CHAPTER 5

RESEARCH METHODOLOGY

5.1   INTRODUCTION

A research design may be regarded as the strategy the researcher will use to attain the objectives of the study. After careful consideration, it was decided to do a cross-sectional study which was descriptive, exploratory and explanatory in nature. Because of the lack of empirical information available on spirituality, especially in the context of the workplace, it was decided to use descriptive, exploratory and explanatory research because it enabled the researcher to identify, describe and explain the variability in different phenomena.

5.2   SAMPLE AND PARTICIPANTS

The purpose of sampling is to select from the population a set of elements which accurately depict the total population from which the elements were selected (Babbie, 2001:185). The elements or unit of analysis of the study would be working people. The population from which the sample should be drawn is all working people in the world at large. As it was impossible to include all these elements in the population, it was decided to focus on a smaller subset of the larger population. For practical reasons, two organisations from two different industries in South Africa were selected: one

in the private industry (private hospital), and the other in the semi-public industry (educational organisation).

The sample consisted of white collar workers, randomly chosen from two organisations, the one being a private hospital and the other an educational organisation. The study focussed specifically on white collar workers because work centrality and meaningful work seem to be more important to them (Friedman & Havinghurst; Morse & Weiss; Orzack, quoted by De Klerk, 2001:115). Sampling frames were obtained from the two institutions. The Human Resource Departments of both organisations were requested to provide the researcher with a list of white collar workers from which the random sample was drawn.

The total sample consisted of 600 subjects, although the statistical methods employed to analyse the data required only 200 subjects. Babbie (2001:256) indicates that in a mail survey, a response rate of 50 % is adequate for analysis and reporting; a response rate of 60% is good, and 70% is very good. It was decided to send out 600 questionnaires in order to make provision for a low response rate.

Stratified random sampling was used to identify the elements of the sample. Babbie (2001:201) indicates that when using stratified random sampling greater representativeness is ensured and the probability of sampling error is reduced. Elements were selected from the two organisations by using a table of random numbers. The private hospital had 363 individuals on its sampling frame, from which a sample of 243 individuals was drawn. The educational institution had 534 individuals, from which as sample of 357 individuals was drawn. The response rates of the total sample, as well as for the sub-samples from the two different organisations, are indicated in Table 6.

TABLE 6   <u>**QUESTIONNAIRE RESPONSE RATES**</u>

	QUESTIONNAIRES		PERCENTAGE	
ORGANISATION	**DISPATCHED**	**RETURNED**	**RESPONSE RATE (%)**	**TOTAL SAMPLE**
PRIVATE HOSPITAL	243	164	67.49	67.77
EDUCATIONAL INSTITUTION	357	78	21.85	32.23
TOTAL	600	242	40.33	100

Although Babbie (2001:256) indicates that a response rate of 50% is adequate for analysis and reporting, the overall response rate obtained in this study (40.33%) is regarded as sufficient to work with.

Of the 600 questionnaires despatched, 242 were returned. The response rate of the private hospital was 67.49%, which nearly falls into the very good range for response rates as indicated by Babbie (2001:256). In terms of the educational organisation, it was established that at the time the questionnaire was distributed, other surveys were also distributed to the same organisational members, which could have led to the sample group not completing the mailed questionnaire. Furthermore, some employees who have conducted survey studies at the same organisation have indicated that a culture of not completing questionnaires exists at this organisation, as they obtained even lower response rates. Taking these factors into consideration, it does seem that the low response rate for the educational organisation should not cause great concern.

The survey group varied in terms of biographic details. These details will be given in accordance with the questions which were asked in Section D of the questionnaire (see Appendix A).

The gender distribution of the respondents is shown in Table 7.

TABLE 7   GENDER DISTRIBUTION OF RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
MALE	52	21.5
FEMALE	188	77.7
TOTAL	240	99.2
MISSING	2	0.8

Most respondents provided information on their gender (99.2%). The sample consisted predominantly of females (N=188, 77.7%). The male respondents (N=52) formed 21.5% of the total sample.

Table 8 indicates the respondents' ethnical grouping.

TABLE 8   ETHNICAL GROUPING OF RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
AFRICAN	42	17.4
WHITE	177	73.1
COLOURED	17	7.0
ASIAN	4	1.7
TOTAL	240	99.2
MISSING	2	0.8

Most respondents provided information on their ethnical grouping (99.2%). The sample consisted predominantly of white people (N=177, 73.1%). The other respondents were 17.4% African, 7% Coloured and 1.7% Asian. In terms of South Africa's Employment Equity legislation, it seems appropriate to combine Africans, Coloureds and Asians (or Indians) into one category as the Previously Disadvantaged Group, also referred to as people of colour. This respondent group consists of 63 respondents, i.e. 26.9%.

Table 9 indicates the distribution of respondents in terms of occupational category.

TABLE 9   OCCUPATIONAL CATEGORY OF RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
ACADEMIC	21	8.7
MANAGERIAL	30	12.4
ADMINISTRATIVE	62	25.6
PROFESSIONAL	84	34.7
TECHNICAL	20	8.3
TOTAL	217	89.7
MISSING	25	10.3

Although a large percentage (89.7%) of the respondents provided information on their occupational category, 25 respondents (10.3%) omitted this question, which constitutes a large number of missing answers. The sample consisted predominantly of professional workers (N=84, 34.7%). This group consists of occupations such as psychologists, pharmacists, doctors, and professional nurses. A large number of workers also fell into the administrative group (N=62, 25.6%). Of the other respondents 8.7% were academic personnel, 12.4% managerial personnel, and 8.3% technical personnel.

Table 10 indicates respondents' religiosity.

TABLE 10   RELIGIOSITY OF RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
RELIGIOUS	231	95.4
NOT RELIGIOUS	4	1.7
TOTAL	235	97.1
MISSING	7	2.9

Most respondents provided information on whether they are religious or not (97.1%). The sample consisted predominantly of religious people (N=231, 95.4%). The rest of the sample (1.7%) indicated that they are not religious.

Table 11 indicates respondents' religious orientation.

TABLE 11   RELIGIOUS ORIENTATION OF RESPONDENTS (N=242)

	FREQUENCY	**PERCENTAGE**
CHRISTIAN	226	93.4
AFRICAN TRADITIONAL	4	1.6
OTHER	7	2.9
TOTAL	237	97.9
MISSING	5	2.1

Most respondents provided information on their religious orientation (97.9%). Although many options were provided, the respondents fell into one of three categories, Christian, Traditional African, and Other. The sample consisted predominantly of Christians (N=226, 93.46%). The other respondents were in the African Traditional (1.6%), and the Other category (2.9%).

Table 12 indicates the respondents' strength of religious conviction.

TABLE 12   STRENGTH OF RELIGIOUS CONVICTION OF

RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
VERY STRONG	121	50
STRONG	80	33.1
MODERATE	31	12.8
WEAK	2	0.8
VERY WEAK	1	0.4
NOT APPLICABLE	4	1.7
TOTAL	239	98.8
MISSING	3	1.2

Most respondents provided information on their strength of religious conviction (98.8%). The sample consisted predominantly of people with very strong religious convictions (N=121, 50%). Of the other respondents, 33.1% had strong religious convictions, 12.8% moderate religious convictions, 0.8% weak religious convictions, 0.4% very weak religious convictions, and 1.7% indicated that the question was not applicable to them.

This indicates that the sample consisted predominantly of Christians (93.4%) with very strong or strong religious convictions (83.1%). Similar findings were obtained by other researchers conducting studies in South Africa (e.g. De Klerk, 2001:153). These findings indicate that South Africa is a very religious society with people generally having strong religious convictions.

Table 13 indicates the respondents' age groups.

TABLE 13   AGE DISTRIBUTION OF RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
19-29	49	20.2
30-40	80	33.1
41-62	106	43.8
TOTAL	235	97.1
MISSING	7	2.9

Most respondents provided information on their age (97.1%). The sample consisted predominantly of people in the age group 41-62 years (N=106, 43.8%). This indicates that the respondents were mostly in their mid- to late life or career stage. Of the other respondents, 33.1% were between the ages of 30 and 40, and 20.2% between the ages 19 and 29.

Table 14 indicates the respondents' educational levels.

TABLE 14   EDUCATIONAL LEVELS OF RESPONDENTS (N=242)

	FREQUENCY	PERCENTAGE
GRADE 10-11	31	12.8
GRADE 12	52	21.5
COLLEGE/ TECHNIKON	83	34.3
POST MATRIC GRADUATE	72	29.8
TOTAL	238	98.4
MISSING	4	1.6

Most respondents provided information on their educational level (98.4%). The sample consisted predominantly of College or Technikon graduates (N=83, 34.3%). Of the other respondents, 12.8% had a Grade 10-11 certificate, 21.5% a Senior Certificate, and 29.8% were post-matric University graduates.

5.3   MEASURING INSTRUMENTS

The aim of the present study is to investigate the relationship between spirituality and job satisfaction. The following instruments were used to measure the variables in the study:

- Personal spirituality:

    - The Human Spirituality Scale (Wheat, 1991:165)

- Job satisfaction:

    - Minnesota Satisfaction Questionnaire (Weiss, Dawis, England & Lofquist, 1967)

- Organisational Spirituality:

    - Organisational Spiritual Values Scale (Kolodinsky *et al.*, 2004:28)

- Perceptions Questionnaire:

    - This is a self-developed section of the questionnaire which measures whether people perceive personal spirituality and job satisfaction to be related. It consists of nine true and false statements which were compiled in accordance with Wheat's (1991:89) definition of spirituality.

5.3.1   HUMAN SPIRITUALITY SCALE (HSS)

The Human Spirituality Scale (HSS) was developed by Wheat (1991:166-168). The HSS is a paper and pencil measure of personal spirituality designed for the adult, non-clinical population. The instrument consists of 20 questions in a Likert-type format with items ranging between values of one (never) to five (constantly) for each item. Nineteen of the questions are set positively and one question is set negatively.

During the development of the HSS a pilot study was conducted whereby the scale was administered to 186 adults between 25 and 65 years of age. After obtaining the results, the scale was revised and administered to 36 graduate students. It was again revised and administered to 48 adults between 25 and 65 years of age. Only after obtaining these results was the final form of the HSS prepared. The information regarding this final form of the HSS is contained in Table 15.

TABLE 15   FINAL FORM: HSS

Content validity	The content validity is based on content relevance established by the ratings of a panel of five judges, and on the content coverage derived from the use of a table of specifications.
Reliability	The item discrimination index for each item exceeded the minimum desired value of 0.30. Chronbach's Alpha = 0.89.
Construct validity	The following analyses were performed; differentiation between groups, factor analysis and an examination of age and sex differences.

The construct validity was confirmed in three studies. Wheat (1991:89) found that the mean scores of members of spiritual formation groups were significantly higher than those of the reference group (representing the general population). In terms of age and gender differences, Wheat (1991:89) found that women were more spiritual than men. He also found that the age effects were not as strong as gender, with men showing a greater shift towards spirituality at midlife than women (Wheat, 1991:89). These findings are in line with predictions based on the conceptual framework of his study.

Wheat (1991:81) came to the conclusion that the HSS consists of three strong factors, namely larger context, awareness of life, and compassion, which are included in spirituality literature. When analysing the three factors which were identified by Wheat (1991:79), a concern is raised regarding factor distributions of the items on the HSS. The items are not in complete alignment with the three factors predicted, although Wheat (1991:77) indicates that strong parallels were obtained between the proposed factor structure and the one obtained through analysis, and that the content dimensions were held together in general. This questions whether the scale indeed measures larger context, awareness of life and compassion, or merely personal spirituality.

The HSS measures degrees of personal spirituality with scores ranging from 20 to 100. The individual's score is calculated by adding the ratings given to the 20 items, with higher scores indicating higher levels of personal spirituality. It should be mentioned that no precise guidelines are given on what constitutes high levels or low levels of personal spirituality.

Studies by Young *et al.* (2000), Giacalone and Jurkiewicz (2003b), and Kolodinsky *et al.* (2004:5) confirm the instrument's reliability, indicating a Cronbach Alpha reliability coefficient of 0.86, 0.90 and 0.85 respectively. These factors indicate the appropriateness of using this scale in the study in order to measure personal spirituality. According to Young *et al.* (2000), the scores of the HSS obtained in their study are consistent with previous research, adding credibility to the use of the HSS to measure personal spirituality unrelated to religious practice. These findings show the appropriateness of using the HSS in this study to measure individuals' levels of personal spirituality.

5.3.2 <u>MINNESOTA SATISFACTION QUESTIONNAIRE (MSQ)</u>

The Minnesota Satisfaction Questionnaire (MSQ) was developed by Weiss, Dawis, England and Lofquist in 1967 in order to measure an employee's satisfaction with his or her work, e.g. the various job dimensions. The study reported reliability coefficients of between 0.87 and 0.92 and a Cronbach alpha coefficient of 0.91 (Weiss *et al.*, 1967).

There are two forms of the MSQ available, i.e. a short and long form. For practical reasons, it was decided to use the short form. It consists of 20 items measured on a five-point Likert-type scale, ranging between "very satisfied" and "very dissatisfied". It is a self-report inventory which can be administered to individuals or groups. It takes approximately 5 minutes to complete and measures total (general) job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction. The questionnaire has been found to be a valid and reliable instrument to measure job satisfaction, and easy to use and understand.

The MSQ has been used for South African samples (e.g. Adonisi, 2003:78; Boshoff & Hoole, 1998:73; Buitendag & De Witte, 2005:30; Kamfer, Venter & Boshoff, 1998:85). In the study by Kamfer *et al.* (1998:94), a two-factor solution was retained for all twenty items of the original instrument. Boshoff and Hoole's (1998:83) study could not differentiate between the MSQ's two factors and concluded that the questionnaire is essentially one-dimensional. Adonisi (2003:110) and Buidendach and De Witte (2005:30) showed results similar to Kamfer *et al.* (1998:85), concluding that the MSQ consists of two factors, i.e. intrinsic and extrinsic job satisfaction.

5.3.3 ORGANISATIONAL SPIRITUAL VALUES SCALE (OSVS)

The Organisational Spiritual Values Scale (OSVS) was developed by Kolodinsky *et al.* (2004:5), and it rephrases items from the HSS into statements assessing a person's perceptions of spiritual values exhibited by his or her organisation. Like the HSS, the OSVS consists of 20 items using Likert-type scaling, ranging from one (completely false) to five (completely true). The internal consistency reliability estimate for the scale was 0.93, indicating a strong reliability. As far as it could be established the scale was only used in the study by Kolodinsky *et al.* (2004).

5.3.4 PERCEPTIONS QUESTIONNAIRE (PQ)

Self-formulated true and false statements were included in the final section of the questionnaire to determine people's perceptions regarding the relation between personal spirituality and job satisfaction. Wheat (1991:82) found that personal spirituality consists of three dimensions; i.e. larger context, awareness of life, and compassion. The statements which were formulated were based on these three dimensions. For each dimension, three statements were formulated in order to obtain a proper indication of whether people perceive personal spirituality and job satisfaction to be related.

5.4 **PROCEDURES**

5.4.1 **QUESTIONNAIRE ADMINISTRATION**

It was decided to collect data by using self-administered questionnaires. Babbie (2001:267) is of the opinion that self-administered questionnaires are effective to use when collecting data on sensitive issues (such as spirituality). Babbie (2001:250) indicates that it is useful to begin self-administered questionnaires with basic instructions for completing it. This will assist the respondent in completing the questionnaire and may facilitate proper answering.

An introductory letter was attached to the questionnaire which was sent out to the sample (Appendix B). This letter covered the general instructions for completing the questionnaire, which was followed by specific instructions at each instrument. Where possible, exact instructions as in the original instrument, were given.

In order to ensure that the questionnaire was well structured and to minimise error, a pilot study was conducted. The preliminary questionnaire was distributed to ten subjects who were representative of the overall sample to whom the questionnaire was dispatched. These subjects were part of the sampling population, and thus representative of the sampling population, but did not form part of the final sample. Valuable comments and input were

obtained from this group which were used to finalise the questionnaire, specifically with regard to instructions given.

The amended questionnaires were distributed to the sample as hard copies through the internal mail systems of the two organisations. To ensure proper control, the envelopes were marked "Confidential" and addressed to the specific individuals. In the covering letter it was explained why questionnaires should be completed personally. An instruction was also given in the covering letter indicating that the subject should rather not return the questionnaire than have it completed by someone else. This, together with the purpose of the research, was explained in the introductory letter attached to the questionnaire (Appendix B).

Also included in the introductory letter was a request to complete the questionnaires as quickly as possible and to return them to the researcher in the envelopes which were provided with the questionnaires. These envelopes were marked "Confidential" to enhance confidentiality and control. The questionnaires were returned to a centralised point through the internal mail system of the two organisations. After two weeks a letter was sent out to remind respondents to complete and return the questionnaire. The reminder letter is attached as Appendix C.

The questionnaire began with an interesting instrument which is easy to understand (the MSQ). The MSQ was followed by the HSS, because the items of this instrument are more complex and more sensitive than the items of the MSQ. After the HSS, which measures personal spirituality, questions on biographical information were included. These questions were followed by the OSVS, which measures organisational spirituality. In the final section of the questionnaire, the PQ was included to measure people's perceptions. It was thought that this logical flow of questionnaires would allow a natural progression from one questionnaire to another.

5.4.2   HANDLING OF DATA AND RETURNED QUESTIONNAIRES

The analysis of the responses was planned and directed by the present author in collaboration with the promoter, and the statistical analysis was carried out at the Department of Statistics of the University of Pretoria. The responses on the returned questionnaires were coded to compensate for reverse score items, after which the data was entered into the computer. The BMPD and SAS statistical packages were used to analyse the data.

The first step in the analysis was to Factor Analyse the responses to every instrument individually through the procedure of Principal Factor Analysis with Direct Quartimin Rotation. This was done to determine whether the factor structure of each instrument was similar to that described in the theory and/or by previous studies. Eigenvalues were calculated to determine the factor

structure of each instrument. The next step was to verify each item on the factor loadings of the factor structures. Items which did not show acceptable loadings (≥ 0.25) on only one factor were removed after the first round of factor analysis, and the factor analysis was repeated until all the remaining items showed acceptable loadings and thus "clean" structures.

Once the factor structures of the instruments were confirmed, the associations of biographic variables with personal spirituality, organisational spirituality, and job satisfaction were investigated. Analysis of Variance (ANOVA) was considered as the correct statistical procedure for this investigation. In order to use ANOVA, it was assumed that each of the samples was drawn from a normally distributed population.

The next step was to conducting an item analysis of the PQ. The ITEMAN statistical package was used to do the items analysis. Inter-correlations between the scales, total item correlations and Cronbach Alpha Coefficient were determined. The next step was to determine the relationship between personal spirituality, job satisfaction, organisational spirituality (independent variables), and perceptions (dependent variable). The Pearson Correlation Coefficient was used to determine significant correlations between the variables. When investigating the correlations between the independent and dependent variables, two aspects need to be considered. Firstly, correlations with a p-value <0.05 will be considered as acceptable, and secondly the

Pearson Correlation Coefficient (r) will be interpreted. Values closer to 1 will be indicative of strong correlations.

After the correlations between the variables were determined, a multiple regression analysis was conducted in order to determine the combination of independent variables which simultaneously affect a given dependent variable. The regression square (R^2) was calculated in order to explain the variance in the dependent variable.

5.4.3 FACTOR STRUCTURE

The first step in determining the instruments' factor structures was to do a Principal Factor Analysis with Direct Quartimin rotation. This was done to determine the number of factors present in the instruments used in the questionnaire: MSQ, HSS, and OSVS. The PQ and biographic variables were not included in the factor analysis.

A total number of 242 responses were obtained. Respondents who did not complete the particular section relevant to the instrument being analysed, or left out too many responses, were excluded from the factor analysis. It was decided that the sample sizes of the respective instruments were adequate to execute a factor analysis.

5.4.3.1 FACTOR STRUCTURE OF HSS

Five factors had Eigenvalues > 1.0 and the item values obtained indicated that one strong factor could be identified (6.16). The other four factors had Eigenvalues of 1.6, 1.4, 1.2 and 1.1. The Eigenvalues of all items of the HSS are indicated in Table 16.

TABLE 16 EIGENVALUES WITH ALL ITEMS OF HSS (N=238)

FACTOR NUMBER	EIGEN VALUE
B1	**6.164**
B2	**1.588**
B3	**1.448**
B4	**1.213**
B5	**1.083**
B6	0.976
B7	0.880
B8	0.819
B9	0.747
B10	0.695
B11	0.628
B12	0.551
B13	0.538
B14	0.500
B15	0.467
B16	0.435
B17	0.380
B18	0.348
B19	0.289
B20	0.252

It was decided to execute a Principal Factor Analysis with Direct Quartimin rotation, on a three-factor solution, in order to determine whether the same factors can be used, as were identified in the original instrument, i.e. larger context, awareness, and compassion. The structure obtained from the three-factor solution is indicated in Table 17.

TABLE 17   ROTATED FACTOR LOADING PATTERN – THREE FACTOR SOLUTION: HSS (N=238)

ITEM NO	FACTOR 1	FACTOR 2	FACTOR 3
B8	0.833	0.000	0.000
B12	0.689	0.000	0.000
B7	0.680	0.000	0.000
B11	0.590	0.000	0.000
B14	0.528	0.000	0.000
B10	0.524	0.256	0.000
B16	0.000	0.578	0.000
B3	0.000	0.550	0.000
B18	0.000	0.542	0.000
B2	0.000	0.000	0.793
B1	0.000	0.000	0.737
B4	0.358	0.000	0.318
B13	0.000	0.000	0.268
B17	0.253	0.000	0.000
B9	0.000	0.493	0.000
B20	0.000	0.405	0.000
B5	0.470	0.000	0.000
B6	0.000	0.415	0.000
B15	0.000	0.351	0.000
B19	0.256	0.000	0.000

The three factors showed Cronbach Alpha Coefficients of 0.81, 0.73 and 0.62. The factor correlations between the factors are indicated in Table 18. These factors explained a total of 37.5 of the total variance in the data space. Factor one explained 27.7 of the total variance, factor two 5.5 of the variance and factor three 4.3 of the total variance.

TABLE 18   INTERCORRELATIONS OF ROTATED FACTORS OF THE HSS (N=238)

	FACTOR 1	FACTOR 2	FACTOR 3
FACTOR 1	0.868		
FACTOR 2	0.516	0.765	
FACTOR 3	0.357	0.357	0.801

Table 18 shows that the three factors had correlations varying between 0.357 and 0.868. The correlation between factor one and two is 0.516, which indicates that the two factors are related and may measure the same construct. Factors one and three, as well as factors two and three, have a correlation of 0.357, which indicates that factor three is not closely correlated with these two factors. Due to the unsatisfactory correlations of the individual factors and factor loading of the three factors, it was decided to execute a further Principal Factor Analysis with Direct Quartimin rotation, on a one-factor solution.

Table 19 contains the sorted rotated factor loading patterns of the one-factor solution on all twenty items of the HSS.

TABLE 19   **SORTED ROTATED FACTOR LOADING PATTERN – ONE FACTOR SOLUTION: HSS – 20 ITEMS (N=238)**

FACTOR NUMBER	FACTOR ONE
B4	0.669
B8	0.666
B10	0.664
B12	0.636
B7	0.633
B5	0.618
B14	0.608
B11	0.580
B6	0.555
B9	0.524
B2	0.492
B18	0.475
B1	0.459
B20	0.455
B3	0.430
B19	0.410
B17	0.400
B16	0.347
B15	0.342
B13	0.000

All the items, with the exception of item B13 (which showed no loading), showed satisfactory loadings, with the lowest loading being 0.342 and the highest 0.669. Due to the unsatisfactory loading of item B13, it was decided to remove this item and execute a further Principal Factor Analysis with Direct Quartimin rotation, on a one-factor solution.

Table 20 contains the sorted rotated factor loading patterns of the one-factor solution on nineteen items (with item B13 removed) of the HSS.

TABLE 20   SORTED ROTATED FACTOR LOADING PATTERN – ONE

FACTOR SOLUTION: HSS – 19 ITEMS (N=238)

FACTOR NUMBER	FACTOR ONE
B8	0.667
B4	0.666
B10	0.665
B12	0.637
B7	0.634
B5	0.616
B14	0.610
B11	0.578
B6	0.558
B9	0.527
B2	0.488
B18	0.477
B1	0.456
B20	0.455
B3	0.429
B19	0.411
B17	0.400
B16	0.347
B15	0.342

The 19 items on the one-factor solutions showed satisfactory loadings, with the lowest loading being 0.342 and the highest 0.667. This indicates that for the 19 items, one factor can be clearly identified for the purpose of this study. This one factor showed a Chronbach Alpha Coefficient of 0.8795. This one factor (consisting of 19 items) was found to explain 28.7 of the total variance.

The loading patterns indicate that the 19 items of the HSS are strongly associated with this one factor. The only factor which can therefore be measured by the HSS is personal spirituality. Wheat (1991:79) found that the items on the HSS are not in complete alignment with the three factors predicted, which questions whether the HSS indeed measures three factors, or rather only one factor, i.e. personal spirituality. For the purpose of this study (consisting of a South African population), a 19 item HSS will be used to measure personal spirituality.

5.4.3.2 **FACTOR STRUCTURE OF OSVS**

Two factors had Eigenvalues > 1.0 and the item values obtained indicated that one strong factor could be identified (10.6). The other factor had an Eigenvalue of 1.2. This indicates that a three factor solution, as proposed by the original instrument, is not usable for this sample. The Eigenvalues of all of items of the OSVS are indicated in Table 21.

TABLE 21 **EIGENVALUES WITH ALL ITEMS OF OSVS (N=237)**

FACTOR NUMBER	EIGENVALUE
1	**10.592**
2	**1.157**
3	0.977
4	0.907
5	0.815
6	0.718
7	0.631
8	0.564
9	0.483
10	0.432
11	0.387
12	0.370
13	0.347
14	0.313
15	0.304
16	0.252
17	0.221
18	0.197
19	0.187
20	0.145

Due to the strength of the one factor, it was decided to execute a Principal Factor Analysis with Direct Quartimin rotation on a one-factor solution. The structure obtained from the one-factor solution is indicated in Table 22.

TABLE 22   **SORTED ROTATED FACTOR LOADING PATTERN: OSVS -**

20 ITEMS (N=237)

ITEM NUMBER	LOADING
D18	0.861
D11	0.855
D10	0.831
D9	0.818
D8	0.813
D4	0.798
D5	0.770
D20	0.739
D15	0.730
D14	0.729
D12	0.722
D2	0.721
D7	0.720
D3	0.696
D19	0.688
D1	0.650
D6	0.642
D17	0.497
D16	0.445
D13	0.000

All the items, with the exception of item D13 (which showed no loading), showed satisfactory loadings, with the lowest loading being 0.445 and the highest 0.861. These findings are similar to the findings of the HSS. Due to the unsatisfactory loading of item D13, it was decided to remove this item and

execute a further Principal Factor Analysis with Direct Quartimin rotation, on a one-factor solution.

Table 23 contains the sorted rotated factor loading patterns of the one-factor solution on nineteen items (with item D13 removed) of the OSVS.

TABLE 23   **SORTED ROTATED FACTOR LOADING PATTERN – ONE FACTOR SOLUTION: OSVS – 19 ITEMS (N=237)**

FACTOR NUMBER	FACTOR ONE
D18	0.861
D11	0.855
D10	0.832
D9	0.818
D8	0.813
D4	0.798
D5	0.770
D20	0.739
D15	0.730
D14	0.729
D12	0.722
D2	0.720
D7	0.720
D3	0.696
D19	0.688
D1	0.650
D6	0.642
D17	0.498
D16	0.445

All the items on the one-factor solutions showed satisfactory loadings, with the lowest loading being 0.445 and the highest 0.861. This indicates that, for the 19 items, one factor can be clearly identified for the purpose of this study. This one factor showed a Chronbach Alpha Coefficient of 0.9541. This one factor (consisting of 19 items) was found to explain 53.3 of the total variance. This indicates that the 19 items of the OSVS are strongly associated with this one factor. The only factor which can therefore be measured by the OSVS is organisational spirituality. Therefore, for this study (consisting of a South African population) a 19 item OSVS will be used to measure organisational spirituality.

5.4.3.3   FACTOR STRUCTURE OF MSQ

Four factors had Eigenvalues > 1.0 and the item values obtained indicated that one strong factor could be identified (8.6). The other three factors had Eigenvalues of 1.6, 1.5 and 1.2. The Eigenvalues of all of items of the MSQ are indicated in Table 24.

TABLE 24   EIGENVALUES WITH ALL ITEMS OF MSQ (N=238)

FACTOR NUMBER	EIGEN VALUE
A1	**8.614**
A2	**1.592**
A3	**1.452**
A4	**1.158**
A5	0.833
A6	0.773
A7	0.685
A8	0.644
A9	0.554
A10	0.501
A11	0.466
A12	0.453
A13	0.414
A14	0.395
A15	0.346
A16	0.298
A17	0.269
A18	0.235
A19	0.169
A20	0.150

It was decided to execute a Principal Factor Analysis with Direct Quartimin rotation, on a two-factor solution, in order to determine whether the same factors can be used, as were identified in the original instrument. These factors are intrinsic job satisfaction and extrinsic job satisfaction. The structure obtained from the two-factor solution is indicated in Table 25.

TABLE 25   ROTATED FACTOR LOADING PATTERN – TWO FACTOR

SOLUTION: MSQ (N=238)

ITEM NO	FACTOR 1	FACTOR 2
A11	0.803	0.000
A3	0.780	0.000
A15	0.774	0.000
A2	0.747	0.000
A16	0.726	0.000
A10	0.659	0.000
A4	0.652	0.000
A9	0.642	0.000
A20	0.641	0.000
A1	0.598	0.000
A17	0.532	0.000
A6	0.000	0.880
A5	0.000	0.806
A19	0.408	0.401
A12	0.413	0.261
A8	0.412	0.000
A7	0.498	0.000
A13	0.377	0.000
A14	0.356	0.000
A18	0.368	0.000

The two factors showed Cronbach Alpha Coefficients of 0.91 and 0.90. The factor correlations between the two factors are 0.54. This indicates that the two factors are closely related and may measure the same construct. Factor one explained 39.4 of the total variance, and factor two 6.4 of the total variance. Together these factors constitute 45.8 of variance in the data space.

Because of the high correlation which existed between the two factors as well as the great amount of variance explained by one factor, it was decided to execute a further Principal Factor Analysis with Direct Quartimin rotation, on a one-factor solution. Table 26 contains the sorted rotated factor loading patterns of the one-factor solution.

TABLE 26 **SORTED ROTATED FACTOR LOADING PATTERN – ONE FACTOR SOLUTION: MSQ (N=238)**

ITEM NO	FACTOR 1
A11	0.762
A20	0.741
A4	0.716
A10	0.692
A19	0.689
A17	0.686
A16	0.676
A15	0.676
A3	0.668
A5	0.664
A6	0.651
A9	0.648
A7	0.624
A12	0.599
A2	0.572
A8	0.571
A1	0.546
A13	0.486
A14	0.467
A18	0.425

All the items on the one-factor solution showed satisfactory loadings, with the lowest loading being 0.425 and the highest 0.762. This indicates that one factor can be clearly identified for this purpose of this study. The one factor showed a Cronbach Alpha Coefficient of 0.93, which is slightly higher than the Cronbach Alpha Coefficients of the two factors previously determined (e.g. 0.91 and 0.90). This one factor was found to explain 40.2 of the total variance. This indicates that all the items of the MSQ are strongly associated with this one factor. The only factor which can therefore be measured by the MSQ is general job satisfaction. This conclusion is in line with some of the previous studies measuring the job satisfaction of the South African population (e.g. Boshoff & Hoole's, 1998:83).

5.4.3.4   ITEM ANALYSIS OF PQ

Section E of the questionnaire determined people's perceptions regarding the relationship between personal spirituality and job satisfaction. It consisted of nine true and false statements. These statements were compiled rephrasing questions from the HSS, measuring personal spirituality.

The questionnaire items were divided according to the three components of personal spirituality which are measured by the HSS. These components are:

- Scale 1: Larger context – measured by items E1, E4 and E7;

- Scale 2: Awareness of life – measured by items E2, E5 and E8;

- Scale 3: Compassion – measured by items E3, E6 and E9.

The intercorrelations between the scales measured by the PQ are shown in Table 27.

TABLE 27   **<u>INTERCORRELATIONS BETWEEN SCALES OF THE PQ (N=236)</u>**

	SCALE 1	SCALE 2	SCALE 3
SCALE 1	1.000		
SCALE 2	0.500	1.000	
SCALE 3	0.557	0.500	1.000

Table 27 shows that the three scales had acceptable correlations varying between 0.557 and 0.500. This indicates that the three scales are related and measure the same construct.

The results of item analysis for the PQ are presented in Table 28.

TABLE 28   RESULTS OF ITEM ANALYSIS OF VARIABLES OF PQ (N=236)

ITEM	RESPONSE	FREQUENCY	PERCENTAGE	ITEM TOTAL CORRELATION
E1	TRUE	225	95.3	0.32
	FALSE	11	4.7	
E2	TRUE	220	93.2	0.45
	FALSE	16	6.8	
E3	TRUE	214	90.7	0.47
	FALSE	22	9.3	
E4	TRUE	225	95.3	0.35
	FALSE	11	4.7	
E5	TRUE	226	95.8	0.43
	FALSE	10	4.2	
E6	TRUE	205	86.9	0.42
	FALSE	31	13.1	
E7	TRUE	124	52.5	0.18
	FALSE	112	47.5	
E8	TRUE	216	91.5	0.33
	FALSE	20	8.5	
E9	TRUE	208	88.1	0.41
	FALSE	28	11.9	

The statement that most people regarded as true is statement E5 (people who value personal growth are likely to experience greater satisfaction with their jobs). Most respondents (N=226, 95.8%) agreed with this statement. The statement with the fewest positive responses is statement E7 (people who are willing to share their private thoughts with others, even at work, are more inclined to experience job satisfaction). Of the respondents, 52.5% agreed with the statement, and 47.5% disagreed with it. This shows that most respondents perceive personal spirituality and job satisfaction to be related.

The item correlations with the total varied between 0.18 and 0.47. Item E7 (people who are willing to share their private thoughts with others, even at work, are more inclined to experience job satisfaction) showed the weakest correlation with the total, and item E3 (being caring towards other employees can improve your experience of job satisfaction) showed the strongest correlation with the total.

The instrument showed a mean score of 7.829, which shows that the mean is relatively high, taking into consideration that the maximum score is nine. Therefore, most respondents achieved high scores on this instrument. The standard deviation of the instrument is 1.5. This indicates that the respondents' scores were closely distributed around the mean (7.829). The PQ further showed a Cronbach Alpha Coefficient of 0.767, which is regarded as acceptable. This score suggests that all the items of the instrument are related and that one underlying construct is measured.

CHAPTER 6

RESULTS

6.1 LEVEL OF PERSONAL SPIRITUALITY, JOB SATISFACTION, ORGANISATIONAL SPIRITUALITY, AND PERCEPTIONS IN PRESENT SAMPLE

Before the results of the relationship between personal spirituality and the dependent variables are presented or further analysed, it is necessary to assess the level of the scores of the respondents in the present sample on personal spirituality, job satisfaction, organisational spirituality, and perceptions regarding the relationship between personal spirituality and job satisfaction. The mean, standard deviation, maximum and minimum scores of the respondents on these variables of the present study are shown in Table 29.

TABLE 29   DATA ON LEVELS OF SCORES

	N	Mean	SD	Minimum	Maximum	Items
HSS	239	77.6	9.1	46	95	20
MSQ	238	45.7	13.1	26	100	20
OSVS	239	45.7	16.0	21	91	20
PQ	238	7.8	1.5	0	9	9

Table 29 shows that the HSS had a mean score of 77.6 and a standard deviation of 9.1. This is comparable to previous findings, which showed mean scores of 76.04 (standard deviation, 11.59), 76.42 (standard deviation, 9.16), 77.94 (standard deviation, 9.0), and 77.15 (standard deviation, 8.63) (Kolodinsky *et al.*, 2004:14-20; Young *et al.*, 1998). The mean score of the HSS indicates that, on average, the respondents had a high level of personal spirituality.

The MSQ had a mean score of 45.7 and a standard deviation of 13.1. The mean score of the MSQ indicates that, on average, the respondents were not satisfied with their jobs. A study by Buitendach and De Witte (2005:31) show a means score of 34.7 for the MSQ for the South African population. Thus, it appears as if the South African population are mostly dissatisfied with their jobs. The OSVS had a mean score of 45.7 and a standard deviation of 16. The mean of the OSVS indicates that, on average, the respondents had a slightly below average level of organisational spirituality. The PQ had a mean score of 7.8 and a standard deviation of 1.5. The mean score of the PQ indicates that most respondents perceived personal spirituality and job satisfaction to be related.

6.2 ASSOCIATION BETWEEN BIOGRAPHICAL VARIABLES AND PERSONAL SPIRITUALITY, ORGANISATIONAL SPIRITUALITY, JOB SATISFACTION AND PERCEPTIONS

This section represents the results of the analysis in order to answer research question 1. ANOVA was used to determine the association between the biographical variables and the scores of the four instruments used.

The sample which was used to determine the association between personal spirituality, organisational spirituality, job satisfaction, and perceptions with biographical variables, consisted of respondents who completed the instruments in full as well as their biographical information.

6.2.1 PERSONAL SPIRITUALITY AND BIOGRAPHICAL VARIABLES

The association of biographical variables with personal spirituality is shown in Table 30.

TABLE 30   PERSONAL   SPIRITUALITY   AND   BIOGRAPHICAL   VARIABLES (N=211)

BIOGRAPHICAL VARIABLE	p value	F value
Organisations	0.1047	2.66
Gender	0.0018 *	9.99
Ethnical grouping	0.0096 *	6.85
Occupational category	0.8021	0.41
Strength of religious conviction	0.0005 *	7.83
Age	0.9746	0.03
Educational level	0.0224 *	3.27
Interaction between organisation and ethnical grouping	0.1685	1.91
Interaction between organisations and gender	0.5826	0.30
Interaction between organisations and strength of conviction	0.0127 *	4.46
Interaction between organisations and age	0.5953	0.52

* $p \leq 0.05$

Table 30 shows that gender, ethnical grouping, strength of religious conviction, and educational level are significantly associated with personal spirituality at the 5% significance level. The interaction between strength of religious conviction and organisation also showed a significant association with personal spirituality at the 5% significance level. These significant associations will be discussed in detail.

6.2.1.1   PERSONAL SPIRITUALITY AND GENDER

Gender shows a difference regarding personal spirituality. This significant association is explained in Table 31.

TABLE 31   PERSONAL SPIRITUALITY AND GENDER (N=212)

GROUP	N	MEAN	SD
Males	46	75.35	9.02
Females	166	78.43	8.99

Table 31 shows that the mean score for females (N=166) is 78.43, with a standard deviation of 8.99. The mean score for males (N=46) is 75.35, with a standard deviation of 9.02. Females thus have slightly higher levels of personal spirituality than males, although both groups obtained high scores on personal spirituality. Wheat (1991:94) found similar results, indicating that females are more spiritual than males.

6.2.1.2   PERSONAL SPIRITUALITY AND ETHNICAL GROUPING

Ethnical groupings differentiate between white people and people of colour, namely Africans, Coloureds and Indians or Asians. Ethnical grouping shows a difference in terms of personal spirituality. This significant association is explained in Table 32.

TABLE 32   PERSONAL SPIRITUALITY AND ETHNICAL GROUPING (N=212)

GROUP	N	MEAN	SD
People of Colour	57	79.28	7.37
White people	155	77.20	9.57

Table 32 shows that the mean score for people of colour (N=57) is 79.28, with a standard deviation of 7.37. The mean score for white people (N=155) is 77.20, with a standard deviation of 9.57. People of colour thus have slightly higher levels of personal spirituality than white people, although both groups obtained high scores in respect of personal spirituality.

6.2.1.3   <u>PERSONAL SPIRITUALITY AND STRENGTH OF RELIGIOUS CONVICTION</u>

In the questionnaire, respondents had five possible options when answering the question on strength of religious conviction (e.g. very strong, strong, moderate, weak, very weak, and not applicable). Due to the low response rates on the options of moderate, weak, very weak and not applicable, it was decided to combine these options into one category in order to make a proper comparison between the responses obtained.

Strength of religious conviction shows a difference in terms of personal spirituality. This significant association is explained in Table 33.

TABLE 33   **PERSONAL SPIRITUALITY AND STRENGTH OF RELIGIOUS**

CONVICTION (N=212)

GROUP	N	MEAN	SD
Very strong religious conviction	109	79.89 **	8.59
Strong religious conviction	73	75.88 *	8.98
Other	30	74.60 *	9.29

The means which differ significantly on a 5% level in terms of strength of religious conviction are indicated with different asterisks.

Table 33 shows that the mean score for people with a very strong religious conviction (N=109) is 79.89, with a standard deviation of 8.59. The mean scores for people with a strong conviction (N=73) is 75.88, with a standard deviation of 8.98. The other group (N=30), consisting of people with a moderate or weaker strength of religious conviction, as well as people to whom the question was not applicable, showed a mean score of 74.60, with a standard deviation of 9.29.

The very strong religious conviction group differed significantly from the other two groups (strong religious conviction and the Other group) in terms of personal spirituality. These two groups (strong religious conviction and the Other group) did not differ significantly in terms of their personal spirituality.

6.2.1.4 PERSONAL SPIRITUALITY: INTERACTION BETWEEN ORGANISATIONS AND STRENGTH OF RELIGIOUS CONVICTION

The association between strength of religious conviction and personal spirituality differed significantly between the private hospital and educational organisation. This significant association is explained in Table 34.

TABLE 34 PERSONAL SPIRITUALITY: INTERACTION BETWEEN ORGANISATIONS AND STRENGTH OF RELIGIOUS CONVICTION (N=212)

RELIGIOUS CONVICTION	GROUP 1: EDUCATIONAL ORGANISATION			GROUP 2: PRIVATE HOSPITAL		
	N	MEAN	SD	N	MEAN	SD
Very strong	36	80.61 **	8.68	73	79.53 *	8.58
Strong	25	73.24 ***	7.88	48	77.25 *	9.29
Others	7	73.14 */***	9.04	23	75.04 */**/***	9.52

The means which differ significantly on a 5% level in terms of the interaction between strength of religious conviction and organisation, are indicated with different asterisks.

The group which showed the highest level of personal spirituality, comprised people working at the educational organisation who had very strong religious convictions (N=36). This group showed a mean score of 80.61 and a standard deviation of 8.68. The group which showed the second highest level of personal spirituality was people working at the private hospital who had a very strong religious conviction (N=73). This group showed a mean score of 79.53, with a standard deviation of 8.58. This group was followed by people working at the private hospital who has strong religious convictions (N=48). This group showed a mean score of 77.25 and a standard deviation of 9.29. The group which showed the fourth highest level of personal spirituality, was the "others" group working at the private hospital (N=23). This group showed a mean score of 75.04 and a standard deviation of 9.52. The group that obtained the second lowest score for personal spirituality was people working at the educational organisation who had strong religious convictions (N=25). This group showed a mean score of 73.24 and a standard deviation of 7.88. The group which showed the lowest level of personal spirituality was the "others" group working at the educational organisation (N=7). This group showed a mean score of 73.14 and a standard deviation of 9.04.

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People with strong religious convictions working at the educational organisation differed significantly from people who had very strong religious convictions working at the same organisation, as well as people working at the private hospital, who had very strong or strong religious convictions. People with strong religious convictions working at the educational organisation did not differ significantly from "others" working at both organisations (e.g.

educational organisation and private hospital). The "others" group working at the private hospital did not differ significantly from people with very strong or strong religious convictions working at the educational organisation and people working at the private hospital who had very strong religious convictions. "Others" working at the educational organisation did not differ from people with very strong and strong religious convictions working at the private hospital. The educational organisation showed a more significant association between personal spirituality and strength of religious conviction than did the private hospital.

6.2.1.5   <u>PERSONAL SPIRITUALITY AND EDUCATIONAL LEVEL</u>

Educational level is divided into the following categories: Grade 10-11, Grade 12, post-matric College or Technikon qualification, and post-matric University qualification. Educational level shows a difference regarding personal spirituality. This significant association is explained in Table 35.

TABLE 35 **PERSONAL SPIRITUALITY AND EDUCATIONAL LEVEL**

(N=212)

QUALIFICATION	N	MEAN	SD
Grade 10 to 11	22	73.73 *	12.64
Grade 12	46	77.22 *	7.33
Post Matric – Technikon or College	78	78.10 *	8.57
Post Matric – University	66	79.08 **	9.12

The means which differ significantly on a 5% level in terms of educational level are indicated with different asterisks.

Table 35 shows that people who have a post-matric University qualification have the highest levels of personal spirituality. The mean score for this group (N=66) is 79.08, with a standard deviation of 9.12. The mean score for people with a post-matric University or Technikon qualification (N=78) is 78.10, with a standard deviation of 8.57. This group showed the second highest level of personal spirituality. People with a senior certificate (Grade 12) (N=46) showed a mean score of 77.22 and a standard deviation of 7.33. The lowest qualified group, i.e. people who completed Grade 10 to 11 (N=22), showed the lowest mean score (73.73), with a standard deviation of 12.64.

No significant difference was detected between people with a Grade 10 – 11 certificate, senior certificate (Grade 12), and College or Technikon qualification in terms of personal spirituality. The highest qualified group (people having a post-matric University qualification) differed significantly from the other groups in terms of personal spirituality.

6.2.1.6 <u>**PERSONAL SPIRITUALITY, AGE AND OCCUPATIONAL CATEGORY**</u>

The biographical variables which did not show any statistically significant association with personal spirituality are age and occupational category. No statistically significant association was found in personal spirituality and gender, ethnical grouping and age between the organisations (e.g. private hospital and educational organisation).

6.2.2 <u>**ORGANISATIONAL SPIRITUALITY AND BIOGRAPHICAL VARIABLES**</u>

The association between biographical variables and organisational spirituality is shown in Table 36.

TABLE 36   ORGANISATIONAL   SPIRITUALITY   AND   BIOGRAPHICAL

VARIABLES (N=212)

BIOGRAPHICAL VARIABLE	p value	F value
Organisations	<0.0001 *	17.70
Gender	0.3244	0.98
Ethnical grouping	0.7698	0.09
Occupational category	0.0610	2.29
Strength of religious conviction	0.6047	0.50
Age	0.0166 *	4.19
Educational level	0.8975	0.20
Interaction between organisations and ethnical grouping	0.7522	1.10
Interaction between organisations and gender	0.0076 *	7.28
Interaction between organisations and strength of conviction	0.2888	1.25
Interaction between organisations and age	0.5928	0.52

$p \leq 0.05$

Table 36 shows that the organisation and age are significantly associated with organisational spirituality at the 5% significance level. The association between gender and organisational spirituality also shows to differ between the private hospital and educational organisation at the 5% significance level. These significant associations will be discussed in detail.

6.2.2.1   ORGANISATIONAL SPIRITUALITY AND ORGANISATION

The private hospital and educational organisation differed in terms of organisational spirituality. This relationship is explained in Table 37.

TABLE 37   ORGANISATIONAL   SPIRITUALITY   AND   ORGANISATION

(N=212)

GROUP	N	MEAN	SD
Group 1: Educational Organisation	68	57.35	14.83
Group 2: Private Hospital	144	39.80	13.37

Table 37 shows that the mean score for the educational organisation (N=68) is 57.35, with a standard deviation of 14.83. The mean score for the private hospital (N=144) is 39.80, with a standard deviation of 13.37. The educational organisation is thus perceived by its organisational members as having more spiritual values than the private hospital.

6.2.2.2   ORGANISATIONAL SPIRITUALITY AND AGE

Age shows a difference regarding organisational spirituality. This relationship is explained in Table 38.

TABLE 38   ORGANISATIONAL SPIRITUALITY AND AGE (N=212)

GROUP	N	MEAN	SD
19-29 years	46	39.41 *	13.44
30-40 years	78	49.33 **	16.33
41-62 years	88	45.11 *	16.26

The means which differ significantly on a 5% level in terms of age are indicated with different asterisks.

Table 38 shows that the mean score for the age group 30-40 years (N=78) is 49.33, with a standard deviation of 16.33. The age group 41-62 years (N=88) has a mean score of 45.11, with a standard deviation of 16.26 and the age group 19-29 years (N=46) has a mean score of 39.41, and a standard deviation of 13.44. The age group 30-40 years measured the highest in terms of organisational spirituality, followed by the age groups 41-62 years, and 19-29 years.

The age group 30 – 40 years differed significantly from the other two groups, i.e. 41-62 years and 19-29 years, in terms of their experience and therefore perceptions of organisational spirituality. These two groups (41-62 years and 19-29 years) did not differ significantly in terms of organisational spirituality.

6.2.2.3 ORGANISATIONAL SPIRITUALITY: INTERACTION BETWEEN ORGANISATION AND GENDER

The association between gender and organisational spirituality differed significantly between the private hospital and educational organisation. This significant association is explained in Table 39.

TABLE 39   ORGANISATIONAL   SPIRITUALITY: INTERACTION

BETWEEN ORGANISATIONS AND GENDER (N=212)

GENDER	GROUP 1: EDUCATIONAL ORGANISATION			GROUP 2: PRIVATE HOSPITAL		
	N	MEAN	SD	N	MEAN	SD
MALE	31	52.38 *	16.20	15	46.07 **	17.03
FEMALE	37	61.43 *	12.36	129	39.07 ***	12.77

The means which differ significantly on a 5% level in terms of the interaction between organisation and gender, is indicated with different asterisks.

Females working at the educational organisation (N=37) showed a mean score of 61.43, with a standard deviation of 12.36. Males working at the educational organisation (N=31), had a mean score of 52.38, with a standard deviation of 16.20. Males working at the private hospital (N=15) had a mean score of 46.07, with a standard deviation of 17.03. Females working at the private hospital (N=129) had a mean score of 39.07, and a standard deviation of 12.77.

Males and females working at the educational organisation as well as males working at the private hospital, differed significantly from females working at the private hospital in terms of organisational spirituality. A difference was also detected in organisational spirituality between females working at the educational organisation, and males and females working at the private hospital. No significant difference was detected between males and females working at the educational organisation. Females working at the educational

institution had the highest level of organisational spirituality, followed by males working at the same organisation. Thus, males and females working at the educational organisation showed higher levels of organisational spirituality, than males and females working at the private hospital.

6.2.2.4 <u>**ORGANISATIONAL SPIRITUALITY, GENDER, ETHNICAL GROUPING, OCCUPATIONAL CATEGORY, AND STRENGTH OF RELIGIOUS CONVICTION**</u>

The biographical variables which did not show any statistically significant association with organisational spirituality are gender, ethnical grouping, occupational category, and strength of religious conviction. The association between organisational spirituality and ethnical grouping, and strength of religious conviction did not significantly differ between the private hospital and educational organisation.

6.2.3 <u>**JOB SATISFACTION AND BIOGRAPHICAL VARIABLES**</u>

The association between biographical variables and job satisfaction is shown in Table 40.

TABLE 40   **JOB SATISFACTION AND BIOGRAPHICAL VARIABLES (N=211)**

BIOGRAPHICAL VARIABLE	p value	F value
Organisations	0.1162	0.1162
Gender	0.5390	0.5390
Ethnical grouping	0.9212	0.9212
Occupational category	0.1758	0.1758
Strength of religious conviction	0.2864	0.2864
Age	0.4995	0.4995
Educational level	0.2210	0.2210
Interaction between organisations and ethnical grouping	0.6579	0.6579
Interaction between organisations and gender	0.6513	0.6513
Interaction between organisations and strength of conviction	0.8224	0.8224
Interaction between organisations and age	0.8800	0.8800

Table 40 shows that the biographical variables are not significantly associated with job satisfaction. The results of this table suggest that the biographical variables did not show any statistically significant difference in term of job satisfaction, and therefore it is concluded that job satisfaction is independent of biographical type variables.

6.2.4 PERCEPTIONS AND BIOGRAPHICAL VARIABLES

The associations between biographical variables and perceptions are shown in Table 41.

TABLE 41   PERCEPTIONS AND BIOGRAPHICAL VARIABLES (N=211)

BIOGRAPHICAL VARIABLE	p value	F value
Group	0.7083	0.14
Gender	0.4766	0.51
Ethnical grouping	0.4516	0.57
Occupational category	0.2404	1.39
Strength of religious conviction	0.4546	0.79
Age	0.5073	0.68
Educational level	0.4738	0.84
Interaction between organisations and ethnical grouping	0.6904	0.16
Interaction between organisations and gender	0.1629	1.96
Interaction between organisations and strength of conviction	0.2140	1.55
Interaction between organisations and age	0.0989	2.34

Table 41 shows that the biographical variables are not significantly associated with people's perceptions. The results of this table suggest that biographical variables did not show any statistically significant difference in terms of perceptions, and therefore it is concluded that people's perceptions are independent of biographical type variables.

The results presented in Tables 30 to 41 can be summarised as follows:

- Gender differed regarding personal spirituality, with females showing a slightly higher level of personal spirituality than males. Gender was not significantly associated with organisational spirituality, job satisfaction and perceptions. The association between organisational spirituality and gender differed significantly between the educational organisation and private hospital. The

association between personal spirituality, job satisfaction, perceptions and gender did not significantly differ between the educational organisation and private hospital.

- Ethnical grouping differed regarding personal spirituality, with the people of colour showing a slightly higher level of personal spirituality than white people. No statistically significant association was found between ethnical grouping and organisational spirituality, job satisfaction, and perceptions. The association between personal spirituality, organisational spirituality, job satisfaction, perceptions, and ethnical grouping did not differ significantly between the educational organisation and private hospital.

- Occupational category did not show a significant association with personal spirituality, organisational spirituality, job satisfaction and perceptions. The association between personal spirituality, organisational spirituality, job satisfaction, perceptions, and occupational category did not significantly differ between the educational organisation and private hospital.

- Strength of religious conviction differed regarding personal spirituality. People who have stronger religious convictions showed higher levels of personal spirituality than people with weaker religious convictions. The association between personal spirituality and strength of religious convictions differed significantly between the educational organisation and private hospital. The association between organisational spirituality, job satisfaction, perceptions, and

strength of religious convictions did not differ significantly between the educational organisation and private hospital.

- Age differed regarding organisational spirituality, with the age group 30-40 years showing the highest level of organisational spirituality, followed by the age groups 41-62 years and 19-29 years. Age did not show a statistically significant association with personal spirituality, job satisfaction, and perceptions. The association between personal spirituality, organisational spirituality, job satisfaction, perceptions, and age did not significantly differ between the educational organisation and private hospital.

- Educational level differed regarding personal spirituality, with the highest qualified group (post-matric University graduates) showing the highest level of personal spirituality. Educational level showed no significant association with organisational spirituality, job satisfaction, and perceptions. The association between personal spirituality, organisational spirituality, job satisfaction, perceptions, and educational level did not significantly differ between the educational organisation and private hospital.

6.3 THE RELATIONSHIP BETWEEN PERSONAL SPIRITUALITY, ORGANISATIONAL SPIRITUALITY, JOB SATISFACTION AND PERCEPTIONS

This section presents the results of research questions two, three, four and six. In other words, this section analyses the relationship between personal spirituality, organisational spirituality, job satisfaction and people's perceptions regarding the relationship between personal spirituality and job satisfaction.

In order to investigate the relationship between personal spirituality (independent variable), and job satisfaction, organisational spirituality and perceptions (dependent variables), the Pearson Correlation Coefficients were determined.

TABLE 42   RESULTS FROM PEARSON'S CORRELATION COEFFICIENTS BETWEEN INSTRUMENTS

		MSQ	HSS	OSVS	PQ
MSQ	**r value**	1.0000			
	P				
HSS	**r value**	-0.30	1.0000		
	P	< 0.0001			
OSVS	**r value**	0.47	-0.25	1.0000	
	P	< 0.0001	< 0.0001		
PQ	**r value**	0.27	0.29	-0.22	1.0000
	P	< 0.0001	< 0.0001	0.0008	

Table 42 shows a negative relationship between personal spirituality (independent variable), and job satisfaction (dependent variable) (r=-0.30, p<0.0001). This shows that respondents who have high levels of personal spirituality have a tendency to be dissatisfied with their jobs. A negative relationship was also established between personal spirituality and organisational spirituality (r=-0.25, p<0.0001). This shows that people who are spiritual, do not perceive their organisations as having spiritual values. A relationship was determined between organisational spirituality and job satisfaction (r=0.47, p<0.0001). From these findings the conclusion can be drawn that people who have high levels of personal spirituality, are possibly dissatisfied with their work because organisations are not perceived to have spiritual values.

A relationship was established between personal spirituality and people's perceptions regarding the relationship between personal spirituality and job satisfaction (r=0.29, p<0.0001). A relationship was also established between job satisfaction and people's perceptions regarding the relationship between personal spirituality and job satisfaction (r=0.27, p<0.0001). This implies that people who have high levels of personal spirituality show a tendency to perceive that a relationship should exist between personal spirituality and job satisfaction. One could argue that this tendency exists merely because spiritual people will perceive job satisfaction to be spiritually-based, because it will be in line with their personal belief system. On the other hand, it was found that people who are generally dissatisfied with their jobs show a tendency to perceive that a relationship should exist between personal

spirituality and job satisfaction. This finding may imply that people are generally dissatisfied with their work, because their spiritual needs are not satisfied by their work.

A negative relationship was established between organisational spirituality and people's perceptions regarding the relationship between personal spirituality and job satisfaction (r=-0.22, p<0.0008). This indicates that people who perceive that a relationship should exist between personal spirituality and job satisfaction, do not perceive their organisations to show spiritual values. This may imply that in order for spiritual workers to become more satisfied, the organisation needs to have spiritual values.

The multiple regression analysis showed that, together, personal spirituality, organisational spirituality and perceptions explained 27.6% of the variance in job satisfaction. Organisational spirituality explained 22.7% of the total variance in job satisfaction. Personal spirituality explained another 3.16% of the total variance in job satisfaction, and perceptions explained 1.84% of the total variance in job satisfaction. This indicates that organisational spirituality explains most of the variance in job satisfaction. Therefore one may speculate that in order to improve workers' general dissatisfaction with their work, they need to perceive that their organisations are spiritual. Organisational spirituality it however more than a mere statement on its spiritual values, it requires organisational leaders to show genuine commitment towards these values in order for employees to perceive the organisation to be truly

spiritually-based. This in turn may potentially lead to them being satisfied with their work.

6.4 PERCEPTIONS REGARDING THE RELATIONSHIP BETWEEN PERSONAL SPIRITUALITY AND JOB SATISFACTION

This section presents the results of research question five. In other words, this section analyses people's perceptions regarding the relationship between personal spirituality and job satisfaction. This research question was answered by responses obtained from the final section of the questionnaire (section E), which consisted of true and false statements regarding this relationship. Most respondents (88%) indicated that they perceive personal spirituality and job satisfaction to be related. This is an interesting finding, as the results of this study show the opposite; a negative relationship between personal spirituality and job satisfaction.

The study found that people are generally dissatisfied with their work, and one possible explanation for this can be that organisations still regard job satisfaction as consisting mainly of materialistic components which can be manipulated by organisations in order to ensure satisfaction. It seems that organisations need to realise that job satisfaction is rather spiritually-based, and because of organisations' inability to satisfy people's spiritual needs, they are potentially experiencing job dissatisfaction.