

THE VALIDATION OF THE MINNESOTA JOB SATISFACTION QUESTIONNAIRE IN SELECTED ORGANISATIONS IN SOUTH AFRICA

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ABSTRACT

The objectives of this study were to assess the construct equivalence of the Minnesota Job Satisfaction Questionnaire (MSQ), and to investigate the manifestation of job satisfaction at selected organisations in South Africa. A cross-sectional survey design with a random sample ($N = 474$) was used. The MSQ and a biographical questionnaire were administered. The results confirmed a two-factor model of job satisfaction, consisting of extrinsic job satisfaction and intrinsic job satisfaction. Exploratory factor analysis with target rotations confirmed the construct equivalence of scales for the black and white groups. The results obtained from comparing job satisfaction levels of various demographic groups showed that practically significant differences existed between the job satisfaction of different age and race groups.

INTRODUCTION

Job satisfaction is an important research topic in industrial and organisational psychology. Warr (2007) regards job satisfaction as one important dimension of an individual's happiness at work. Rothmann (2008) points out that job satisfaction is one component of the work-related well-being that should be included in diagnostic studies of people's well-being in organisations.

Much of the research regarding job satisfaction has been based on the assumption that job satisfaction is a potential determinant of absenteeism, turnover, in-role job performance and extra-role behaviours, and also that the primary antecedents of job attitudes are within management's ability to influence (Oshagbemi, 2003). The topic of job satisfaction is also important for individuals. It is relevant to the physical and mental well-being of employees. Work is an important aspect of people's lives and most people spend a large part of their time at work; therefore, job satisfaction shows significant associations with several variables (Yousef, 2000). For instance, it has positive associations with life satisfaction (Judge, Boudreau & Bretz, 1994) and organisational commitment (Fletcher & Williams, 1996).

According to Sarker, Crossman and Chinmetepituck (2003), a sizeable amount of work in the job satisfaction literature has been devoted to developing conceptual and operational definitions of job satisfaction, including overall or general job satisfaction and satisfaction with facets such as the work itself, co-workers, supervision, remuneration, working conditions and opportunities for promotion. In general, job satisfaction refers to an individual's positive emotional reactions to a particular job. It is an affective reaction to a job that results from a person's comparison of actual outcomes with those that are desired, anticipated or deserved (Oshagbemi, 1999). According to Robbins (2003, p. 72), job satisfaction refers 'to an individual's general attitude toward his or her job'. A person with a high level of job satisfaction holds a positive attitude about the job, while a person who is dissatisfied with his or her job holds negative attitudes about the job.

Since job satisfaction involves employees' affective or emotional response, it has major consequences on their lives. Locke (1976, p. 1311) describes the most common consequences of job satisfaction in terms of its effects on physical health, longevity and mental health, and the impact it has on interaction between employees and the feelings of employees toward their jobs and social lives. Coster (1992) supports the fact that work can have an important effect on the total quality of life of the employee, behaviour such as absenteeism, complaints and grievances, frequent labour unrest and termination of employment (Locke, 1976; Visser, Breed & Van Breda, 1997).

The first objective of this study was to determine the psychometric properties of the Minnesota Job Satisfaction (MSQ) for workers in selected organisations in South Africa. The second objective was to determine whether the levels of job satisfaction of employees differ in terms of demographic variables such as age, gender and race.

Job satisfaction

Job satisfaction can be described as an affective or emotional reaction to the job, resulting from the incumbent's comparison of actual outcomes with the required outcomes (Cranny, Smith & Stone, 1992; Hirschfeld, 2000; Locke, 1976). Schneider and Snyder (1975) define job satisfaction as a personal evaluation of conditions present in the job, or outcomes that arise as a result of having a job. Weiss, Dawis, England and Lofquist (1967) explain this comparison by stating that employees seek to achieve and maintain correspondence with their environment. This can be described in terms of the individual fulfilling the requirements of the environment, and the environment fulfilling the requirements of the individual (Cook, Hepworth, Wall & Warr, 1981). This means that employees will experience job satisfaction if they feel that their individual capacities, experience and values can be organised in their work environment, and that the work environment offers them opportunities and rewards (Dawis, 1992; Roberts & Roseanne, 1998).

Job satisfaction thus has to do with an individual's perceptions and evaluation of his job, and this perception is influenced by the person's unique circumstances such as needs, values and expectations.

People will therefore evaluate their jobs on the basis of factors which they regard as being important to them (Sempane, Rieger & Roodt, 2002). Employees who are satisfied with their jobs are likely to be better ambassadors for the organisation and show more organisational commitment (Agho, Price & Mueller, 1992).

According to Rothmann and Agathagelou (2000), job satisfaction is a complex variable and is influenced by situational factors of the job environment, as well as dispositional characteristics of an individual. Locke (1976) found that in order for researchers to understand job attitudes, they need to understand job dimensions which are complex and interrelated in nature. He mentions the common aspects of job satisfaction such as 'work, pay, promotions, recognition, benefits, working conditions, supervision, co-workers, company and management' (Locke, 1976, p.1302). Later research has shown that these different aspects can be arranged according to two dimensions: an intrinsic versus an extrinsic one (Hirschfeld, 2000; Spector, 1997). Extrinsic satisfaction refers to satisfaction with aspects that have little to do with the job tasks or content of the work itself, such as pay, working conditions and co-workers. Intrinsic satisfaction refers to the job tasks themselves (e.g. variety and autonomy).

When people were asked what they want most from their jobs, the typical answers were mutual respect among co-workers, recognition for work well done, opportunities to develop skills and that the work should be interesting. People will be satisfied with their jobs when they enjoy their work, have a realistic opportunity to advance in the company, like the people they deal with, like and respect their supervisors and believe that their pay is fair (Kleiman, 1997). For the purpose of this research, job satisfaction is defined as a positive or an affective function of the perceived relationship between what one wants from one's job and what one perceives as offered.

One of the arguments often brought against theories of job satisfaction is that they take little account of differences between people (Oshagbemi, 2003). What is wanted by one group of individuals in terms of a job is often different from what is wanted by another group. Personal correlates of job satisfaction have become a recent focus of at least some researchers' interest (Hickson & Oshagbemi, 1999). What seems to be lacking according to Oshagbemi (2003) is a fairly comprehensive approach to examine, in a single study, personal correlates of job satisfaction specifically looking at the influence of gender, age, and length of service.

The search for an understanding of the causes of job satisfaction is an ongoing area of interest for social scientists and managers, the premise being that satisfied workers will be more productive and remain with the organisation longer, whereas dissatisfied workers will be less productive and are more inclined to quit (Sarker, Crossman & Chinmeteeptuck, 2003). Recent research has investigated differences in job satisfaction levels according to age (Ang, Goh & Koh, 1993; Hickson & Oshagbemi, 1999; Luthans & Thomas, 1989; Oshagbemi, 1999) or tenure (Oshagbemi, 2000). Gardner and Oswald (2002) found in their research that job level and qualifications were related to job satisfaction. Gardner and Oswald (2002) further indicated that job satisfaction differed between Blacks and Whites.

Measurement of job satisfaction

Job satisfaction has been conceptualised and operationalised as both a global construct and a multifaceted construct (Hirschfeld, 2000). Basically there are two types of job satisfaction measures: single-question versus multiple-item measures. Single-question measures typically ask a question such as: 'On the whole, would you say you are satisfied or dissatisfied with your job?' (Quinn, Staines & McCullough, 1974).

One presumable advantage of multidimensional measures of job satisfaction is that the components may relate differently to other variables of interest in a manner that advances the science and practice of industrial/organisational psychology (Hirschfeld, 2000). Spector (1997) identified the 20-item short form of the Minnesota Satisfaction Questionnaire (MSQ) (Weiss *et al.*, 1967) as a popular measure that is frequently used in job satisfaction research. One advantageous feature of the MSQ short form is that it can be used to measure two distinct components: intrinsic job satisfaction and extrinsic job satisfaction. Intrinsic job satisfaction refers to how people feel about the nature of the job tasks themselves; extrinsic job satisfaction refers to how people feel about aspects of the work situation that are external to the job tasks or work itself (Spector, 1997). Evidence exists supporting some degree of discriminant validity between these two components of job satisfaction in their relationships with other relevant variables (Hirschfeld, 2000). Results of a study by Moorman (1993) suggest that intrinsic job satisfaction has an affective basis, whereas extrinsic job satisfaction does not. Intrinsic job satisfaction seems to be influenced to a greater degree by genetic factors than extrinsic job satisfaction (Bouchard, 1997).

Although there exists empirical evidence involving the MSQ short-form subscales that it is consistent with the theoretical distinction between extrinsic and intrinsic job satisfaction (e.g. Arvey, McCail, Bouchard, Taubman & Cavanaugh, 1994), many researchers have suggested that assigning MSQ short-form items to extrinsic and intrinsic subscales as specified by the MSQ manual (Weiss *et al.*, 1967) results in lower construct validity (e.g. Arvey, Dewhirst & Brown, 1978; Spector, 1997).

Schriesheim, Powers, Scandura, Gardinez and Lakou (1993) conducted a content adequacy assessment of the MSQ short-form intrinsic and extrinsic subscales. These subscales initially were constructed through an empirical approach that relied on factor analytic results (Weiss *et al.*, 1967). On the basis of their analysis, Schriesheim *et al.* (1993) concluded that the content adequacy of the original MSQ short-form subscales is questionable.

Job satisfaction among employees is also an important factor and concern for company managers, since it refers, to a certain extent, to the degree to which employees like (or dislike) their jobs (Taormina, 1999). Lower levels of job satisfaction have also been found to be related to turnover intentions (Berman & Nevo, 1994) and low organisational commitment (Soler, 1998). South Africa is a multicultural society. According to Van de Vijver and Leung (1997), measurement equivalence should be computed for measuring instruments in any multicultural setting where individuals from different cultural groups are compared in terms of a specific construct. This is particularly relevant where no norms exist for different cultural groups, which is often the case in cross-cultural research. In line with the recommendations of Van de Vijver and Leung (1997), measurement equivalence should be tested for a multicultural context where differences in scores could be attributed to cultural influences in terms of item meaning and understanding, rather than differences resulting from the measuring constructs by the measuring instruments. If cultural influences are not accounted for, invalid conclusions regarding the constructs under study could be made with serious implications for culturally diverse settings such as South Africa.

The following hypothesis is formulated based on the discussion above:

H1: Job satisfaction, as measured by the MSQ, is a two-dimensional construct with acceptable levels of construct equivalence and internal consistency for each of its subscales.

Demographic variables and job satisfaction

Research has shown that demographic factors can affect job satisfaction (Heslop, Smith, Metcalfe & Macleod, 2002; Locke,

1976; Ting, 1997). Petty, Brewer and Brown (2005) mentioned that although focusing on employee demographics shifts the burden away from the organisation to the employee, it has been important to study how demographic variables have affected job satisfaction so that a complete understanding of the concept can be gained.

The relationships between three demographic variables, namely age, gender and race are relevant for the purposes of this study. Regarding age and job satisfaction, Clark (1996) pointed out that a U-shape relationship exists between age and job satisfaction. This is attributed to higher morale shown by younger workers, lower job satisfaction of middle-age workers (who often perceive less opportunities and have unmet expectations) and higher job satisfaction of older workers who have accepted the realities of their jobs and roles. Mack (2000) and Ting (1997) indicated that job satisfaction increased with age. However, other researchers have not found a relationship between age and job satisfaction (Moak, 1992; Niblock, 1992).

The following hypothesis is formulated regarding the relationship between age and job satisfaction:

H2: Age groups differ significantly regarding their levels of job satisfaction.

Differences between gender and job satisfaction also have been evident (Brief & Weiss, 2002; Kellough, 1990). While some studies (e.g. Moak, 1992; Pugliesi, 1995) found no relationship between gender and job satisfaction, other studies have shown that women are more satisfied with their jobs than men (McDuff, 2001; Wharton, 1993). This might be related to perceived better opportunities for women in organisations (see also Souza-Poza & Souza-Poza, 2000).

The following hypothesis is formulated regarding the relationship between gender and job satisfaction:

H3: Males and females differ significantly regarding their levels of job satisfaction.

Wharton (1993) found that white employees are more satisfied with their jobs than black employees. Clark (1996) reported that Blacks experience lower levels of job satisfaction compared to Whites. This can be attributed to the fact that Blacks often find themselves in work situations which are not conducive to job satisfaction.

The following hypothesis is formulated regarding the relationship between race and job satisfaction:

H4: Race groups differ significantly regarding their levels of job satisfaction.

RESEARCH DESIGN

Research approach

A cross-sectional survey design was used. Cross-sectional designs are appropriate where groups of subjects at various stages of development are studied simultaneously, whereby the survey technique of data collection gathers information from the target population by means of questionnaires (Burns & Grove, 1993).

Research method

Participants

A convenient sample of employees at selected organisations in South Africa was used. The sample consisted of employees in the following organisations: A parastatal organisation (maintenance workers) (*n* = 178); a packaging organisation (*n* = 118); a mining organisation (*n* = 120); and employees in the chemical industry (*n* = 58). Descriptive information of the sample is indicated in Table 1.

TABLE 1
Characteristics of the participants

ITEM	CATEGORY	FREQUENCY	PERCENTAGE
Age	24 years and younger	29	6.1
	25–35 years	115	24.3
	36–45 years	205	43.2
	46–55 years	100	21.1
	56 years and older	25	5.3
Gender	Male	403	85
	Female	71	15
Race	Black	159	33.5
	White	127	26.8
	Missing	188	39.7

As indicated in Table 1, the highest age distribution is between the age groups 36–45 years of age. This is an indication that the employees are relatively in the middle of their working life. More males (85%) than females (15%) participated in the research.

Measuring instrument

The Minnesota Satisfaction Questionnaire (MSQ) was used to gather data about the job satisfaction of participants. The MSQ consists of 20 items (Spector, 1997) and uses a 5-point Likert-type response format. The MSQ comprises of two distinct components: intrinsic job satisfaction measures feelings about the nature of the job tasks. For example, question 15 covers: 'The freedom to use my own judgement'. Extrinsic job satisfaction measures feelings about situational job aspects, external to the job. For example, question 13 covers: 'My pay and the amount of work I do' (Spector, 1997). Test-retest reliabilities of between 0.70 and 0.80 are reported (Cook *et al.*, 1981), with an alpha coefficient of 0.96 (Rothmann, Scholtz, Fourie & Rothmann, 2000).

A biographical questionnaire was used to measure the biographical variables included in the study.

Research procedure

Fieldworkers administered hard copies of the questionnaires to participants in the different organisations. The copies of the questionnaires were collected directly after they had been completed anonymously by the participants. The fieldworkers explained to the participants that the questionnaires would be treated confidentially.

Statistical analysis

The statistical analysis was carried out with the SPSS program, 12.0 (SPSS, 2003). In the first step, means and standard deviations, skewness and kurtosis were determined to describe the data. The reliability and construct equivalence of the MSQ were determined by means of Cronbach's alpha coefficients as well as exploratory factor analysis.

Exploratory factor analysis with a Procrustean target rotation was used to determine the construct equivalence of the MSQ for the different culture groups (Van de Vijver & Leung, 1997). According to Van de Vijver and Leung (1997), the comparison between the similarities of the factor structure of two cultural groups could be underestimated due to the arbitrary spatial allocation of factors during factor analysis. Rather, it is suggested that target rotation be conducted prior to comparing the factor solutions of cultural groups by rotating the factor loading matrices with regards to each other in order to organise the agreement between the factors. During this process, one group

is arbitrarily assigned the target group and the factor loadings of the other group rotated towards the target group to form a common factor including matrix. Factorial agreement between the two groups is then estimated with Tucker's coefficient of agreement (Tucker's phi). Values higher than 0.95 are deemed to be evident of factorial equivalence across different cultural groups (Van de Vijver & Leung, 1997), whereas values lower than 0.90 (Van de Vijver & Poortinga, 1994) indicate that the factor structure is not invariant.

Multivariate analysis of variance (MANOVA) was used to determine the significance of difference between job satisfaction (extrinsic and intrinsic) of demographic groups. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent that maximises group differences is created from the set of dependent variables.

One-way analysis of variance is then performed on the newly created dependent variable. Wilk's Lambda was used to test the significance of the effects. Wilk's Lambda is a likelihood ratio statistic of the data under the assumption of equal population mean vectors for all groups against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect was significant in MANOVA, ANOVA was used to discover which dependent variables were affected. Because multiple ANOVAS were used, a Bonferroni type adjustment was made for inflated Type 1 error. Tukey tests were done to indicate which groups differed significantly when ANOVAS were done.

Effect sizes (Cohen, 1988; Steyn, 1999) were used in addition to statistical significance to determine the significance of relationships. Effect sizes indicate whether obtained results are important (while statistical significance may often show results which are of little practical relevance). The following formula was used to determine the practical significance of differences (d) when ANOVA was used (Steyn, 1999):

$$d = \text{MeanA} - \text{MeanB} / \text{Root MSE}$$

where
Mean A = Mean of the first group
Mean B = Mean of the second group
Root MSE = Root Mean Square Error

A cut-off point of 0.50 (medium effect) (Cohen, 1988) was set for the practical significance of differences between means.

RESULTS

A simple principal component analysis was conducted on the 20 items of the MSQ on the total sample of workers at selected organisations in South Africa. Analysis of eigenvalues (larger than 1) and the scree plot indicated that two factors could be extracted. Next, a principal factor analysis with direct oblimin rotation was used in carrying out factor analyses per race group. The pattern matrices for Blacks and Whites are reported in Table 2.

The pattern matrices of the two-factor solutions for Blacks and Whites were used as input for an exploratory factor analysis with target rotations. The two-factor structure was compared across groups by rotating one solution to the other. After target rotation, the following Tucker's phi coefficients were obtained: a) Factor 1 = 0.91; Factor 2 = 0.86. Although the Tucker's phi coefficient for Factor 1 compared well with the guideline of 0.90, it is clear that Factor 2 showed an unacceptable low equivalence for the two race groups.

TABLE 2
Pattern matrix of the MSQ

ITEM	BLACKS		ITEM	WHITES	
	Factor 1 (extrinsic)	Factor 2 (intrinsic)		Factor 1 (extrinsic)	Factor 2 (intrinsic)
MSQ1	-0.02	0.50	MSQ1	0.01	0.70
MSQ2	-0.27	0.71	MSQ2	0.24	0.86
MSQ3	-0.04	0.81	MSQ3	0.11	0.76
MSQ4	0.065	0.56	MSQ4	-0.15	0.59
MSQ5	0.68	0.01	MSQ5	0.67	0.25
MSQ6	0.58	0.00	MSQ6	0.55	0.36
MSQ7	0.09	0.32	MSQ7	-0.04	0.45
MSQ8	0.33	0.47	MSQ8	0.44	-0.11
MSQ9	0.20	0.52	MSQ9	-0.14	0.54
MSQ10	0.17	0.61	MSQ10	-0.23	0.47
MSQ11	0.21	0.68	MSQ11	-0.38	0.48
MSQ12	0.66	0.20	MSQ12	-0.60	0.23
MSQ13	0.68	-0.15	MSQ13	0.65	0.10
MSQ14	0.67	0.08	MSQ14	0.59	0.13
MSQ15	0.73	0.09	MSQ15	-0.12	0.72
MSQ16	0.73	0.08	MSQ16	-0.02	0.76
MSQ17	0.75	0.00	MSQ17	0.47	-0.88
MSQ18	0.59	-0.07	MSQ18	-0.24	-0.72
MSQ19	0.65	0.03	MSQ19	0.14	-0.69
MSQ20	0.49	0.32	MSQ20	0.43	-0.44

TABLE 3
Pattern matrix for the adapted MSQ

ITEM	BLACKS		ITEM	WHITES	
	Factor 1 (extrinsic)	Factor 2 (intrinsic)		Factor 1 (extrinsic)	Factor 2 (intrinsic)
MSQ1	0.00	0.48	MSQ1	0.29	0.62
MSQ2	-0.29	0.70	MSQ2	0.46	0.56
MSQ3	-0.06	0.82	MSQ3	0.36	0.59
MSQ4	0.04	0.57	MSQ4	0.19	0.67
MSQ5	0.70	0.02	MSQ5	0.79	-0.23
MSQ6	0.61	0.00	MSQ6	0.79	-0.09
MSQ7	0.13	0.30	MSQ7	0.33	0.47
MSQ8	0.36	0.46	MSQ8	0.28	0.51
MSQ9	0.18	0.54	MSQ9	0.13	0.60
MSQ10	0.12	0.64	MSQ10	-0.00	0.61
MSQ11	0.19	0.69	MSQ11	-0.08	0.74
MSQ12	0.65	0.23	MSQ12	0.71	-0.25
MSQ13	0.69	-0.14	MSQ13	0.64	-0.31
MSQ14	0.65	0.11	MSQ14	0.60	-0.32
MSQ17	0.75	0.03	MSQ17	0.75	0.03
MSQ18	0.60	-0.05	MSQ18	0.38	-0.54
MSQ19	0.64	0.05	MSQ19	0.70	-0.32

TABLE 4
Descriptive statistics and alpha coefficients of the MSQ

ITEM	MEAN	SD	SKEWNESS	KURTOSIS	α
Extrinsic job satisfaction	26.54	7.28	-0.30	-0.53	0.82
Intrinsic job satisfaction	43.35	8.81	-0.45	-0.22	0.79
Total job satisfaction	53.78	10.81	-0.37	-0.11	0.86

TABLE 5
MANOVA of job satisfaction of age groups

	VALUE	F	df	DENDF	p
Age	0.90	6.32	8	914	0.00*

* Statistically significant difference: $p < 0.01$

The specific items that were problematic included item 15, reading, ‘the freedom to use my own judgement’, and item 16, reading ‘the chance to try my own methods of doing the job’. It was decided to remove these two items, because they load differently for the two races. Item 20, reading, ‘the feeling of accomplishment I get from the job’, is according to Hirschfeld (2000) an intrinsic item, and in this study it loads on the extrinsic subscale and it was therefore removed.

The pattern matrices of the revised two-factor solutions for Blacks and Whites were again used as input for an exploratory factor analysis with target rotations (see Table 3).

The following Tucker’s phi coefficients were obtained: a) Factor 1 = 0.95; Factor 2 = 0.95. These coefficients compare favourably with the guideline of 0.90. This finding provides support for Hypothesis 1 that the MSQ is a construct equivalent measuring instrument for the different culture groups in selected organisations in South Africa.

The descriptive statistics, alpha coefficients, skewness and kurtosis of the two factors of the MSQ are given in Table 4. The information in Table 4 indicates that the scores on the subscales of the MSQ are normally distributed. The MSQ and the two subscales (extrinsic and intrinsic) job satisfaction presented with adequate levels of internal consistency, falling well above the 0.70 level as suggested by Nunnally and Bernstein (1994). This provides support for Hypothesis 1 that the MSQ has a two-factor structure with acceptable levels of internal consistency for each of its subscales.

Next, MANOVA, ANOVA and t-tests were used to determine the relationship between job satisfaction and demographic characteristics, such as different age, gender and race. Demographic characteristics were first analysed for statistical significance using Wilk’s Lambda statistics. The results of these comparisons are reflected in Table 5.

In an analysis of Wilk’s Lambda values, statistically significant differences ($p < 0.01$) were found between the job satisfaction levels of age groups. The relationship between extrinsic and intrinsic job satisfaction of age groups was further analysed to determine the practical significance of differences using ANOVA, followed by Tukey HSD tests. The differences between the job satisfaction levels of different age groups are reflected in Table 6.

Practically significant differences (medium effect) were found between the extrinsic job satisfaction of different age groups. Younger employees experience lower job satisfaction than employees older than 55 years of age. In terms of intrinsic job satisfaction, a statistically and practically significant difference (of medium effect) was found between employees in the age group 36–45 years of age and employees younger than 24 years. With regards to the employees in the age group 25–35 years, a statistically and practically significant difference exists with employees in the age group 46–55 years (medium effect) and employees older than 55 years (large effect). Older employees experience higher levels of intrinsic job satisfaction. This finding provides partial support for Hypothesis 2.

T-tests were used to determine differences between the demographic groups of gender and race and the results are reported in Table 7. There were no statistical differences between the levels of job satisfaction of males and females. Hypothesis 3 is therefore rejected. As indicated in Table 7 there is practically significant differences of medium effect in terms of race in the experience of job satisfaction. White employees experience higher levels of intrinsic job satisfaction. Hypothesis 4 is therefore partially accepted for intrinsic job satisfaction.

DISCUSSION

The objectives of this study were twofold. The first objective was to investigate the construct equivalence and reliability of the MSQ. The MSQ showed construct equivalence for the white and black groups. Reliability analysis revealed that the two subscales were sufficiently internally consistent. The second objective was to investigate the relationship of the subscales with demographic variables such as age, gender and race of employees at selected organisations in South Africa. Differences between the job satisfaction of age and race groups were found.

TABLE 6
ANOVA of differences between extrinsic and intrinsic job satisfaction and age

ITEM	YOUNGER THAN 24	25–35 YEARS	36–45 YEARS	46–55 YEARS	OLDER THAN 55 YEARS	P	ROOT MSE
Extrinsic Job Satisfaction	38.45	36.06	34.99 ^a	36.97	39.28 ^b	0.00*	8.44
Intrinsic Job Satisfaction	32.28 ^a	36.04 ^a	36.40 ^b	38.15 ^{a,b}	42.20 ^{b,c}	0.00*	7.70

* Statistically significant ($p \leq 0.01$)

a Practically significant differences from age groups (in row) where b (medium effect), $d \geq 0.50$ or c (large effect, $d \geq 0.80$) are indicated

TABLE 7
Differences between job satisfaction and the demographic variables of gender and race

ITEM	BLACKS		WHITES		t	p	d
	MEAN	SD	MEAN	SD			
RACE							
Extrinsic Job Satisfaction	33.16	9.20	35.67	9.20	-2.40	0.016	0.27
Intrinsic Job Satisfaction	35.20	7.66	40.27	6.39	-6.06	0.000*	0.66
GENDER							
Extrinsic Job Satisfaction	35.99	8.89	36.61	8.65	0.46	0.64	0.24
Intrinsic Job Satisfaction	35.47	7.75	35.47	7.80	-0.63	0.52	0.26

The results obtained using exploratory factor analyses supported a two-dimensional factor structure. This finding supports findings of previous studies across various samples (Hirschfeld, 2000; Schriesheim *et al.*, 1993). Based on conceptual grounds, three items were removed, namely items 15, 16, and 20. Item 15 measures a person's satisfaction with his or her freedom to use his or her own judgement. Item 16 measures a person's satisfaction with his or her chance to try his or her own methods of doing the job. These two items might represent a different factor indicating satisfaction with opportunities to act autonomously. This results in a 17 item scale, eight items measuring extrinsic job satisfaction and nine items measuring intrinsic job satisfaction. The validation of these subscales is needed in further studies. The results of this study confirm the construct equivalence of the MSQ for black and white employees at selected organisations in South Africa. This means that the mean scores of these groups could be compared in analyses.

The second objective of the study was to investigate the relationship between job satisfaction (extrinsic and intrinsic) and various demographic characteristics.

The results indicated that differences exist between the levels of extrinsic and intrinsic job satisfaction and age, indicating that employees in the age group older than 55 experience higher levels of extrinsic and intrinsic job satisfaction. The majority of studies on the relationship of age and job satisfaction have found some association between job satisfaction and age. Some authors (Clark, Oswald & Warr, 1996) suggest that job satisfaction is U-shaped in age, with higher levels of morale among young workers, but that this declines after the novelty of employment wears off and boredom with the job sets in. Satisfaction rises again later in life as workers become accustomed to their role. This specific U-shape is confirmed in this study as far as extrinsic job satisfaction is concerned.

In recent years South Africa has experienced a political transition to a democratic society which is based on freedom and equality as pronounced in the constitution. Historically, women have experienced many different levels of gender oppression and inequality in South African society. In a study conducted by Higgs, Higgs and Wolhuter (2004) in the academic profession, no differences were found between males and females in terms of their experience of job satisfaction. The results in this study also confirmed those results. In other words, male employees do not experience practically significant higher levels of extrinsic and intrinsic job satisfaction compared to female employees. A reason for this could be that both males and females work under the same circumstances and there is no discrimination in terms of salary or benefits.

The results of this study indicated that there is a practically significant difference of medium effect between black and white employees regarding their experience of intrinsic job satisfaction. Employees of the black race group experience lower levels of intrinsic job satisfaction. A possible explanation for this could be that black employees need more feedback and acknowledgement than their white colleagues. However, this is only an assumption and needs to be studied.

A limitation of this study was that it relied exclusively on self-report measures. This causes a particular problem in validation studies that use self-report measures exclusively, in that it increases the likelihood that at least part of the shared variance between measures can be attributed to method variance (Schaufeli & Enzmann, 1998). Another limitation is the sampling procedure, and future studies could benefit from using a stratified random-sampling design. There are two main limitations regarding research design. When a cross-sectional design is used, inferences can be made about the relationship between particular variables, but causation cannot be determined. A longitudinal design would eliminate cohort effects confounding the data and their subsequent interpretations.

Recommendations

Despite this study's limitations, the results indicated that the MSQ is a reliable instrument to assess the extrinsic and intrinsic job satisfaction of employees at selected organisations in South Africa. It is therefore recommended that the MSQ with the two subscales of extrinsic and intrinsic job satisfaction be used to assess the levels of job satisfaction of employees.

Regarding the demographic variables it is indicated that younger employees experience lower levels of intrinsic and extrinsic job satisfaction. It is therefore recommended that specific programs can be included in the organisation to enhance the experience of job satisfaction. Regular feedback can possibly also enhance job satisfaction. The finding that there is a difference in terms of race in the experience of job satisfaction needs further investigation, and a recommendation could be that open communication regarding expectations could clarify this.

Six suggestions for future research are derived from the present findings. Although this study found the MSQ to be reliable and confirmed the two-factor structure, additional research is needed to further determine the reliability and validity in other samples in South Africa. Also, research is needed in other occupations to establish norms for job satisfaction other than those used in the present study. Future studies should use large samples and adequate statistical techniques (e.g. structural equation modelling). Large sample sizes provide increased confidence that study findings would be consistent across other sample groups. Longitudinal studies are also recommended. Lastly, further studies should also investigate the relationship between extrinsic and intrinsic job satisfaction and particular job characteristics and work-related outcomes, such as organisational commitment, organisational citizenship, turnover and absenteeism.

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