CHAPTER 4

RESEARCH METHOD

4.1 PROCEDURES

The following organisational and administrative arrangements were applied at the time of data collection:

- Permission was obtained and Heads of Prisons were notified about the purpose of the research.
- The Human Sciences Research Council was approached to provide a questionnaire on stress that had been tested in South African conditions.
- These questionnaires were distributed to 215 Heads of Prisons of the Department of Correctional Services throughout South Africa.
- Questionnaires and answer sheets were returned to the Correctional Services Head Office in Pretoria.
- The completed questionnaires were then analysed using the SPSS system at the University of Pretoria.

TABLE 1: BIOGRAPHIC / DEMOGRAPHIC PARTICULARS OF RESPONDENTS

VARIABLES	%	N
AGE: N= (193)		
< 40	53,9	104
≥ 40	46,1	89
LANGUAGE: N= (202)		
AFRIKAANS	41,1	83
OTHER	58,9	119
OCCUPATIONAL GROUP: N= (186)		
CO CATEGORY	62,4	116
ASD / DD CATEGORY	37.6	70
QUALIFICATION: N= (202)		
STD 8,9,10	55,4	112
STD 10+	44,6	90
DEPENDENTS: N= (197)		
≤ 3	64,5	127
≥ 4	35,5	70
PROVINCES		
GAUTENG	15,1	29
MPUMALANGA	6,3	12
NORTHERN PROVINCE	29,7	57
NORTHERN CAPE	4,2	8
WESTERN CAPE	9,4	18
FREE STATE	6,3	12
NORTH WEST	11,5	22
KWAZULU NATAL	11,5	22
EASTERN CAPE	6,3	12

4.2 MEASURING INSTRUMENT

At this stage it is necessary to elaborate on the questionnaire as well as the instructions for administering the questionnaire. Van Zyl and Van der

Walt (1991) of the Human Sciences Research Council compiled the Experience of Work and Life Circumstances Questionnaire (WLQ).

4.2.1 The aim of the Questionnaire

The Experience of Work and Life Circumstances Questionnaire (WLQ) was developed to determine the level and causes of stress in respect of an employee whose reading and writing skills are at least on a Std 8 level. Information about a person's level and causes of stress can be applied for diagnostic purposes, firstly to determine whether the respondent experiences normal, high or very high levels of stress, and secondly to establish the factors that cause the level of stress that are experienced (i.e. to identify problem areas).

4.2.2 Rationale

The questionnaire is based on the rationale that a person with high scores on the items in the questionnaire experiences a high level of stress. A high level of stress could mean that the respondent experiences many problems arising from the environment.

4.2.3 Experience of Work

This part of the questionnaire is used to determine a person's **level of work stress.** An indication is thus obtained of whether the person experiences a normal, high or very high level of stress.

4.2.4 Circumstances and Expectations

This part of the questionnaire analyzes the **causes of the person's level of stress.**

4.2.4.1 Circumstances

The circumstances that possibly cause stress may occur **within and/or outside the work situation.**

- In the work situation

The circumstances **in the work situation** (seven items) which are analyzed involve the following:

The functioning of the organization, the characteristics of the task(s) to be performed, physical working conditions and job equipment, social as well as career matters, and remuneration, fringe benefits and personnel policy.

- Outside the work situation

The following issues (covered by 16 items) are dealt with in this part of the questionnaire:

Family problems, financial circumstances, phase of life, general economic situation in the country, changing technology, facilities at home, social situations, status, health, background, effect of work on home life, transport facilities, religious life, political views, the availability of accommodation and recreational facilities.

4.2.4.2 Expectations

This part of the questionnaire contains a number of subdivisions and focuses by means of 53 items on the extent to which **expectations in the work situation** are fulfilled.

- Organizational functioning

This subdivision deals with the **respondent's expectations** in regard to the following matters:

A share in decision-making, trust in supervisor(s), effective organizational structure, a positive management climate, recognition of work done well, and open communication channels with the supervisor.

- Characteristics of task(s) to be performed

The following expectations are dealt with in this section of the questionnaire:

Getting the work done in time, having sufficient knowledge and information available to do the job, taking full responsibility for a piece of work, applying new ideas, functioning autonomously within one's post, not receiving contradictory instructions, not having to function under unnecessary pressure of time, having enough work to do to stay busy, and performing a variety of tasks as part of one's work. Other issues dealt with in this subdivision concern the execution of tasks that will not by their nature create conflict or strain the respondent's relations with other people, subject him/her to tough or uncomfortable physical demands, endanger other people's lives as well as his/her own, have a negative

effect on the respondent's quality of life, and demand continued intense concentration.

- Physical working conditions and job equipment

The expectations measured in this part of the questionnaire include the following:

The availability of job equipment (e.g. stationery, tools, electronic and laboratory equipment) as well as it being in proper working order, and being allowed to function in adequate physical working conditions (e.g. lighting, temperature and office space).

- Career opportunities

This part contains questions on the following matters:

The respondent's expectations regarding further training, the use of his/her talents, progress in his/her work, and the security of his/her present job.

- Social matters

The expectations measured in this part include the following:

Enjoying the high status in one's job, maintaining positive relations with the manager / supervisor as well as with colleagues, and that the social demands are reasonable.

- Remuneration, fringe benefits and personnel policy

This part contains questions dealing with the following expectations:
To receive adequate remuneration (salary) and fringe benefits, and to function under a just personnel policy

4.3 LEVEL OF MEASUREMENT

The identification of the types of variables and the level of measurement is important in the selection of appropriate statistics. The biographic and demographic attributes (independent variables) of the sample were categorised and each category was coded with a nominal value.

To measure the causes and levels of stress a five point Likert Scale with anchors of (1) virtually never; (2) sometimes; (3) reasonably often; (4) very often; (5) virtually always; was used. The level of measurement of the dependent variables (stress and levels of stress) has the property of an interval scale.

The classification of the causes and levels of stress as normal, high or very high is based on norms calculated for the population on which the test were standardised. Thus, in this case the levels of measurement of the dependent variables are according to an ordinal scale.

4.4 SAMPLE

215 Questionnaires were distributed and 205 were returned (95.34%).

4.5 STATISTICAL ANALYSIS

4.5.1 The primary function of statistics

Statistics can aid the research process by describing the contour of data and in the case of groups of data - their relationship or lack of it - descriptive statistics. Inferential statistics on the other hand seek to fit data to the ideal from of a statistical model. One of the primary services of statistics is to help the human mind comprehend disparate data as an organised whole. They give us added insight into the nature of data and its characteristics (Leedy, 1993).

This section deals with, and motivates the choice of the statistical methods used in the analysis of data. The statistical analysis was carried out by computer using the "Statistical Program for Social Sciences (SPSS for Windows, Release 9,0). The SPSS Programme allows data verification, updating, development of tables and reports, as well as comprehensive statistical procedures to answer descriptive, associational and comparative questions.

4.5.2 Descriptive Statistics

Descriptive statistics allow raw data to be presented in a more concise and meaningful format. These statistics are useful in describing the sample(s) involved in the research and can also provide directions for further statistical calculations. Descriptive statistics used in this study include, frequencies and cross tabulations to calculate the percentages for each category.

4.5.3 Inferential Statistics

4.5.3.1 T-test

The t-test is based on the principle of individual differences, that is, the extent to which independent groups of people differ or are similar for a given dependent variable (Thomas and Nelson, 1985). The t-test is a parametric procedure used to examine the significance of differences between two population samples and differences are expressed by means of a t-value which, when larger, indicates significant differences. A probability computed considering differences in both directions is called a two tailed t-test. Both tails of the sampling distribution are considered. Two tailed t-tests are used to compare the means of one group with another.

4.5.3.2 Cramer's V

The Cramer's V is a non-parametric inferential statistic to answer a two nominal variable associational question. It assesses the strength of the relationship between the biographic and demographic characteristics of the sample with the three categories (low, high and very high) in which the stressors and levels of stress were classified.

4.5.4 Levels of Significance

The 0,05 level of significance is generally accepted as being the least acceptable level of significance for research purposes. Any inferences made at the 0,05 level of significance will be correct in at least 95 out of every 100 cases. Conversely, the possibility of such an inference being incorrect will be limited to 5 out of every 100 cases. At the 0,01 and the 0,001 levels of confidence, incorrect inferences will be limited to 1 out of

every 100 and 1 out of every 1 000 cases respectively (Thomas and Nelson, 1985).

In this study, the 0,05 level of significance will be the least acceptable level.

4.6 SUMMARY

In this section the choice of statistical methods was motivated. Non-parametric and parametric statistics were employed in order to demonstrate comparative and associational trends in the data. Descriptive statistics were included in order to condense and simplify the data, as well as to describe the sample and to calculate the percentages in each of the three stress categories i.e. very high, high and low. Cramer's V was chosen to examine the relations between the bio- and demographic variables (independent variables) and the levels of stress (dependent variables). Because a major aim of the study involves group comparisons, methods of identifying differences were included in the statistical calculations. The independent t-test was computed to compare the stress levels and causes of stress of two independent groups.

The following abbreviations were used:

TABLE 2: ABBREVIATIONS

ABBREVIATION	MEANING
CO	CORRECTIONAL OFFICIAL
ASD	ASSISTANT DIRECTOR
DD	DEPUTY DIRECTOR
MPUMAL.	MPUMALANGA
N/PROV.	NORTHERN PROVINCE
N/CAPE.	NORTHERN CAPE
W/CAPE.	WESTERN CAPE
F/STATE.	FREE STATE
N/WEST.	NORTH WEST
KZN.	KWAZULU NATAL
E/CAPE.	EASTERN CAPE