum)	1% (*n*=2)
Mean score (+/- standard error)	5.76 (+/- 0.18)

Note: Scale values: 1=minimum stress 10=maximum stress (no intermediate scale interval definitions).

For the perceived workplace stress variable, a median-split method (Lingard, Francis & Turner, 2012: 654) was used to effectively position the responses for this variable into one of two (categorical) groups, namely values falling below the median, and values equal to, or exceeding the median. The median value for the level of workplace stress reported by respondents is 7.0 (on a scale of 10) (see Table 1). Participants' responses were, therefore, 'grouped' into those below 7.0, and those equal to 7.0 or above. Quantity surveyors appear to be highly stressed at work (45%; n=72 reporting a stress level of '7' or above). Only 39% (*n*=63) of the respondents report a stress level of '5' or less. The mean stress level scale value reported is 5.76.

Stress level is not significantly related to ethnicity (*p*=0.719), age (*p*=0.636), location (*p*=0.992), marital status (*p*=0.413), home language (*p*=0.793), or religion (*p*=0.287), but it is to gender (*p*=0.042), with proportionately more women respondents than men reporting high levels of stress compared to their male counterparts.

The reasons *per se* for the differences in perceived stress levels between different groupings are not covered in this article. This aspect warrants further investigation to examine the roles played by family status, life stage, and nature of the work *per se*, in determining perceived stress levels. This is the subject of our on-going research.

4.3 Harassment and discrimination at work

Tables 2 and 3 show the incidence of harassment and discrimination experiences of survey respondents, at the hands of line managers and work colleagues, respectively.

Table 2: Workplace harassment reported by survey respondents ('Yes'/'No')

Types and sources of harassment experienced in the previous 12 months	*Frequency (%) (n) reporting 'Yes'*
Unwanted suggestions about or references to sexual activity by:	
Line manager (*n*=105)	4% (*n*=4)
Colleagues (*n*=127)	6% (*n*=8)
Unwanted physical contact by:	
Line manager (*n*=107)	4% (*n*=4)
Colleagues (*n*=130)	5% (*n*=6)
Unwanted physical contact of a sexual nature by:	
Line manager (n=108)	3% (*n*=3)
Colleagues (n=130)	2% (*n*=2)
Harassed by your line manager because of your:	
Language (*n*=111)	2% (*n*=2)
Ethnicity (*n*=113)	5% (*n*=6)
Religion (*n*=110)	2% (*n*=2)
Gender (*n*=109)	4% (*n*=4)
Sexual preference (*n*=107)	0% (*n*=0)
Harassed by your colleagues because of your:	
Language (*n*=138)	5% (*n*=7)
Ethnicity (*n*=140)	14% (*n*=19)
Religion (*n*=138)	4% (*n*=5)
Gender (*n*=137)	7% (*n*=10)
Sexual preference (*n*=130)	2% (*n*=3)

Note: These statistics exclude 'not applicable' responses.

For some harassment factors, experiences during the previous 12 months were reported by as many as 14% (*n*=19) of the respondents (e.g., harassment from colleagues on ethnic grounds); 7% (*n*=10) indicated they had been harassed by colleagues because of their gender, and 6% (*n*=8) had received unwanted suggestions about, or references to sexual activity by their colleagues. Unwanted physical contact by colleagues was reported by 5% (*n*=6) of the respondents,

as was harassment by line managers in terms of respondents' ethnicity (5%), and by colleagues on the basis of language (5%).

Table 3: Workplace discrimination reported by survey respondents ('Yes'/'No')

Types and sources of discrimination experienced in the previous 12 months	*Frequency (%) (n) reporting 'Yes'*
Discriminated against by your line manager because of your:	
Language (*n*=111)	4% (*n*=4)
Ethnicity (*n*=111)	14% (*n*=15)
Religion (*n*=108)	2% (*n*=2)
Gender (*n*=111)	7% (*n*=8)
Sexual preference (*n*=106)	3% (*n*=3)
Discriminated against by your colleagues because of your:	
Language (*n*=137)	6% (*n*=8)
Ethnicity (*n*=139)	17% (*n*=24)
Religion (*n*=137)	2% (*n*=3)
Gender (*n*=137)	10% (*n*=13)
Sexual preference (*n*=129)	2% (*n*=3)
Underpaid for your efforts due to your:	
Language (*n*=165)	4% (*n*=6)
Ethnicity (*n*=166)	16% (*n*=27)
Religion (*n*=164)	0% (*n*=0)
Gender (*n*=164)	10% (*n*=16)
Sexual preference (*n*=162)	1% (*n*=1)
Job security affected/threatened due to your:	
Language (*n*=163)	7% (*n*=11)
Ethnicity (*n*=166)	43% (*n*=71)
Religion (*n*=163)	1% (*n*=1)
Gender (*n*=163)	13% (*n*=21)
Sexual preference (*n*=161)	0% (*n*=0)

Note: These statistics exclude 'not applicable' responses.

For discrimination, the response data reveal slightly higher incidence levels, with 14% (*n*=15) and 17% (*n*=24) of the respondents indicating that they had experienced discrimination from their line managers and colleagues, respectively, because of ethnicity. A further 16% (*n*=27) of the respondents felt that they were underpaid due to their ethnicity, and 43% (*n*=71) felt that their ethnicity affected their job security. For gender-based discrimination, 7% (*n*=8) and 10% (*n*=13) of the respondents report that they have been discriminated against by their line managers and colleagues, respectively. A further 10% (*n*=16) felt that they were underpaid because of their gender and 13% (*n*=21) felt their job security was adversely affected by their gender. Discriminatory experiences involving colleagues were reported to be more frequent than those involving line managers.

Significant differences were also found between males and females, with significantly more women (proportionately) reporting gender-based discriminatory behaviour or harassment from both line managers and colleagues ($p<0.039$ in all instances).

Differences in harassment and discrimination experiences between 'Whites' and 'Non-Whites' were significant in terms of harassment from line managers on the basis of ethnicity ($p=0.013$) and harassment from colleagues on the basis of religion (culture) ($p=0.037$). In all instances, proportionately more 'Non-Whites' than 'Whites' believed that they were being harassed. Differences were not significant in terms of discrimination either by line managers or colleagues, job security, or feeling underpaid for work done. It is noteworthy ($p=0.057$) that more 'Whites' maintain that their job security is compromised because of their ethnicity than do their 'Non-White' counterparts, thus indicating the possible presence of a 'reverse-apartheid' anxiety arising in the construction professions post-1994.

When harassment and discrimination are considered in terms of age, none of these factors are significantly related to age. However, proportionately more older than younger respondents feel underpaid due to their race ($p=0.013$).

4.4 The relationship between harassment, discrimination and stress

The relationship between the level of perceived workplace stress and the harassment and discrimination factors was initially explored using Pearson's correlation coefficients (data analyses for these factors is not tabulated, in this instance). The findings show that workplace stress is significantly correlated with gender, age, feeling harassed by colleagues due to one's religion, and feeling underpaid due to

one's gender (discrimination). Stress is not significantly correlated with race. Correlations are noteworthy (p<0.10) with respect to feeling harassed by colleagues due to one's sexual preference, and experiencing job insecurity due to one's religion (discrimination). These patterns of correlations support more detailed analysis.

The Mann-Whitney U Test was used to examine the differences in perceived workplace stress for respondents who did, and did not, indicate that they had experienced various forms of harassment and/or discrimination at work in the twelve months preceding the administration of the survey.

Table 4 shows the median perceived stress scores for respondents who did, and did not indicate that they had experienced various forms of harassment at work.

Table 4: Perceived stress levels among respondents who reported they either had or had not experienced harassment at work ('Yes'/'No')

Survey question	*Median stress score ('Yes')*	*Median stress score ('No')*	*'U' value*	*'z' value*	*p-value*	*'r' value (effect size)*
Have you had unwanted suggestions about or reference to sexual activity directed at you by your:						
Line manager? (n=101)	6.00	6.00	179	-0.26	0.79	0.03
Colleagues? (n=123)	7.00	6.00	375	-0.88	0.38	0.08
Have you had unwanted physical contact by your:						
Line manager? (n=103)	6.50	6.00	194	-0.08	0.94	0.01
Colleagues? (n=126)	7.00	6.00	287	-0.85	0.40	0.08
Have you had unwanted physical contact of a sexual nature by your:						
Line manager? (n=104)	6.00	6.00	145	-0.14	0.89	0.01
Colleagues? (n=126)	7.00	6.00	92	-0.63	0.53	0.06

Survey question	*Median stress score ('Yes')*	*Median stress score ('No')*	*'U' value*	*'z' value*	*p-value*	*'r' value (effect size)*
Have you ever felt you were harassed by your line manager due to your:						
Language (*n*=107)	7.50	6.00	57	-1.12	0.27	0.11
Race (*n*=108)	6.00	6.00	215	-0.64	0.53	0.06
Religion (*n*=106)	4.50	6.00	72	-0.76	0.45	0.07
Gender (*n*=105)	7.00	6.00	189	-0.23	0.82	0.02
Sexual preference (*n*=103)	-	6.00	-	-	-	-
Have you ever felt you were harassed by your colleagues due to your:						
Language (*n*=133)	7.00	6.00	429	-0.12	0.90	0.01
Race (*n*=134)	7.00	6.00	958	-0.57	0.57	0.05
Religion (*n*=133)	4.00	6.50	174	-1.75	0.08	0.15
Gender (*n*=132)	7.00	6.00	525	-0.74	0.46	0.06
Sexual preference (*n*=125)	8.00	6.00	70	-1.85	0.06	0.17

Notes: Scale values for 'Stress': 1=minimum stress 10=maximum stress (no intermediate scale interval definitions). These statistics exclude 'not applicable' responses. Mann-Whitney U Test for between-groups comparisons.

The Mann-Whitney U Test revealed no significant differences in the level of perceived stress between people reporting that they had, or had not experienced the various forms of harassment. The effect size (*r*-value) is considered very small, using Cohen's criteria (Pallant, 2010: 230). Whilst not significant, noteworthy differences were found in respect of harassment by colleagues on the basis of religion (p=0.080) and sexual preference (p=0.064). Respondents, who indicated harassment by colleagues because of their religion (culture), presented lower median stress scores than their counterparts (4.00 versus 6.50). Conversely, those reporting harassment from colleagues on the basis of sexual preference had higher median stress levels (8.00 versus 6.00). Religion is the only variable for which the median stress scores of respondents experiencing harassment on the basis of religion are lower than those of their counterparts.

Table 5 shows the median perceived stress scores for respondents who did, and did not indicate that they had experienced various forms of discrimination at work in the twelve months preceding the administration of the survey.

Table 5: Perceived stress levels among respondents who reported that they either had, or had not experienced discrimination at work ('Yes'/'No')

Survey question	*Median stress score ('Yes')*	*Median stress score ('No')*	*'U' value*	*'z' value*	*p-value*	*'r' value (effect size)*
Have you ever felt that you were discriminated against by your line manager due to your:						
Language (*n*=107)	7 50	6.00	154	-0.87	0.38	0.08
Race (*n*=106)	6 50	6.00	600	-0.42	0.68	0.04
Religion (*n*=104)	4 50	6.00	71	-0.75	0.45	0.07
Gender (*n*=107)	7 00	6.00	332	-0.77	0.44	0.07
Sexual preference (*n*=102)	8 00	6.00	90	-1.18	0.24	0.12
Have you ever felt that you were discriminated against by your colleagues due to your:						
Language (*n*=132)	7 00	6.00	447	-0.47	0.64	0.04
Race (*n*=133)	7 00	6.00	1025	-1.45	0.15	0.13
Religion (*n*=132)	5 00	7.00	109	-1.31	0.19	0.11
Gender (*n*=132)	7 00	6.00	656	-0.91	0.36	0.08
Sexual preference (*n*=124)	8 00	6.00	105	-1.27	0.21	0.11
Have you ever felt that you are underpaid for your efforts due to your:						
Language (*n*=158)	7 00	6.00	394	-0.57	0.57	0.05

Survey question	*Median stress score ('Yes')*	*Median stress score ('No')*	*'U' value*	*'z' value*	*p-value*	*'r' value (effect size)*
Race (*n*=159)	7.00	6.00	1359	-1.74	0.08	0.14
Religion (*n*=157)	-	6.00	-	-	-	-
Gender (*n*=157)	8.00	6.00	583	-2.91	<0.01	0.23
Sexual preference (*n*=155)	8.00	6.00	25	-1.19	0.24	0.10
Have you ever felt that your job security is affected or threatened due to your:						
Language (*n*=157)	7.00	6.00	660	-0.99	0.32	0.08
Race (*n*=159)	6.00	6.00	2719	-1.36	0.18	0.11
Religion (*n*=157)	2.00	6.00	11	-1.51	0.13	0.12
Gender (*n*=157)	7.00	6.00	1288	-0.73	0.47	0.06
Sexual preference (*n*=155)	-	6.00	-	-	-	-

Notes: Scale values for 'Stress': 1=minimum stress 10=maximum stress (no intermediate scale interval definitions). These statistics exclude 'not applicable' responses. Mann-Whitney U Test for between-groups comparisons.

Respondents who felt that they were underpaid for their efforts because of their gender reported significantly (p=0.004) higher levels of stress than those who did not feel this way. None of the other factors of job security, discrimination by line managers, or discrimination by colleagues was significantly related to higher levels of workplace stress. Again, religion is the only variable for which the median stress scores of respondents experiencing discrimination on the basis of religion are lower than those of their counterparts.

5. Discussion

5.1 Levels of workplace stress

Quantity surveyors in South Africa appear to experience high levels of workplace stress, confirming the findings of Leung *et al.* (2007: 1072) relating to the Hong Kong construction industry. Stress is significantly related to gender, but not to race or age. This finding is also consistent with previous research which revealed that women working in the

construction industry experience higher levels of stress than males in similar employment (e.g., Goldenhar *et al*., 1998: 20; Caven, 2004: 519; Sang *et al*., 2007: 1305). This warrants further investigation of the role played by family status and life stage in determining stress levels and coping among quantity surveyors.

5.2 Harassment and discrimination

The findings show that 'Non-White' professionals in South Africa continue to experience harassment and discrimination in residual forms of apartheid. Of the respondents, 14% indicated that they had recently experienced harassment; 17% reported experiencing discrimination, by their colleagues because of their ethnicity; 14% also indicated experiencing discrimination by their line manager because of their ethnicity; 16% felt that they were underpaid for their efforts because of their ethnicity, and 43% felt that their job security was threatened because of their ethnicity. Thus, harassment and discrimination based on ethnicity are apparently experienced to a concerning degree across the quantity-surveying profession in the sample. These findings align strongly with those of Loosemore & Chau (2002: 96), Wadsworth *et al*. (2007: 18), and Bowen & Cattell (2008: 266). While South Africa continues to undergo considerable change in this respect in the post-apartheid era, there is clearly still a long way to go in an industry known for its conservatism.

Notwithstanding the evidence of continuing post-apartheid discrimination on racial grounds, this research also confirmed a paradox particular to South Africa. 'White' respondents, in particular males, reported noteworthy more experiences of feeling discriminated against in terms of job security than did 'Black' respondents. This may be explained as a 'White' perception of 'reverse apartheid' arising from official affirmative action and 'Black' employment and empowerment (BEE) policies adopted by the post-apartheid (i.e., since 1994) governments in South Africa. These findings accord with those of Bowen, Cattell & Distiller (2008: 14). Longer term re-testing would help to determine whether these effects (residual apartheid and reverse apartheid) are transitional and will slowly disappear as the current workforce in South Africa ages, or whether they are more deeply engrained. Currently, a persistent anecdotal perception encountered in South Africa is that if you are 'White', male and over 40, your job/career prospects are poor.

The results also provide preliminary evidence that workplace harassment and discrimination in quantity-surveying practices are both associated with work stress. Respondents who had experienced unwanted physical contact (whether of a direct sexual nature or

not) by colleagues reported significantly higher stress levels than those who had not. This is consistent with previous research by Schneider *et al*. (1997: 411) who report that even low levels of sexual harassment have a significant negative impact on mental health. Previous research has highlighted the additive effects of racial and gender-based adverse treatment in the workplace on stress (Raver & Nishii, 2010: 238).

Respondents who felt underpaid because of their gender reported higher levels of work stress than respondents who did not report such discrimination. It is interesting to note that respondents who felt that their job security (as opposed to remuneration) was adversely affected by their race or gender did not report significantly higher levels of stress than those who did not. Thus, it appears that work stress is likely to be strongly related (at least in terms of gender) to forms of discrimination that have a material impact upon respondents' income. These findings are consistent with previous research in the field of organisational justice, which found that perceptions of working in a just and procedurally fair organisational environment are associated with lower levels of stress and burnout (Elovainio, Kivimäki & Helkama, 2001: 421; Brotheridge, 2003: 253). Future research into the relationship between discrimination and stress in the quantity-surveying profession could incorporate measures of organisational justice to examine, in more detail, the relationship between discrimination, organisational justice and stress.

While the results indicate that respondents who had experienced discrimination at the hands of either line managers or colleagues did not report significantly higher stress levels than those who had not, the findings evidence a strong relationship between perceived levels of workplace stress and harassment in terms of religion (culture). The noteworthy correlation between harassment at work and religion supports the earlier comment in this article concerning the interface in South Africa between culture and discrimination. This finding tends to support those of Ferfoija (2005).

The research findings provide some insights into how the problem of workplace harassment and discrimination may be addressed. In particular, organisational support services and programmes to assist people to address harassment and discrimination with problem-based strategies can be of benefit (Rospenda, Richman & Shannon, 2006: 380). Previous research reveals that developing a sense of personal control in workers mediates the relationship between the experience of discrimination and psychological distress (Landry & Mercurio, 2009: 197), thereby providing a protective 'buffer'

against the damaging impact of discrimination. This suggests that programmes designed to instil in minority groups a sense of personal control could be a useful mitigation strategy circumventing the damaging outcomes of discriminatory behaviour. However, as well as striving to develop resilience in workers, it is also essential that quantity-surveying practices seek to address the root cause of the problem and strive to eradicate harassment and discrimination. It may be helpful to provide equal employment opportunity training for all employees and to implement just and fair organisational processes to manage instances of harassment/discrimination, if they are identified.

Statistically, the relatively small response sample does not permit these research findings to be generalised to the entire quantity-surveying profession in South Africa. However, validly generalisable findings are not the real issue in this instance, in that even one incident of harassment or discrimination diminishes the status of the entire profession.

6. Conclusions

It is cause for concern that experiences of harassment and discrimination still pervade the quantity-surveying profession in the South African construction industry; that female professionals are more harassed and discriminated against than their male counterparts, and that discrimination on the grounds of ethnicity continues to occur. This research provides preliminary evidence that the experience of harassment and discrimination is linked to higher levels of stress among quantity surveyors. Clearly, the quantity-surveying profession has a considerable way to go in eradicating harassment and discrimination as stress factors among its ranks. In order to achieve this, harassment and discrimination issues must be acknowledged and addressed by the SACQSP and the Association of South African Quantity Surveyors (ASAQS) at a macro-level, and by professional practices at a micro-level.

While the research findings provide evidence that harassment and discrimination exist and are related to work stress, their value is limited by the self-reporting methods utilised for the survey. They do not provide insight into how or why individuals experience harassment or discrimination in the way that they do. Further case-based qualitative research is planned.

This should provide a more comprehensive insight into the experiences of South African quantity surveyors, allow a more

in-depth exploration of their different experiences of harassment and discrimination, and better inform the development of appropriate prevention strategies.

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