

THE RELATIONSHIP BETWEEN SALUTOGENIC FUNCTIONING AND SICKLEAVE

by

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Dedicated to you, mother

DECLARATION

Student Number:682-601-6

I declare that *The Relationship Between Salutogenic Functioning and Sick Leave* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

.....
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SIGNATURE

(Mrs V M Motshela)

.....
17/01/2001

DATE

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SUMMARY

RELATIONSHIP BETWEEN SALUTOGENIC FUNCTIONING AND SICKLEAVE

by

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DEGREE : MA (Industrial Psychology)

The purpose of this research was to determine the relationship between salutogenic functioning and sick leave. Occupational stress as a metatheoretical concept was investigated. Work is stressful, but some people cope better with this stress than others. A study of salutogenic functioning as a way of coping with occupational stress was done. Salutogenic constructs, as moderator variables of the coping abilities were investigated in relation to sick leave days.

This research used a sample of 73 employees in PTM. The relationship between the employees' biographical variables, salutogenic functioning and sick leave was determined, and no relations between them were found, but a significant correlation between gender and Potency was found.

The results indicated no relation between PTM employees' salutogenic functioning and sick leave. Furthermore, biographical variables didn't predict sick leave. The employees displayed moderate to strong salutogenic functioning in terms of their ability to cope and to stay well.

CHAPTER 1 INTRODUCTION

In this chapter, the background to, and motivation for this research, and the central problems to be addressed, will be presented. This will be followed by formulating the aims of this research, both the literature review and empirical aims, discussing the paradigm perspective and the research design and methodology. In the conclusion of this chapter, an outline of chapters for this research study will be given and the chapter's summary.

1.1 BACKGROUND TO AND MOTIVATION FOR THE RESEARCH

Research on human behaviour is today of interest to individuals in a large number of diverse fields. It is an essential part of being human to strive continually to know oneself and one's environment better. Scientific research may be seen as systematic controlled empirical testing of theories and hypotheses in order to understand, predict and explain specified variables and the relationship or influences between these variables (Mouton & Marais, 1996).

Social science, which is seen as a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it, is divided into major disciplines. These are psychology, sociology and social anthropology. Psychology is a discipline which focuses on understanding and predicting individual human behaviour (Mouton & Marais, 1996).

In the light of the present stressful political, social and economic realities facing South Africa, there is no doubt that the mental health of employees is affected. Despite these uncertainties and the potentially unstable future facing the workforce, the optimal functioning of the workforce has to be ensured. This will entail sustaining the mental health of employees, thereby enabling them to remain productive despite the conditions of occupational stress (Viviers, 1998).

Whether stress is managed or not, the fact remains that it has affected, and will continue to affect, the lives of millions of individuals for many years to come. Work, which is viewed as purposeful productive activity in the widest sense, is a basic condition for human well-being, over and above the necessity of working to cover survival needs. Productive activity provides a person with a sense of identity. This means that a prolonged and

enforced lack of work can, on the other hand, cause not only material deprivation, but also damage to a person's mental health. On the other hand, occupation by itself is not everything. The quality of one's work situation also counts, and it can not only further a person's well-being, but can also harm it depending on a variety of conditions (Stranks, 1992).

However, there are not likely to be many work situations in which people never experience stress, and certainly, occupational stress can occur concurrently with job satisfaction. Indeed, where stress arises through a challenge and where it is followed by successful mastery, it can be an intrinsically satisfying experience and make a positive contribution to mental health (Hurrell, Murphy, Sauter & Cooper, 1998).

Life cannot be total tensionlessness, and without some stress there could be no acquisition of coping skills or psychological growth. Health is at risk, however, whenever there is continued exposure to stress-producing situations which cannot be resolved, be this due to lack of appropriate coping modes or lack of power to change the tension-producing environment (Hurrell, Murphy, Sauter & Cooper, 1998).

The word "health" denotes "wholeness", which implies that the wellness of the person depends on the degree to which that person can meet his/her total needs, and not only the fundamental ones for physical survival and security. In addition to their worth, they must be able to exert their ability to affect control over their denial of wholeness, and denial of the chance to function as a whole human being means diminished optimum health (Argyle, 1989).

Although many people, seeing no other possibility, will seek to adjust to the necessity of working under imperfect conditions, they will experience inner tension or stress which manifests itself in a variety of psychological and physiological symptoms. Wherever there is a continued exposure to stress-producing situations, which cannot be resolved due to lack of appropriate coping modes or lack of power to change the tension-producing situations with environment, health is at risk (Argyle, 1989).

However, the effect of occupational stress on employees will vary from individual to individual. While some individuals seem to cope and deal with the increasing job demands, others seem to lack such coping skills. The coping skills enable the individual

employee to survive and stay healthy in spite of the anxiety and trauma of occupational stress. Workers and employers must therefore be equally alert and responsive to this, but the greater the power to control and rectify the stress-producing circumstances, the greater the responsibility for initiating change (Stranks, 1992).

Although work is stressful, some people cope with this stress better than others. Many researchers such as Viviers (1998), have approached a way of coping with stress from a salutogenic paradigm perspective. This approach enables the employee to function in a holistic sense, resulting in a more balanced and better adjusted person and employee. This happens by making a person aware of his/her optimal functioning, even when coping with stress, both at work and home. More specifically, salutogenic functioning is linked to health enriching experiences and moving away from sickness.

According to Viviers (1998), salutogenic functioning not only benefits the employee, but also the organisation. The benefit for the organisation lies in a mentally healthy workforce with a positive life orientation, resulting in a more productive person.

With this background information, the researcher aims to contribute further to the debate on the salutogenic functioning that enables the individual to survive and stay healthy, despite the omnipresent stressor conditions.

1.2 STATEMENT OF THE PROBLEM

A survey on stress in Eskom was done (Eskom Report, 1998), and confirmed the literature review that stressful conditions are omnipresent and do exist in the workstations of Eskom. Therefore, this implies that workers in the whole of Eskom are exposed to stressful working conditions.

The general concern, however, is why some people do cope and others do not, when confronted with these stressful conditions. This concern will be addressed from the salutogenic paradigm perspective, and by asking the question whether the salutogenic functioning of individuals plays a role in their ability to cope, as will be reflected by sick leave taken.

Indications are that people measuring high on salutogenic functioning will not become sick, thus saving the organisation millions of rands in terms of productivity and medical expenses. The salutogenesis constructs, namely, sense of coherence, hardiness, potency, learned resourcefulness, and self-efficacy, are of fundamental importance for research practice in health psychology. These constructs are concerned with the maintenance and enhancement of wellness in addition to the prevention and treatment of illness (Strumpfer, 1990).

Given this background, the central problems this research aims to address will be as follows:

1. How can occupational stress be conceptualised?
2. How can salutogenic functioning and its constructs, sense of coherence, hardiness, potency, learned resourcefulness, and self-efficacy be conceptualised?
3. Does a relationship exist between biographical variables, salutogenic functioning and sick leave days?
4. Do biographical variables and salutogenic functioning predict sick leave?
5. What recommendations can be formulated in terms of the existing literature on these constructs, organisational mental health in this and other organisations, as well as regarding future research?

1.3 AIMS

Aims of this research are discussed in terms of the following:

1.3.1 General Aim

The general aim of this research is to determine whether a relationship exists between the employees' salutogenic functioning and sick leave days taken.

1.3.2 Specific Aims

1.3.2.1 Aims of the literature review

- * To conceptualise occupational stress.

* To conceptualise salutogenic functioning in terms of the given constructs: sense of coherence, hardiness, potency, learned resourcefulness, and self-efficacy.

1.3.2.2 *Aims of the empirical study*

* To determine the relationship between biographical variables, salutogenic functioning and sick leave days.

* To determine the effect of biographical variables, and salutogenic functioning on the predictability of sick leave.

* To formulate recommendations in terms of the existing literature on these constructs, concerning organisational mental health in this and other organisations, as well as towards future research.

1.4 RESEARCH MODEL

Social sciences research is a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it. In order to distinguish between good and poor research in the social sciences, models are used as an approach to the interpretation of the process of research (Mouton & Marais, 1992).

This research will be based on an integrated model for social sciences research proposed by Mouton and Marais (1992).

Dimensions of research in social sciences that are emphasised by this model are sociological, teleological, epistemological and methodological. Research can be discussed from these various perspectives, as follows:

From the sociological perspective, one is interested in highlighting the social nature of research ethics and morals, and takes account of disciplinary paradigm ideologies and interests.

The ontological dimension emphasises that research always has an objective, that research is directed to an aspect of social reality or being, i.e. the research domain. Therefore this dimension investigates the reality of research in the social sciences.

When one looks at research within the theological perspective, one wants to stress that research is goal-directed and purposeful about human behaviour and social reality, and about the improvement of the quality of human life.

Research is not a mechanical or merely automatic process, but is directed specifically towards human goals of understanding and towards gaining insight and explanation.

The epistemological dimension aims not merely to understand phenomena, but rather to provide a valid and reliable understanding of reality. It focuses on the fact that this goal of understanding or gaining insight should be further clarified in terms of what would be regarded as proper or good understanding.

Lastly, the methodological dimension of research refers to the ways in which these various ideals may be attained in order to be scientific. Research in social science should be regarded as objective by virtue of its being critical, balanced, unbiased, systematic and controllable.

An integrated model as proposed by Mouton and Marais (1996) will be represented below as Figure 1.1.

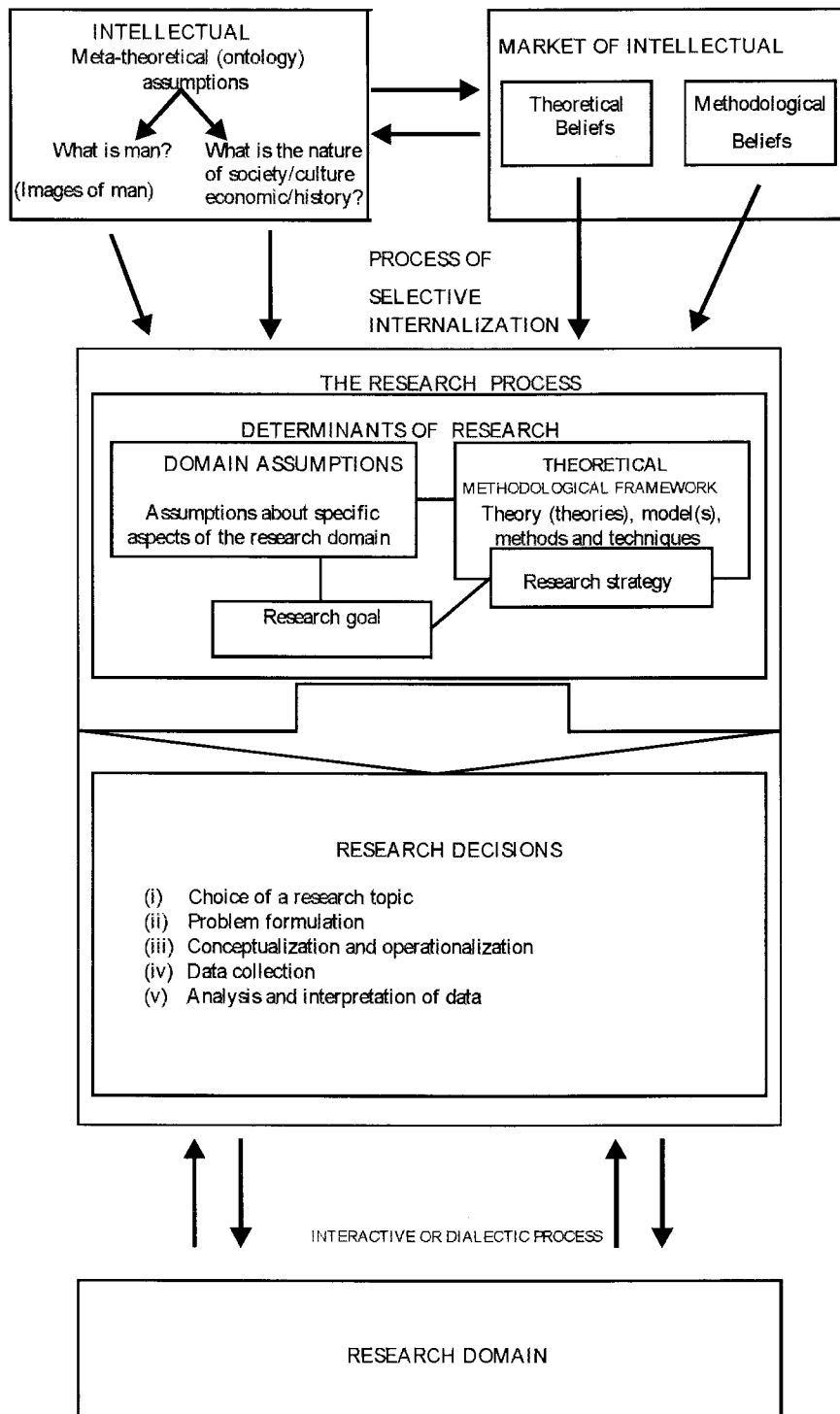


Figure 1.1. Integrated model of Social Science Research (Mouton & Marais, 1996)

From the above points of view, this research will be based on the sociological perspective because it involves human activity and takes account of the disciplinary paradigms and interests.

The research project is goal-driven and aims at providing understanding about human behaviour in a working situation that can be stressful and about how this situation can be managed to improve the quality of human life (theological dimension). This research project will not exist in a vacuum, but will be conducted within a broader context of particular paradigms.

1.5 THE PARADIGM PERSPECTIVE

One of the characteristics of social sciences research is that different research traditions and paradigms can be found within each of the descriptions. This research is directed by a specific paradigm perspective, including the specific statements and market of intellectual resources (Mouton & Marais, 1996).

Intellectual climate refers to the “set of beliefs, values and assumptions which, because of their origin can usually be traced to non-scientific contexts, and are not directly related to the theoretical goals of the scientific research” (Mouton & Marais 1996).

The market of intellectual resources refers to the collection of beliefs which has a direct bearing upon the epistemic status of scientific statements, i.e. on their status as knowledge claims, the two main types being theoretical beliefs about the nature and about the structure of the research process (Mouton & Marais, 1996).

The research will be conducted within the boundaries of Industrial Psychology, which is defined by Dunnette (1983) as “ a field of application in psychology that is concerned with problem-solving process of discovery, justification and application common to sciences”.

It is a scientific study of human behaviour in an endeavour to improve productivity and the quality of working life, with the aim of studying , explaining and predicting the behaviour of people at work. More specifically, the research focuses on organisational psychology and psychometrics (Dunnette, 1983).

Organisational Psychology is a sub-discipline of industrial psychology in which the interaction between individuals and industrial leadership is analysed. This involves behavioural processes which are critical to an understanding of interactions between people and organisations of society (Dunnette, 1983).

Psychometrics is defined by McCormick & Ilgen (1989) as “the use of tests to measure or assess human characteristics and the application of these tests for personnel measurement”. These human characteristics are sometimes called constructs, and are actually discrete, underlying human qualities.

The literature review on occupational stress will be presented from the general systems paradigm which views organisations as systems in active exchange with their surrounding environments (Dunnette, 1983).

It comes as no surprise that the unhealthiness of our world today is in direct proportion to our inability to see it as a whole. Systems thinking is a discipline for seeing wholes. Organisations are seen as a set of components interacting with each other, enclosed by a boundary which selects the kind of and rate of flow inputs and outputs to and from this organisation. (Senge, 1990).

The individuals, relationships between them, the external environment, and the relationships among the individuals form part of the sub-system within the organisation. Organisations as a set of units are partially dependent on the state of other units. This theory forms a rich language for describing a vast array of interrelationships and patterns of change (Senge, 1990).

A systems perspective stresses that there are multiple influences on any part of the system and that it is not possible to focus entirely within any one function. A change in one part of the system will impact on all others (McCormick & Ilgen, 1989).

The basic assumptions of this paradigm are that systems exist within systems, and that the functions of a system are dependent upon its structure (Dunnette, 1983).

The literature review on salutogenic functioning will be presented from the salutogenic paradigm (Strümpfer, 1990). This paradigm plays an important role in the health

sciences, including medicine, psychology and psychobiology. "Salutogenesis" originates from the Latin: salus (health) and the Greek: genesis (origin), emphasising the origin of health and wellness (Strümpfer, 1990).

A paradigm of salutogenesis (tracing the origins of health) supports the view that stressors are omnipresent, rather than the exception , but also argues that some people nevertheless survive and are remain healthy.

Five salutogenic constructs which are part of this paradigm are reviewed, namely:

- * Sense of coherence
- * Hardiness
- * Potency
- * Learned resourcefulness
- * Self-efficacy.

These constructs deal with how people manage stress and stay well (Antonovsky, 1987).

The following are salutogenic orientations:

- * Orientation towards health and disease where at any given time, a person is located between the health-ease/disease continuum.
- * Orientation towards the deviant case – which emphasis the importance of studying the deviant case, i.e , the always substantial number of people who, even when the pathogenic hypothesis is supported, do well even though they are in the high stressors category .
- * Orientation towards stressors – tension does not automatically imply stress . Although stressors are endemic and most people have a high stressor load, some people maintain their position in the above continuum and do better still by turning the existence of stress into an advantage (Antonovsky, 1984).

The empirical study will be presented from the functionalistic paradigm which argues that consciousness cannot be broken down into elements. This paradigm is concerned with

the “how” and “why” of behaviour, the practical implications of an individual’s behaviour: for example, how one solves problems. This paradigm assumes that consciousness is a practical, useful concept to describe man’s adaptation to his environment (Schultz, 1981).

As metatheoretical concepts in this research, definitions are presented for personality, health and sickness.

Personality is defined by Szilagyi & Wallace (1987) as “ the combination of psychological characteristics or variables one uses to type or classify someone”.

Personality variables include aptitudes, interests, values, beliefs, and mental health. Personality classifications are used to the extent that they can predict behaviour. It is widely accepted that people’s personality influences their behaviour and adjustment to different situations (Brammer & Shostrom, 1971).

Fundamental to an individual’s personality are motives and attitudes which condition the range of expectations they hope to satisfy by participating in the organisation or system (Brammer & Shostrom, 1971).

The word “health” denotes “wholeness”, which implies that the wellness of the person depends on the degree to which that person can meet his / her total needs (Argyle, 1989).

The Concise Oxford Dictionary defines health as the “soundness of body and mind”, while sickness is defined as “ being out of health – incapacitated by illness or feeling effects of some disease” (Sykes, 1982).

The theoretical constructs in this research are occupational stress as metatheoretical concept (which will be discussed in chapter 2), salutogenic functioning (discussed in chapter 3) and sick leave days. For operational purposes, biographical variables, salutogenic functioning and sick leave days will be measured (as discussed in chapter 4).

1.6 RESEARCH DESIGN

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Mouton & Marais, 1996).

The aim of the research design is an effort to plan and structure the research according to its purpose in order to enhance the validity of the internal and external levels. Irrespective of how structured or unstructured a research project is likely to be, nuisance variables which may render the results invalid must either be minimised or eliminated (Mouton & Marais, 1996).

This research will ensure that accurate and reliable data is collected and analysed appropriately which will in turn ensure that data supports the final conclusions that will be made, ensuring their internal validity on the contextual level. To ensure its external validity on the universal level, the findings of this research project should be generalised to all working stations within PTM Eskom Enterprises.

In this research, the independent variables are biographical variables and salutogenic functioning, and the dependent variable is the number of sick leave days.

The research is both investigative and explanatory in nature. It is based upon the investigative approach because the only way to determine if relationships exist between the dependent and independent variables is through investigation.

Furthermore the research is explanatory as it aims to explore the concept of occupational stress in terms of its specific causes. At the end of the whole research project, it should be clearly demonstrated that relationships does or do not exists between the dependent and independent variables.

Since research is motivated by the testing of hypothesis or existing models and theories, in this research hypotheses are also formulated in such a manner that they will be submitted to strict testing, and they may be rejected on the basis of research findings.

The unit of analysis is the employee.

1.7 RESEARCH METHODOLOGY

The following flow diagram represents the selected research methodology which will correspond with the specific literature and empirical aims of this research. The following two phases will apply:

1.7.1 Literature Review

Step 1. Literature review on occupational stress, its conceptualisation, approaches, sources, effects, and occupational stress and absenteeism, and managing and coping with it.

Step 2. Literature review on salutogenic functioning, the background, and the development of the salutogenic constructs.

1.7.2 Empirical Study

Step 1. Describing the population and the sample

Step 2. Describing the measurement of the biographical variables

Step 3. Describing the measurement of salutogenic functioning

Step 4. Describing the measurement of sick leave

Step 5. Describing the data gathering

Step 6. Describing the data processing

Step 7. Formulating hypothesis

Step 8. Reporting and interpreting the results

Step 9. Formulating the conclusions

Step 10. Formulating the limitations of the research

Step 11. Formulating the recommendations

1.8 OUTLINE OF CHAPTERS

The chapters of this dissertation will be presented as follows:

Chapter 2	Occupational Stress
Chapter 3	Salutogenic Functioning
Chapter 4	Empirical Study
Chapter 5	Results
Chapter 6	Conclusion, limitations and recommendations

1.9 CHAPTER SUMMARY

In this chapter, the background to and motivation of this research, and the central problems to be addressed were discussed. This was followed by discussing the aims, the research model, paradigm perspective, market of intellectual resources, research design and the research methodology. Lastly the outline of chapters was presented.

CHAPTER 2 OCCUPATIONAL STRESS

This chapter will conceptualise occupational stress, its sources and effects on employees; and the extent to which individuals manage and cope with it. It will be completed by giving a chapter summary of what has been discussed.

2.1 CONCEPTUALIZATION OF OCCUPATIONAL STRESS

Despite the fact that so much research has appeared on the concept of stress in recent years, it has been vague, ambiguous and poorly defined (Cotton, 1995). The term has been used in so many different ways that its meaning has become quite confusing. In particular, confusion has centred around whether stress should be regarded as a stimulus, a response or an intervening variable between stimulus and response (Cotton, 1995).

A further source of confusion in the stress literature is that not all writers use the same terminology. Some writers use the term stress, others refer to strain, still others refer to anxiety, conflict or frustration, when all of them are dealing with exactly the same phenomena. Further confusion surrounds the measurement of the effects. Some researchers rely on self-report techniques, others measure physiological changes, while others observe changes in performance under the impact of the stressor (Cotton, 1995).

To avoid this confusion, an attempt will be made to define the terminology used in this research. Next, the relevant concepts will be defined, namely stress, strain and occupational stress.

The term stress is defined as a generic term, but limited to the harmful effects and unpleasant experiences (Beehr, 1985). Stress implies an effect or demand which is relatively severe in that it taxes the system (Beehr, 1985). The individual's coping capacities must be strained close to or beyond his/her limits before stress is involved. Stress only exists when a demand threatens to exceed the person's capabilities and resources for meeting it (Beehr, 1985).

Other authors (Beehr, 1985), have defined stress as the imbalance between a person's perceived environmental demands, and his/her perceived ability to cope with these demands. Although more focussed, this definition fails to convey the true, dynamic nature

of stress. Stress is also defined in terms of two conditions (Cotton, 1995):

(1) A state of equilibrium must exist within the system of variables relating people to their environment (e.g. personality characteristics, coping processes, and both positive and negative work experience. This state of equilibrium must bring about a change in people's normal levels of psychological well-being.

(2) Stress is said to occur only when these two conditions are met. This implies that stress cannot be expressed as a single variable, and that it must be related to change in people's levels of psychological well being over time (Cotton, 1995).

Psychological stress exists only when it is perceived. In this sense, stress exists only when it is perceived and only in the consciousness; it depends on the perception of the meaning of the situation for the individual.

Strain will be used to refer to the immediate reactions of an organism to a stimulus (Beehr, 1995). This term is used where the organism adjusts automatically to the stimulus, where homeostasis is restored without the individual being aware of the disturbance, and where the tension is managed successfully. On the other hand Beehr (1995) defines strain as a term used for aversive consequences of stress.

When the strain is not managed successfully, when there is a residue of unresolved tension, and when the restoration of homeostasis does not occur, automatically there is a stress reaction. These effects of stress form the main subject of this research.

Occupational stress is distinguished from stress in general by virtue of the fact that certain stressors are unique or peculiar to the work environment (Beehr, 1995). If the stressor arises from a person's work or his work environment, the effects are the result of occupational stress. The distinguishing feature of occupational stress is therefore the origin of the stressor, and has nothing to do with the reactions or responses of the individual (Beehr, 1995).

There is a general assumption that occupational stress refers to the aversive and unpleasant emotional states that employees experience as a consequence of their work. This is an umbrella term that encompasses a wide range of specific problems varying in

severity, duration and cause. The contributing factor to particular stress conditions may be largely situational, internal to the person or a combination of situational factors and personal vulnerabilities (Cotton, 1995).

The second assumption is that employees experience feelings of stress at the expense of more pleasurable emotions, such as those typically associated with morale. This implies that stress and morale are at opposite ends of the same continuum, one arising as the other fails.

Adverse work experiences account for the personal outcomes (e.g. poor quality of work life, lack of motivation, low job satisfaction) and organisational outcomes (e.g. increased sick leave, poor productivity and high turnover) normally attributed to occupational stress.

The basic assumption reinforces the stressor and strain approach that is often adopted in occupational stress. Unfortunately, this approach is too simplistic a view, since stress results from a much broader system of variables. It is necessary to assess separately organisational characteristics and personality characteristics, coping processes and both positive and negative work experiences, and for these to be integrated into a more systematic framework that explains the relationship between employees and their work (Cotton, 1995).

More importantly the emphasis placed on stressors (negative experiences) and strain (psychological distress) fails to account for the fact that people's responses to their environment include both positive dimensions (e.g. well being, positive affect, morale) and negative dimensions (e.g. ill-being, depression, anxiety) (Heart & Wearing, 1995).

There is strong empirical evidence to support the notion that psychological distress and morale can occupy separate dimensions. This implies first that it is wrong to assume that occupational stress is associated with unpleasant feelings and that these feelings are experienced at the expense of more pleasurable emotions. While it is possible to have high levels of psychological distress and low morale, or vice versa, it is also possible to have high level of psychological distress and high levels of morale, or low levels of both (Heart & Wearing, 1995).

Therefore, in order to understand the employees' quality of work life, it is necessary to take into account both psychological distress and morale. The findings of Heart & Wearing (1995) suggest that poor quality of work life may be due to lack of morale, rather than to the presence of psychological distress. It should be recognised that some degree of psychological distress is a normal and inevitable part of daily living.

Consequently, levels of psychological distress experienced by employees may not necessarily indicate an underlying problem. Two questions must be asked when evaluating why the quality of employees' work life is poor:

- * Is psychological distress higher than normal?
- * Is morale lower than normal?

Secondly, the research findings of Heart & Wearing (1995) suggested that morale cannot be improved by reducing negative work experiences, nor psychological distress be reduced by positive work experiences. It is therefore important to correctly diagnose the reason behind work-related problems like poor quality of work-life, before implementing remedial programmes or policies. Lastly, stress is the outcome of a system of variables and all the variables within the system, should be assessed when developing policy options (Heart & Wearing, 1995).

2.2 APPROACHES TO OCCUPATIONAL STRESS

The following approaches to occupational stress will now be discussed:

2.2.1 Medical Approach

This approach has historically focussed on physical stressors, e.g. unusual temperatures or noise, and they have expected these stressors to cause physical strains or outcomes to the individual. When stress is treated, the approach tends to be individual rather than organisational. For example, if the strain is hypertension, by contrast, the treatment is not usually to change the stressors in the organisation or workplace (Beehr & Kranz, 1987).

2.2.2 Clinical/Counselling Psychology Approach

These approaches are human service orientated fields, and are similar to the medical approach with the major exceptions that psychological stressors (rather than physical stressors) and psychological strains (rather than physical strains) are the outcomes which are of interest. The workplace is not the primary focus as direct treatment of an individual's psychological strain is common (Beehr & Kranz, 1987).

2.2.3 Engineering Psychology Approach

This approach to occupational stress has always focussed on psychological stressors such as heat and noise, and it has been almost unique among stress researchers in its focus on job performance as an outcome variable (Hardy, et al, 1998).

2.2.4 Organisational Psychology Approach

The organisational psychology approach has always focused on psychological stressors in the workplace and on psychological strains. It resembles the clinical/counselling psychology approach to occupational stress. For treatment strategies, however, it recommends changes in the organisation or workplace more often than the clinical/counselling approach does (Hardy, et al, 1998).

2.2.5 The Beehr Newman Approach to occupational stress

This approach encompasses all the variables studied from the various approaches to occupational stress, and also the theories of occupational stress. The core of occupational stress, the relationship between job stressors and individual strains, is illustrated by the relationship between the environmental facet (which contains occupational stressors) and the human consequences facet (which contains individual strains), a relationship that has an intervening step in the process facet (Beehr, 1985).

The theoretical causal factor in the core relationship of occupational stress is the set of job stressors in the environment. These include role stressors such as role ambiguity and role conflict, and any characteristic of the work that affects health adversely would be a stressor (Beehr, 1985).

The other element of the core relationship of occupational stress is the human consequences facet or individual strains. These have often been categorised into psychological, physical and behavioural strains, but the communality among them is the idea that the strains are basically harmful to the individual. Behavioural strains are the strains that the stressed employee shows that are directly harmful to him/her (Hardy, et al, 1998).

There can be serious disagreement about behaviours that are harmful to the individual involved but probabilities include abusive use of drugs, alcohol and cigarette smoking. If such behaviours are caused by the work-related stressors of the environmental facet, they can be labelled behavioural strains. Currently, there is no evidence that these behaviours are caused or made more severe by occupational strains (Beehr, 1985).

One set of stress-related variables in the process facet comprises of the people's reactions that are thought to intervene in the core relationship between stressors and strains. The process that might be inherent in job stress includes decision-making, response selection, perception or appraisals of the situation or uncertainty regarding expectancies (Beehr, 1985).

Stress processes are an area still in need of research. It is not clear that all situations labelled occupational stress include the same physiological responses or that there is a single physiological response common to all occupational stress situations. There may turn out to be categories of responses that vary by nature of the job stressors, the associated strains, or some individual differences (Hurrell, et al, 1988).

Furthermore, the perception of the stress situation is one process that needs future investigation. The idea that people are aware of their stressful environments is not necessarily simple or straightforward. It may not be necessary for people to be aware of their situation as stressful in order for work related stress to exist, i.e. for occupational stress to lead to individual strain responses (Cotton, 1995).

This research study focuses on the organisational psychology approach to occupational stress. The term occupational stress (work-related or job) is used here to describe not a variable, but a situation in which some characteristics of the work situations are thought to cause poor psychological or physical health, or to cause risk factors making poor health

more likely. The core of an occupational stress experience is the presumed causal relationship between the characteristics of work or workplace (stressors) and poor worker or employee health (strains).

2.3 SOURCES OF OCCUPATIONAL STRESS

There are several factors that cause occupational stress. The following factors will be discussed here: individual factors, interpersonal factors, work / organisational factors and career factors:

2.3.1 Individual Factors

The contemporary, interactive view of stress is that situations are not inherently stressful. Psychological, physiological and/or behavioural responses to stress are products of the situation and the individual – including specific personality traits and characteristics and behaviour patterns based on attitudes, needs, values, past experiences, life circumstances and ability (Cooper & Payne, 1980).

Research into personality characteristics as modifiers of the response to stress focuses mainly on individual differences between high and low stressed individuals. It is important to understand how personality characteristics affect a worker's experience in a job situation.

A Type A behaviour pattern is characterised by a sense of time urgency, the desire to do more than one thing at a time, being driven to achieve more and more and being impatient. Secondly, there is an aggressive striving – the drive to achieve that ignores the feelings of others and highly competitive. Thirdly, there is a high level of hostility. Type A people may be resentful and suspicious of others, and may be easily angered by people in their environment. These people are more likely to experience occupational stress because of the way they approach the job, the intense drive to succeed and the impatience with interruptions and interference (Cooper & Payne, 1980)

An individual's sense of control affects his or her responses to stress. Exercising control by making decisions about work is an important aspect of reducing or avoiding occupational stress (Cooper & Payne, 1980). Workers who are able to work at their own

pace and decide on their own tasks, will have fewer symptoms of stress than workers who lack control over their work environment. Increasing an employee's control over key aspects of work can reduce occupational stress and enhance performance. Workers who experience low control combined with a highly demanding job are particularly prone to occupational stress. Two aspects of control are important: control experienced by workers (perceived control) and the control that is exercised by workers over their jobs (Cooper & Payne, 1980).

2.3.2 Interpersonal Factors

Other types of potential stressors that could be derived from the role theory include formal and informal relationships among the members of the role set. Extremely poor interpersonal relationships at work result in conflict, arguing, fighting, which is likely to evoke strong stress reactions. One of the few studies to include interpersonal conflict as a potential job stressor found that it was weakly to moderately related to some strains such as anxiety, frustration, dissatisfaction with supervisors and subordinates, and physical symptoms (Beehr, 1995).

Good relationships between workers of a work group are considered a central factor in individual and organisational health. The quality of relationships that employees have at work has consistently been linked to job stress. Poor relationships are defined as having low trust, low levels of supportiveness and low interest in problem solving within the organisation. Social support in the form of work cohesion, interpersonal trust and liking for a supervisor is associated with a decreased level of perceived job stress, and better health.

Inconsiderate behaviours on the part of a supervisor appears to contribute significantly to feelings of job pressure, and close supervision and rigid performance monitoring can also be stressful; workload and work pressure are perceived to be higher, and the relationship between the supervisor and employee suffers. Poor working relationships among co-workers in an organisation are a potential source of stress at work.

The following types of interpersonal relationships are important in understanding stress in the workplace:

2.3.2.1 *Relationships with co-workers/workgroup relationships*

Relationships with co-workers and within work groups are important to an employee. Poor co-worker relationships are associated with low trust, low supportiveness and low interest/willingness to listen and be empathic.

Communication is one of the major factors to consider in assessing relationships among co-workers. Work related communication is not sufficient for good co-worker relationships; instead, informal communication that occurs between employees is most likely to alleviate job stress.

2.3.2.2 *Relationship with supervisor*

The relationship an employee has with a boss or supervisor is important in determining the amount of stress from individual experiences at work. The supervisors' leadership style is identified as potentially affecting work related stress. A considerate leadership style, for example, is characterised as allowing employees to experience less job stress. Employees might value a leadership style that is more relaxed and participative in nature.

2.3.2.3 *Relationship with clients*

Another potentially stressful relationship within the workplace is found in the interaction with customers or clients. This relationship often represents the primary focus of the work an employee does. Service providers may become easy targets for job stress because of the strong feelings of personal responsibility they experience in helping others, and because of the infrequent feedback about work success that they receive.

2.3.3 Work / Organisational Factors

The interaction between the individual and the work environment most completely describes stress (Sutherland & Copper, 1990). Factors intrinsic to the job as potential sources of stress have been an issue for many years. Both the task demands and the physical demands of the work environment are considered within this category. Physical demands include noise, lighting, hygiene factors and climate, humidity and ventilation, etc.

while the task factors include workload, repetitiveness, monitoring and boredom, and the experience of risk and hazards (Coopers & Payne, 1980).

2.3.3.1 *Physical Demands*

Although the importance and significance of subjective reactivity to physical environmental factors owes its origin to the Hawthorne Studies of the 1920's, the concept wasn't incorporated into models and definitions until much later.

(a) Noise

It is difficult to overstate the importance of sound to our well being. Language and communication enrich human culture. The concern is unwanted sound, and this defines a sound as "noise". Exposure to noise can impede hearing ability. The extent to which noise is a source of stress, causing an increased level of arousal and psychological imbalance, is still debated.

Some authors suggest that excessive noise on a recurring, prolonged basis can cause stress. The main psychological impact of excessive noise, and other physical demands in the workplace, is to reduce workers' tolerance to other stressors, and adversely affect motivation (Sutherland & Cooper, 1990).

Unpleasant working conditions due to noise were a significant predictor of job dissatisfaction among workers on drilling rigs and platforms in the North Sea (Sutherland & Cooper, 1990). Many studies have observed the relationship between noise in the workplace and productivity, and noise and rate of error.

Of particular importance is the factor of noise increasing vulnerability to accident. Exposure to noise is associated with reported fatigue, headaches, irritability to concentrate; the behavioural consequences are in terms of reduced performance / productivity and increased accident occurrence (Cooper & Payne, 1980).

(b) Lighting and Illumination levels

Adequate illumination is an obvious factor associated with safe working. Poor lighting and glare leads to eye strain, damaged vision, headaches, visual fatigue, tension and frustration because the task may be more difficult and time consuming. Many working environments require constant artificial lighting. It is therefore important that a system creates a pleasant environment which facilitates performance and promotes safety (Sutherland & Cooper, 1990).

(c) Organisational size, structure and climate (culture)

There isn't much research on company size as a stressor, but there is some related research on size and attitude such as job satisfaction. Size, which is defined here as the number of employees, has generally been correlated with potential strain related variables such as absenteeism, turnover and grievances (Beehr, 1995).

How the employee perceives the culture, customs and climate of the organisation is important in the understanding of potential sources of stress resulting from his/her being in the organisation. The culture or climate has also been suggested as a source of occupational stress. Organisations appear to have personalities shaped by top level management. In addition, the culture of an organisation is defined by the beliefs and expectations shared by organisational members. An important stress that results from an organisational culture is the existence of competition. As organisations downsize and cut budget, five job stressors will emerge: feeling of job insecurity, workload because of unrealistic deadlines, under utilization of employee skills, promotional obstacles and inter and intra group competition (Ross & Altemaier, 1994).

Unpleasant climatic conditions affect physical well being, moral and motivation, and thus vulnerability to involvement in accidents. If routines and environments cannot be altered, then adequate protective clothing is vital, and attempts to address morale and motivational problems should be considered in alternative ways (Sutherland & Cooper, 1990).

Structures which allow individuals more decision making power generally produce less stress. Increased decision making enhances the meaningfulness which an employee finds in work and provides the employee with a greater sense of authority, responsibility,

certainty, control and ownership. Employees who hold jobs at the low end of the organisational hierarchy are more likely to experience stress (Ross & Altemaier, 1994).

2.3.3.2 *Task Demands*

The following demands are considered:

(a) *Job Characteristics*

One of the characteristics that influences occupational stress is the pace at which an individual must do the work. This is concerned with the amount of control an employee has over the work process. The classification of work pace can be identified as follows:

- * Machine pacing represents a work condition in which the speed of operation and production are controlled by some source other than the employee.
- * Human pacing is a situation in which an employee controls the process of the work (Beehr, 1995).

Repetition of work is another job characteristic that can influence occupational stress. The more repetitive a particular job, the more likely the employee is to experience stress.

(b) *The Work Schedule*

The work-schedule has been a topic of research interest lately, although most of the interest has not been in the context of occupational stress. Both shift-work and alternative work schedules have been studied with increasing frequency. On the surface, one might surmise that shiftwork is stress-inducing, and the freedom to use alternative work schedules in general seems to be correlated with some indicators of poor adjustment in family roles. They are especially related to role conflict between the work and home. The effects of flexitime, which allows employees some discretion regarding arrival and departure times, on employee attitudes, seem to be positive and neutral, but not negative. Compressed work schedules seem to have some positive effects on attitudes (Beehr, 1995).

Shift work is related to many kinds of physical and psychological problems. In one study, many people said they have left shift work to get away from the negative health effects that shift work had on them and it has been found to be related to disturbances in sleep quality and quantity, psychosomatic complaints and disruption of family roles. However, recent work has indicated that the relationship between shift-work and many strain-type variables is quite complicated and could be due to the association of shift work with other variables, such as the age of the employee (Zedeck, et al, 1983)

As many jobs demand shift work because of the nature of the technology that is involved, both mental efficiency and work motivation are directly and indirectly affected by shift work. Human beings possess a powerful time keeping system or body clock that functions to enforce regular cycles of sleep and diurnal activity in behaviour. Furthermore, shift work is associated with psychological difficulties, which arise from the fact that our society is day-orientated. This might lead to the worker experiencing domestic pressure.

Job characteristics thought to be intrinsically motivating are some other potential stressors. The best known of these are probably the set of autonomy, variety, task feedback, task significance, and task identity. In combination, these are labelled the motivating potential of the job.

Autonomy refers to a feeling of control over the outcome of one's work. Perceived control has been found to be related to potential job strains such as perceived stressfulness, while participative decision-making may lead to less emotional strain and be related to perceived stress and job related tension. Results regarding the relationships of perceived control, autonomy and participation with physical symptoms, however, are inconsistent (Beehr, 1995).

A theoretical approach for expecting perceived control to be related to occupational stress argues that control interacts with job demands to produce psychological strains (Beehr, 1995).

One intuitive reason to expect intrinsically motivating job characteristics to be stressors is that strong motivation might lead to people to work so hard they could be in danger of the popularised workaholism. If people worked too hard, they could then expect overload.

Again more research is needed to determine the validity of the assumption that intrinsically motivating job characteristics would be negatively related to strains (Beehr, 1995).

The other job characteristics leading to occupational stress are task attributes. These are believed to affect directly and indirectly the effective and behavioural responses for an employee to do a job. Task attributes could include variety, authority and skills required and responsibility. The interaction between the employee and these attributes represents the best explanation of perceived occupational stress.

(c) *Role Characteristics*

Within the organisation certain behaviour and demands are associated with the role fulfilled. However, dysfunction may occur at different levels and be a major cause of work stress. Role pressure can contribute to occupational stress. This happens when an individuals' expectations or demands conflict with the expectations and demands of the organisation. Role characteristics can include role ambiguity, role overload, role underload and role conflict.

(d) *Role Ambiguity*

Role ambiguity has been defined as a job situation in which there are inadequate or misleading pieces of information about how an individual is supposed to do the job, or the scope of an individual's responsibilities. The real stress of role ambiguity is experienced when individuals are prevented from being productive and achieving and when an individual loses a sense of certainty and predictability in the work role.

Role ambiguity and role conflict are among the first social psychological stressors to be studied in the workplace. Because of their roots in role theory, they are conceptualised as characteristics of the expectations or demands that the people in a role set have for a person in the focal role in that role set.

Early studies by Beehr (1995) have shown that role ambiguity is related to human consequences. In one study of the perceived stressors in the work environment, role ambiguity was correlated with human consequences such as job dissatisfaction, low self-esteem and depressed mood. Three situational characteristics were examined for their

potential moderating effects on these relationships: group cohesiveness, supervisor support and autonomy. Group cohesiveness and supervisor support were chosen because of the theory of social support, which since then has become much more well-known, holding that social support should buffer or moderate the relationship between work-environment stressors and strains (Beehr, 1995).

Organisational factors that may cause role ambiguity are the organisational structure, products, the financial base and the reward system. The individuals' situation in relation to these is important. Some researchers reported that role ambiguity was typically related negatively to formalization and participative decision-making (Fisher, 1984).

Consequences of role ambiguity have been divided into the psychological, physical and behavioural. Regarding psychological consequences: organisational commitment, job involvement and satisfaction with promotions were negatively related to role ambiguity, while tension/anxiety was positively related; and regarding behavioural consequences: a positive relationship between role ambiguity and turnover tensions existed (Cooper, 1981).

(e) *Workload*

Task factors intrinsic to the job also include the concept of workload as a potential source of occupational stress. Both overload and underload are acknowledged as stressors. Both physical and mental overload (i.e. having too much to do) is an important source of stress at work. Having to work under pressure in order to meet deadline is an independent source of stress (Cooper & Payne, 1988).

The concept of "too much work" can be divided into two categories:

* Qualitative role overload – which occurs when an individual does not have adequate skills to do a particular job, when the employee doesn't believe he/she can perform adequately with the skills they possess. There is also evidence that overload is significantly linked to low levels of self-esteem, although the evidence was based on white-collar occupations. This usually happens when an employee is promoted to a supervisory capacity on the grounds of superior performance or other work delegation. A good, reliable worker is therefore placed under considerable stress because the skills to do the new job are lacking. In cases where an individual is not given an opportunity to use

acquired skills or to develop full potential ability this may be as damaging as overload. Qualitative overload is associated with dissatisfaction, tension and low self-esteem (Cooper & Payne, 1988).

* The other kind of role overload is quantitative role overload, which occurs when an individual does not have enough time to complete the job. The experience of overload may result in the need to work excessive hours.

A worker who struggles to do a job that is difficult is likely to take more time to finish the task, and may need extra hours in order to complete it to a satisfactory standard. A link between long hours and stress and ill health has been established. The impacts of working long hours also have an overall impact. The individual spends less time in social relationships and so the benefits of social support as a buffer in a stressful job are reduced. Quantitative overload is linked to dissatisfaction, depression, irritation and psychiatric complaints (Cooper & Payne, 1988).

Role underload on the other hand, may also affect one's psychological well being. Boredom in a daily work routine, as a result of too little to do, may result in inattentiveness. Boredom was identified as a significant source of stress among crane operators. A long period of inactivity may be the nature of the job, therefore, job redesign would be necessary to alleviate the problem, because boredom and lack of challenge were significant predictors of raised anxiety, depression and reported job dissatisfaction.

This normally happens when one's skills are under utilized, with him/her having too much ability for the job he/she holds.

Under utilization of skills and over utilization of skills have been related to strains by past research. More often, however, under utilization has been measured somewhat subjectively. In a few studies done on under utilization, it has been related to a variety of psychological strains and somatic complaints, absenteeism and turnover (Gupta & Beehr, 1997).

(f) *Role Conflict as a work-related stressor*

Role conflict is usually defined as the existence of two or more sets of demands or

expectations on the focal person, such that compliance with one would make it difficult or impossible to comply with the other. Role conflict stressors are based on the work environment.

The more roles people have, the more opportunity there will be for different roles to have conflicting expectations. This is probably part of the logic behind the study of the work-home role conflict in women, i.e. there is an assumption that for women the work role is an additional role and an important and demanding one. However, Baruch, et al, (1987) noted a study in sociology concluding that occupancy of more roles, up to seven, was related to positive mental health rather than to individual strain.

Four different types of role conflict that have been identified include inter-sender, intra-sender, person-role and inter-role conflicts.

- * Inter-sender conflict occurs when expectations, pressures or demands from one person conflict with the demands of another person, e.g. a sales representative might experience pressure from the boss to increase sales, while at the same time individual customers demand that he spend more time explaining various products and allow them ample time to make good decisions about products.
- * Intra-sender conflict occurs when the same member of the role set asks an employee to perform activities which are mutually exclusive or incompatible.
- * Person-role conflict happens when the demands of an individuals' work roles conflict with the individual's personal values.
- * Inter-role conflict occurs when an employee experiences conflict between the expectations and demands of people at work.

2.3.3 Career Development

The other category of potential stressors includes job insecurity, over-promotion, under-promotion and thwarted ambition. The concept of career incorporates a wide variety of occupations at levels of skills ranging from unskilled manual work to highly skilled work, thus there is a process of growth and development to consider. Career development is therefore a term applied to all levels of blue and white collar workers to refer to job activities pursued over a period of time, which can involve several jobs and various occupations over the course of time (Cooper & Payne, 1980).

The location of one's office in an organisational space is one interesting potential stressor. Positions on a organisational boundary have often been proposed as stressful because of the likelihood of experiencing role conflict, with messages from people on different sides of the boundary having conflicting values and expectations for the person. The vertical location of a job in the organisation can also be stressful. In the study by Beehr (1995) of bank employees, the vertical hierarchical level was moderately positively correlated with satisfaction, and positively but weakly correlated with role overload, role ambiguity and role conflict.

There is a popular notion that there is more stress at the top of the organisation than at lower levels; however the reverse seems more likely, based on evidence. It is easy to see why there could be more stress evident at the bottom of organisations than at the top. People in the upper classes can afford better medical care and insurance, while poor health can effectively prevent people from reaching the top of many organisations. Thus, people at the top are not likely to evidence strain-type reactions, although it is unknown whether this is because there is less stress there or because they are better able to handle it (Beehr, 1995).

Threat of job loss is a potential source of occupational stress associated with several health problems, including ulcers, emotional complaints, etc. The morale and motivation of the workforce is affected, with a subsequent negative impact on productivity and efficiency. The stress associated with feelings of insecurity may be reduced by the buffering effect of good supportive relationships at work. Overall, the perception of the stability of the organisation and of one's employment affects the well-being of an employee (Cooper & Payne, 1980).

When opportunities for promotion are restricted and competitive, employees with career aspirations feel thwarted if their expectations are denied. Limited career opportunity is a problem that creates frustration and reduces motivation. Under promotion will only be a source of stress when expectations are not realised. Lack of stimulation and challenge, and the inability to develop skills, will add to the stress of being passed over for promotion (Cooper & Payne, 1980).

2.4 EFFECTS OF OCCUPATIONAL STRESS

It is important to take the following effects of occupational stress are important to be taken into account

(Sutherland & Cooper, 1990):

2.4.1 Organisational Outcomes Of Occupational Stress

Organisational outcomes of job stress are those outcomes that have a more direct impact on the organisation than on the individual (they are of primary importance to the organisation). Organisational outcomes include matters such as success, job performance, absenteeism and turnover, profits, sales, etc (Sutherland & Cooper, 1990).

By definition, job stressors tend to be linked to individual strains. There has been some research on the relationship between job stressors and the following organisationally relevant outcomes: job performance and employee withdrawal (Sutherland & Cooper, 1990).

2.4.1.1 *Job performance as an organisational consequence of job stress*

The theory about the relationship between stress and performance is apparently derived from the law regarding drives and motivation. This approach to job stress maintains that the level of autonomic arousal predicts task performance via an inverted U-shaped curve, and that the job stressors create this arousal, as in the following figure
(Beehr, 1995):

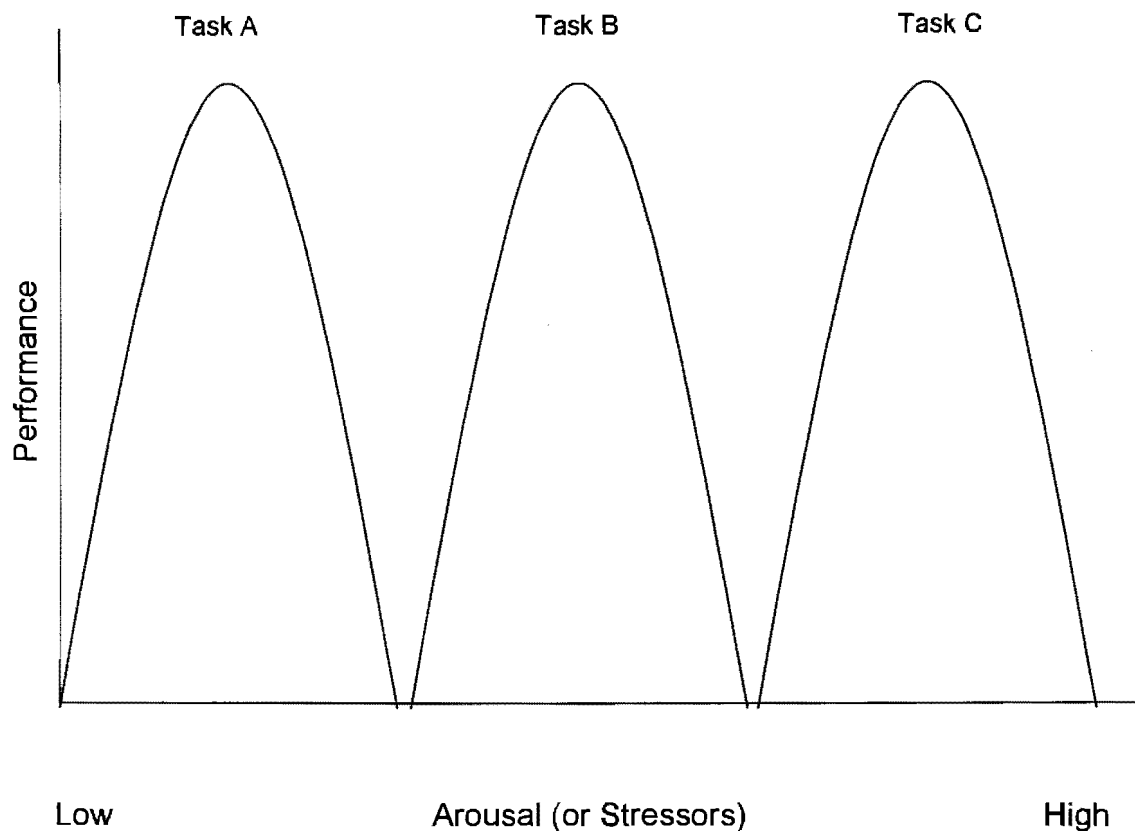


Figure 2.1. Relationship between arousal (stressors) and performance (Beehr, 1995).

For Task A, optimum performance is reached at lower levels of stressors than for tasks B and C. This implies that the nature of the tasks can affect the placement of the curve even though its shape remains constant. Furthermore, a number of factors could function to move the curve to the left or the right, including individual differences, task difficulty and task importance (Beehr, 1995).

Much of the emphasis on performance as an outcome of stress has come from engineering psychology, and the typical stressors in that approach include one's physical condition. If temperature is the stressor, for example, the person would freeze to death in extreme cold and burn to death in extreme heat. In such situations, performance is certain to be quite low. The relationship between job stressors and performance may depend very much on what the stressor is: what the performance measure is, and what other variables are present in the setting (Cooper & Payne, 1988).

2.4.1.2 Employee withdrawal as an organisational consequence of job stress

If the workplace is unpleasant, the employee is expected to want to get out and stay out of the workplace. The only question is whether the withdrawal is more likely a direct result of the stressors or of the strains, as pictured here:

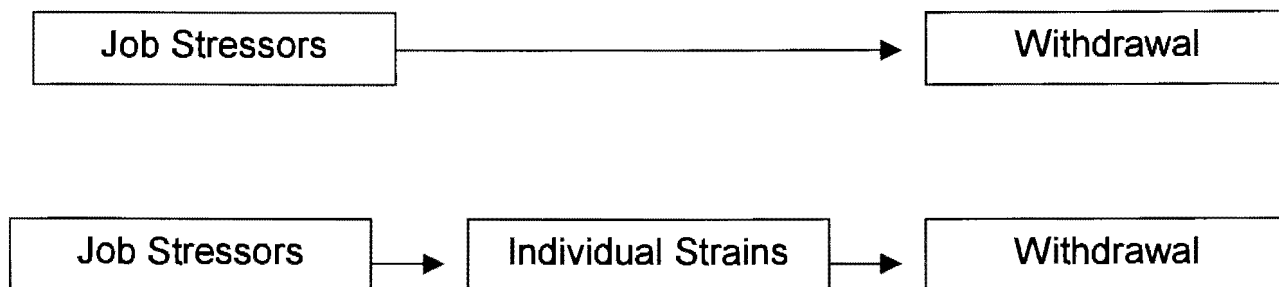


Figure 2.2. Common alternative relationships of withdrawal and occupational stress variables (Beehr, 1995).

Where occupational stress is a cause of withdrawal either repulsion or attraction may be involved. The attraction of alternative and more interesting places and activities may be a reason for absenteeism or turnover. Non-stressful but still unattractive working conditions can also lead to employee withdrawal (Beehr, 1995).

The nature of the job is only one factor in determining people's withdrawal from an organisation. Turnover can also be caused by attractive alternatives more than by stress in the workplace, e.g. better jobs (Cooper, 1981).

By definition, stressors lead to individual strains, but they may or may not lead to organisational outcomes such as performance, absenteeism and turn-over (Beehr, 1985). One would certainly expect job stress to be related to employee withdrawal, but withdrawal is not a strain or individual outcome. There are four types of employee withdrawal that could logically be related to occupational stress, given the idea that stressful occupations are painful and there would be a tendency to want to get away from them: lateness, absenteeism, turnover and psychological withdrawal. These factors tend to be positively and moderately related to each other (Cooper, 1981).

2.4.1.3 *Tardiness/Lateness*

There has been little research on tardiness as a consequence of occupational stress. Job stressors such as role ambiguity, role overload, role conflict and resource inadequacy were found to be positively related to recorded tardiness. If job stress is painful and causes people to be slow getting ready for work, then they might be expected to be late at work more often than those who do not experience stress at work (Cooper & Payne, 1988).

On the other hand, being late for work might make the work more painful than being on time, and the consequences are more immediate than for absenteeism. A late employee may receive punishment immediately as he/she arrives at work. Anticipating such negative and immediate effects of being late, employees might feel the situation as more stressful. Therefore, they might decide to be absent rather than late. It might be better to find a good excuse for absenteeism than hurry to work to be late and get punished (Callan, 1993).

2.4.1.4 *Turnover*

Turnover is a more extreme step than simply staying away from work for a day. One approach to turnover suggests that turnover is a rational decision, and occurs because the employee has better alternatives. However, this would apply to voluntary turnover (Levi, 1984).

Employees can be attracted to better alternatives or be driven out of the organisation by something unpleasant in the organisation itself, e.g. job stress. However, there are so many reasons for turnover that we should not expect job stress to be strongly related to turnover. In spite of this, there is some evidence that job stressors are related to turnover (Cooper & Payne, 1980).

The study of turnover and job stress requires a longitudinal approach because one must wait for some time to pass before it is known who has left the organisation and why. It is rare that people quit their jobs at the first signs of job stress (Cooper & Payne, 1980).

2.4.1.5 *Psychological withdrawal*

Psychological withdrawal means that although an employee is physically present at work, he/she is absent in spirit. Lack of interest in the job might tend to lead people to be absent in thought. This might lead to reduced job involvement and reduced organisational commitment. These variables are closely related to turnover intentions (Cooper, 1981).

It is obvious that the study of the organisational consequences of occupational stress has lagged behind that of individual consequences in the organisational psychological approach to job stress. Job stressors, by definition, lead to individual strains, but they do not necessarily lead to organisational outcomes. Because of this, research indicates that job stressors are only weakly or inconsistently related to organisational outcome (Cooper, 1981).

2.4.2 Individual Outcomes Of Occupational Stress

Occupational stressors lead to strains, at least for most people and under most conditions. Strains are states that are harmful and are usually aversive to the individual experiencing them. Individual strains are outcomes that describe occupational stress and are usually associated with ill health. These outcomes can be divided into the following categories: psychological, physical and physiological, and behavioural. These correspond roughly to poor mental health, poor physical health, and behaviours likely to be deleterious to one's own health and well-being (Sutherland & Cooper, 1990).

2.4.2.1 *Behavioural Strains*

Behavioural symptoms occur in two categories: The first are symptoms said to belong to the worker such as avoidance of work, increased alcohol and drug use, over/under eating, etc. Other behavioural symptoms belong to the organisation; absenteeism, leaving the job, accident proneness and loss of productivity (Sutherland & Cooper, 1990).

While physical and psychological strains clearly fit the definition of ill health, behavioural strains are more difficult to define. Strain in the context of job stress, means some type of deleterious condition of the employee that is due to a job stressor. Therefore a

behavioural strain would be a behaviour that is in itself harmful to the individual. This means that although behaviours like poor performance or a high rate of absenteeism are harmful to the organisation, they are often not harmful to the person unless it is very extreme (Cooper, 1981).

These types of behaviours, while potentially in part due to occupational stress, are not, by definition, strains. Performance and absenteeism may be influenced by stressors at work, but they are classified as organisational consequences of stress and not as individual strains. Behavioural strains could include alcohol, tobacco and drug abuse, over/under eating, suicide and behaviour leading to poor interpersonal relations. The keys to whether these are strains are: whether they are due to job stressors and whether they are deleterious to the individual personally (Ross & Altemaier, 1994).

2.4.2.2 *Psychological Strains*

Psychological symptoms are those emotional and cognitive problems that occur under conditions of job stress. Job dissatisfaction is the most likely consequence of occupational stress, where a worker is dissatisfied with his or her work, dislikes coming to work and finds little reason for doing well on the job (Ross & Altemaier, 1994).

A meta-analysis focusing on role conflict and role ambiguity illustrates the emphasis of workplace stress researches on psychological strains very well. Although there are several potential outcomes of occupational stressors, research in organisational psychology has focussed on psychological reactions in occupational stress (Beehr, 1995).

These organisational psychological stressors tend to be social psychological in nature. Individual outcomes such as anxiety, depression, boredom, frustration, isolation, resentment and dissatisfaction are often associated with occupational stress. Somatic complaints do tend to be correlated with job stressors more weakly than more clearly psychological strains. They have occasionally been correlated with role overload, role ambiguity, time spent on rotating, shift work and several other stressors. In recent years, burn-out has emerged related to occupational stress (Beehr, 1995).

This was most often defined as a syndrome of psychological reactions to work, including exhaustion, loss of enthusiasm and professional disengagement, and basically seems to

be a psychological strain. Psychological strains often correlate fairly strongly with each other and depression often has a major empirical overlap with burnout (Beehr, 1995).

A study of burnout in relation to occupational stress measured emotional exhaustion of mental health centre therapists and their desire to abandon their profession. It has often been assumed that burnout would lead people to leave not just their current employer, but their entire profession (occupational turnover rather than organisational turnover) because the same problems would occur in any employment situation involving the same type of work. In the study, the emotional exhaustion was related primarily to role-overload and the desire to abandon the profession (Cooper & Payne, 1980).

2.4.2.3 *Physical strains*

Physical symptoms are more difficult to define because it is difficult to know how much the ailments are caused by the job itself versus other aspects of the workers' life. However, there is significant research evidence that consistently links occupational stress with certain physical health symptoms of occupational stress such as cardio vascular disease (Sutherland & Cooper, 1990).

2.4.2.4 *Physiological strains*

There has been a lack of studies of organisational psychology stressors related to physiological strains. One of the more based physiological responses to occupational stress is a quick physical change occurring in an organism experiencing stress. The most recently cited physical illness is cardio vascular diseases and symptoms, including blood pressure and heart rate, cholesterol and actual heart attacks and strokes (Sutherland & Cooper, 1990).

2.4.3 Occupational Stress and Quality Of Work Life

During the past few decades people and organisations per se have encountered numerous rapidly changing conditions which they have had to take into account in order to achieve their goals. Today people, in particular, are the focal point of all activities in an organisation. Ensuring quality of work life internally is considered the correct approach to bring about job satisfaction and to increase productivity. Externally an organisation may

give recognition to the people in the environment where they operate (Bowditch & Bruno, 1982)

Interest in maintaining quality of work life was generated because employees were often frustrated in their work and experienced very little job satisfaction. They began to feel work pressures, and their health was affected. In the 1980's interest was renewed in the employee in his work environment and his health and safety (Walton, 1974).

This is particularly noticeable in the South African labour context where a series of Acts with regard to health and safety were promulgated to improve the quality of work life in a work environment. Furthermore, there has been a move towards improving career development possibilities because an increasing number of highly skilled employees are subject to stress, or face the possibility of retrenchment (Gerber, Nel & van Dyk, 1998).

Quality of work life is defined as the degree to which members of a work organisation are able to satisfy important needs through their experience in the organisation. This means that quality of work life could mean different things to different employees in an organisation (Bowditch & Bunov, 1982).

Therefore, in order to make quality of work life a reality for each employee, an organisation has to take into account each employees' needs and values, and the extent to which these needs are being satisfied, and these values conformed to. Quality of work life can be successfully achieved only if both the needs of the employee and the needs of the organisation are satisfied (Walton, 1974).

The requirements of quality of work life are, according to Walton (1974), sufficient and fair compensation, safe and healthy working conditions, development of human resources, security and growth in the organisation, social interaction, social relevance of the job and a balanced relation between an employee's working time and his/her family life. It is obvious that quality of work life includes all facets of the employee's functioning in an organisation.

Effective utilization of an employee and his satisfaction in his/her job are essential if a high quality of work life is to be maintained in an organisation. Methods to improve quality of work life in an organisation include organisational development, alternative work

arrangements, training and development, career development, technological change and work pressure. Individuals will receive great benefits from effective quality of work life programmes in an organisation. Organisations must become involved in the improvement of employees' work environment if their quality of work life is to be improved. Quality of work life reflects an organisation's concern for its employees within the organisation itself (Gerber et al, 1992).

From the definition of quality of worklife and the methods that can improve quality of worklife as discussed above, it is clear that work schedules, career development, technological change and work pressures as sources of occupational stress will have an definite impact on quality of worklife. If organisations do not improve the employees' work environment, occupational stress will occur, this negatively impacting on quality of worklife (Stranks, 1992).

2.4.4 Occupational Stress And Health And Safety

Some occupationally related injuries are the result of emotional and behavioural factors, but most of them are directly linked with the physical work environment. Those characteristics of the work environment associated with these injuries are called safety risks. Efforts by organisations to avoid accidents are therefore aimed at removing these safety risks or by making employees more safety conscious (Gerber, et al, 1998).

Health risks refer to those characteristics in the work environment that are associated with occupational diseases. These risks take on much more subtle forms and are more difficult to observe than safety risks (Goldsmith & Kerr, 1982).

Furthermore, it is difficult to identify and eliminate a single cause of a disease. For these reasons, the authorities have, in terms of legislation, paid much more attention to the safety aspect by setting standards and introducing measures for the protection of employees, while paying relatively little attention to the area of occupational health (Heart & Wearing, 1995).

Safety risks could cause mainly physical injuries, whereas risks associated with occupational diseases could cause not only physical illness, but also mental and emotional disorders. It is the responsibility of top management to ensure that employees

are aware of health and safety, and that the organisation conforms to health and safety requirements as laid down by the authorities (Leighton, 1997).

2.4.4.1 Health

Health can be described as a condition characterised by the absence of a disease, a state of the physical, mental and social well being of the individual (Kelly, 1989). Disease, accidents and stress would be detrimental to the employees' health. Poor health among employees causes absenteeism and low productivity. There are many elements to which an employee could be exposed in the work environment, and which could have a detrimental effect on his/her health. These include toxic substances, hazardous substances and gasses, radiation as well as excessive noise and vibration, which may affect hearing and balance (Heart & Wearing, 1995).

The responsibility to ensure that the workplace is such that occupational health is promoted rests with management. They may achieve this by introducing health programmes which include medical facilities, special educational programmes, proper first aid facilities for occupational injuries and diseases and properly kept confidential medical records. The physical threats at the work place to employees' physical health include asbestos, dust, radiation etc. Added to these are alcoholism and drug abuse (Leighton, 1997).

Mental health is the state of mind an employee displays: who is well adjusted, has an accurate perception of reality and is able to adapt to life's pressures and frustrations with reasonable ease (Cotton, 1995). Emotional disorders may be caused by physical illness, relationship with others outside the work situation, and interaction within the work situation. Emotional disorders may be the result of a poor motivational climate and stress in the work situation. Problems such as alcohol and drug abuse may to a certain extent be the result of work stress. Work-related factors such as too much work and problems with clients may put too much pressure on an employee, resulting in alcohol or drug abuse (Kelly, 1989).

The two main sources of occupational stress are environmental and personal factors. Irrespective of its source, occupational stress has serious consequences for the employee as well as for the organisation. Stress may give rise to anxiety, depression, anger,

cardiovascular disease and headaches, and these symptoms can result in accidents. For the organisation the consequences of stress may include a decline in the employees' productivity, increased absenteeism and turnover, and an increase in the number of complaints (Cooper & Payne, 1980).

Burn-out occurs when an individual feels as if all his physical and mental resources have been exhausted because he has been working hard continuously. This is often the result of too much stress at work, especially when the employee believes that the objectives he is pursuing are unattainable (Leighton, 1997).

2.4.4.2 Safety

Accidents at work may be ascribed to two main factors, namely unsafe working conditions or unsafe acts on the part of employees. Unsafe working conditions include defective equipment, inadequate mechanical protection, unsafe designs and unsafe location of machinery and equipment. Unsafe acts refer to the incorrect use of tools and equipment, failure to adhere to safety regulations etc. A study which found that 50% of injuries on the job were the result of unsafe working conditions, while 45% could be ascribed to the employees' negligence, and the causes of the remaining 5% could not be determined (Goldsmith & Kerr 1982).

There is also evidence that certain employees are more accident prone than the average employee. Ivanevich and Glueck (1983) identify accident prone employees as those who are under the age of 30, show a lack of psychomotoric and perceptual skills, are impulsive and are generally bored.

The success of safety programmes depends on the support and cooperation of management, on how well employees and supervisors work together and conform to safety rules and regulations.

It is the task of safety engineers to attend to unsafe working conditions by removing physical hazards. Unsafe acts by employees may be restricted by proper selection and placement of personnel, an awareness campaign on safety, and training and positive reinforcement. Employees should not only be encouraged to adhere to safety measures, they should also receive recognition if they maintain a high level of safety in the work

situation. After all, it is the organisation that benefits from a reduced accident rate, uninterrupted production schedules, and so on (Gerber, et al, 1992).

According to the Machinery and Occupational Safety Act (1983) the employer is compelled to ensure that machinery is safe and that equipment and tools are used safely by employees.

On the other hand, the establishment of the National Occupational Safety Association of South Africa (NOSA) (1951) was intended to prevent occupational accidents and diseases , to restrict their causes, to deal with all matters of national interest in respect of occupational safety, and to serve as an advisory body for all such cases, and also to provide management with training and guidance in accident prevention techniques.

The past years have been characterised by a revolutionary change in the attitude of the public, employers and labour unions in respect of the prevention and elimination of industrial accidents and diseases. Nevertheless the safety problem must receive consistent attention, as accidents and diseases still occur at work (Gerber, et al, 1992).

2.5 OCCUPATIONAL STRESS AND ABSENTEEISM

Sickness absenteeism is a sensitive and valuable stress indicator. Poor health among employees causes sickness absenteeism and this could be a behavioural indicator of occupational stress. Diseases (health), accidents (safety) and poor quality of worklife as a result of occupational stress would be detrimental to the employee's health, which will result in excessive leave absence (Kelly, 1989).

Organisations make provision for the granting of a set number of days of sick leave with full pay for an employee who becomes ill while in the organisation's employment. However, absence because of illness has an important effect on productivity. It is therefore important to establish factors that could cause employee dissatisfaction and manifest themselves in excessive sick absence (Kelly, 1989).

Occupational stress can be visible to an observer with symptoms that describe an individual, such as depressed mood or increased hostility. However, occupational stress

can also be described by individual performance in a work environment, such as increased absenteeism or loss of productivity (Ross & Altemaier, 1994).

The discussion above would suggest that the costs of occupational stress are high but also difficult to determine accurately. It is impossible to arrive at an accurate determination of costs associated with occupational stress because of the complexity of the problem. However, we are able to determine certain relevant facts. For example, absenteeism is a particularly costly problem. Estimates of the effects of absenteeism suggest that 4% of work hours are lost because of absent workers, which translates into many million rands annually (Svane, Aw & Madsen, 1996).

Perhaps the biggest cost of occupational stress, and the one most difficult to calculate, is the effect of errors made by workers under impaired conditions. Other costs are those to human lives – the actual economic costs reveal occupational stress to be a problem of staggering cost and critical importance. For these reasons, many organisations are combating occupational stress with Employee Assistance Programmes (Ross & Altemaier, 1994).

There are many factors that can have an influence on excessive sick absence. The following model looks at the main factors and sub factors that can have an influence on employees' attendance (Jago, 1979).

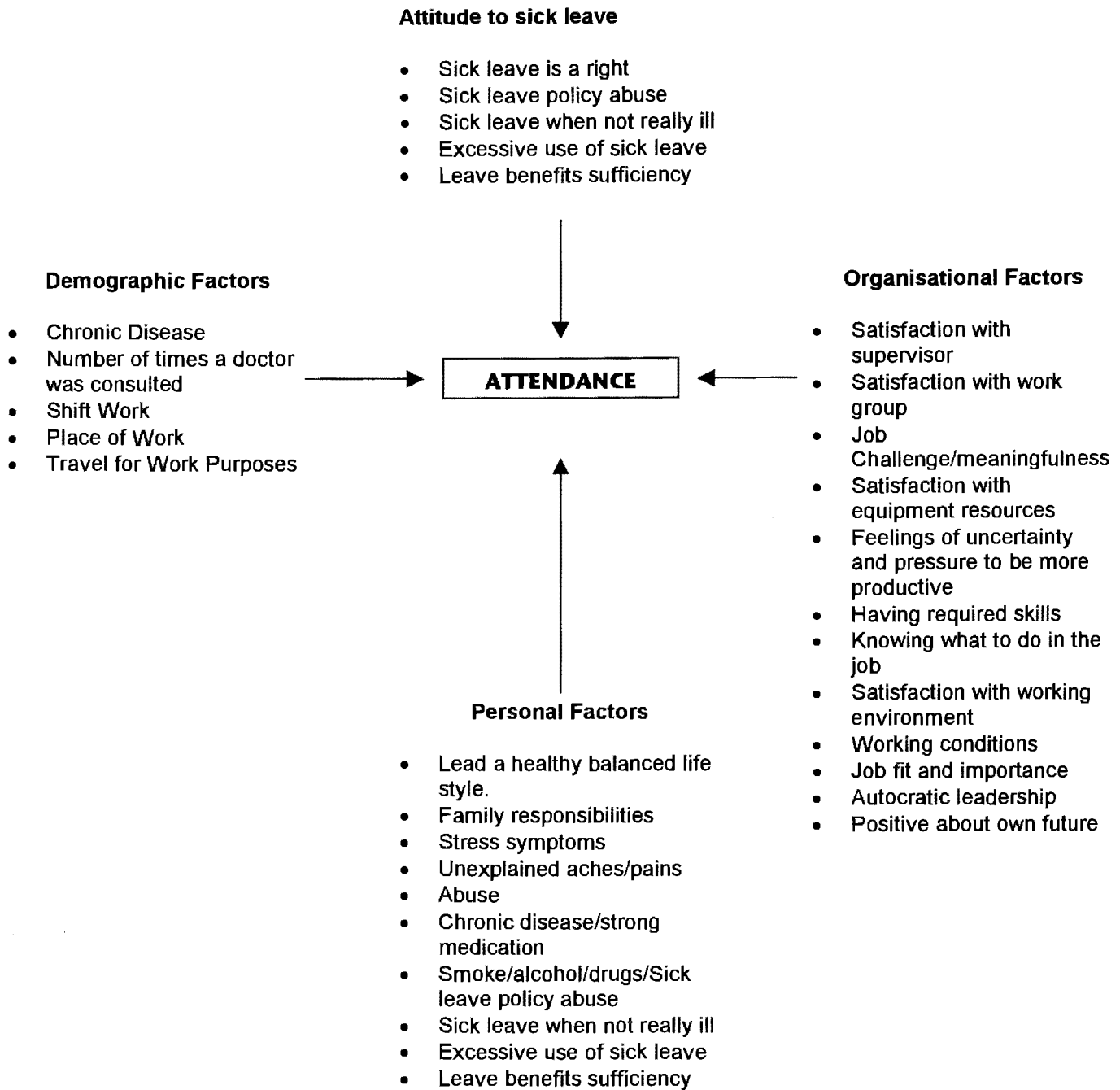


Figure 2.3. A MODEL OF EMPLOYEES' ATTENDANCE (Jago, 1976)

The most important reasons for sick leave abuse could be unhappiness at work/negativity/lack of motivation, stress and overload. It is the duty of management to review sick leave regularly, manage absenteeism, know and understand why people use excessive sick absence. Stress symptoms can lead to excessive sick leave due to illhealth or failure to cope with occupational stress (Kelly, 1989).

Occupational stress should be looked into and managed. Management must organise sessions to teach people on how to manage stress, relieve stress and work pressure, recognise fatigue and do something about it, increase job satisfaction, give more support to people with personal problems, motivate and educate people so that they want to work (Viviers, 1998).

Sick leave is a system, and management must get to the root problem and create a friendly environment. Organisational factors and personal factors will have significant influence on sick absence, e.g. the relationship with immediate supervisor and work group members will cause stress to the individual employee (Jago, 1979).

A study released by the Bureau of National Affairs showed that approximately 50% of workers' absence can be avoided by organisations attending to employee needs – both physical and emotional. The study also showed that there is a positive correlation between absences and attitudes of employees and supervisors.

The study was undertaken to determine if the illness absence rate could be effectively decreased by intervention through a health evaluation programme, to provide information, educational materials and referral resources directed towards the reduction of stress-related symptoms, and to educate employees about the benefits of prevention as well as of periodic medical examinations (Seamonds, 1986).

The findings were that employees with high or low occupational stress scores identified primary work stressors as lack of recognition by supervisors, role conflicts, deadlines and job unsuitability. Employees in this category exhibited physical symptoms such as irregular sleep patterns, fatigue and headaches (Seamonds, 1986).

In Eskom as a whole, an investigation into sick leave absence was done. The objective was to gain a better understanding of sick absence in Eskom, compile a profile of absence prone employees and establish factors that could cause employees' dissatisfaction and manifest in excessive sick absence. The main problem was that Eskom was annually losing 11,97 days per employee due to sick absence, which amounts to an annual loss of approximately 400 000 man-days and costs in excess of R116 million (Eskom Annual Report, 1998).

Not coming to work because of occupational stress seems to be one way to avoid the pain of stress (i.e. a way of coping). Organisations recognise that some absenteeism is officially due to illness and labelled as sick days. If job stress is the cause of these illnesses, then there should be some relationships between job stressors and absenteeism that is classified as sick days. This relationship will not necessarily be strong, because some people will try to fight through illness in order to come to work; while everyone will be ill sometimes when it is not due to job stress (Callan, 1993).

Two of the more popular measures of absenteeism are its frequency or its duration. Two employees might both be absent for thirty-one straight days, while one was never previously absent two workdays in a row. While having the same duration, there are two extremes of absence frequency. Absenteeism must be recorded in terms of both frequency and duration so that the relationship of each to stressors or other variables can be ascertained (Cooper, 1981).

Overall, there is mixed evidence that job stressors are related to absenteeism, but the relationship might depend upon when and how the absenteeism is measured (Ross & Altmaier, 1994).

In conclusion, it is clear that the cost of sickness to all commercial undertakings can be substantial if procedures are not established and followed. Over 200 million man-days are lost each year due to absence from work, a large proportion of which can be attributed to sickness. Absence can be associated with frequent periods of short-term illness and prolonged periods of sickness absence (Ross & Altmaier, 1994).

An organisation's sickness absence cost can be substantial if no procedure for monitoring and regulating it is operated (Stranks, 1992).

With this background in mind, this study will focus on the employees' coping or non-coping with occupational stress, by determining if there is a relationship between the Salutogenesis constructs and the sickness absence. The higher the score or number of sickleave days the individual has, the more negative his/her behaviour in terms of coping with occupational stress.

2.6 MANAGING AND COPING WITH OCCUPATIONAL STRESS

To this point in this research, information about the courses and outcomes of occupational stress has been presented. With this information as a foundation, this next section will focus on interventions for dealing with occupational stress.

A strategy used for helping individuals cope with occupational stress could be used to affect the entire organisation. The key component to understanding how individuals responses affect stress is coping, which is generally defined as the way in which people respond to stressors (Callan, 1993).

There are many examples of ways that people use to cope with stress, some of which are not healthy, e.g. smoking cigarettes or drinking alcohol as a means of coping with stress at work. Stress management interventions are designed to teach workers healthy coping strategies to deal with occupational stress. The goal of these interventions is for individuals to learn new coping skills that improve their ability to manage their environment and reduce their stress (Ross & Altamaier, 1994).

According to Lazarus and Folkman (1984), coping with occupational stress consists of the individuals' constantly changing cognitive and behavioural effort to handle those internal and external stressors which are appraised as overwhelming his or her personal resources.

The concept of coping has received much attention amongst researchers recently, especially as a result of the movement away from the pathogenic to the salutogenic paradigm, an approach which focuses on factors that have the potential to maintain and even enhance the psychological environment (Antonovsky, 1999, Strumpfer, 1990).

Despite the lively interest in coping, however there is still a paucity of stress management interventions in the workplace. According to Daniels (1996), the view exists that managers are not concerned about the risks of occupational stress to health and quality of worklife. In the cultural view, managers consider stress management to be inappropriate, since individuals, not organisations, should be responsible for coping with occupational stress.

Coping strategies can be classified as being either problem focused or emotionally focused. Problem focused strategies are directed towards managing the stressful situation, whereas emotion focused strategies focus on dealing with the associated level of emotional distress.

According to Levi (1984) there are basic paths to follow in trading occupational stress symptoms. Where possible, we should eliminate the stress-producing situation or remove the individual from the stressful situation, i.e. either clean up the working environment, offer the individual special protection or endeavour to find him another job. On the other hand, occupational health and well being depend on a complicated interplay between man and his environment, at work and outside it. Some factors in this interplay are essential conditions for health (or ill-health), others may be contributing but not essential or sufficient (Levi, 1984).

So that the planning for better occupational health and well-being can be effective, planning must take place in collaboration with those immediately affected, i.e. it must be participatory. The workers for whom it is meant must be given the necessary opportunity and competence, and be encouraged to take part themselves, both in making and implementing decisions to improve their work environment and occupational health and well-being.

All the relevant aspects must be covered and be well co-ordinated, i.e. personal development and self-realization is a task not just for occupational health authorities and a few psycho-social experts, but for all responsible or involved in planning, and all these activities must be coordinated (Levi, 1984)

According to Viviers (1998), in the light of the present stressful political, social and economic realities facing South Africa, industrial psychologists have a vital role to play in facilitating the mental health of employees. They have to equip managers with skills that will enable them to cope with the demands of the present as well as those of the future. This entails, for example, sustaining the mental health of employees, thereby enabling them to remain a productive working unit despite conditions of occupational stress.

Viviers (1998) maintains that of even greater importance is to make suitable appointment in key positions, especially within the ranks of management. Only if one has an effective

and active management corps that functions optimally even under conditions of stress, will one be able to maintain a Salutogenic orientation that spurs employees on to optimal performance (Viviers, 1998).

On the other hand, it would certainly assist all employees if their organisation would show more support and more interest, and concentrate more on the human element. Interest shown in the individual as a person within the organisation would have a positive effect on many aspects of an employee's approach to work and life in general. Not only will it help people cope with stress, but this will also serve as a stimulus for optimal functioning (Viviers, 1998).

At the concept level the focus is mainly on production in terms of work output. Not enough attention is being paid to coping and the personal development of people in general. A Salutogenic orientation enables a person to function in a holistic sense, thus resulting in a more balanced and better adjusted person and employee.

2.6.1 Defining Coping and Non-coping

According to humanistic thinking, an event becomes stressful when it is appraised by an individual as a threat to his or her level of well-being (Callan, 1993). The purpose of introducing coping resources is to reduce tension, and in so doing to restore emotional equilibrium, as well as to deal with the problem which is causing distress. This is referred to as problem focussed coping (Folkman & Lazarus, 1990).

Folkman and Lazarus (1990) define coping as "the cognitive and behavioural efforts to master, reduce or tolerate the internal and/or external demands of the person – environment transaction that is appraised as taxing or exceeding the individual's resources".

Non-coping, on the other hand, is seen as failed coping efforts, with a subsequent occurrence of physical and psychological disorders. Sweeney, Nichols and Cormak (1993), refer to non-coping as the inability to cope effectively with stress.

Ben-Sira (1984) points out that exposure to and coping with the demands of life comprise the essence of human life. Inadequate coping with these demands can be viewed as

trying to deal with the demands that exceed the resources of the system, thus a failure in coping results in a disturbance of homeostasis.

However, Folkman (1984) opposes the idea that non-coping is failure to manage or succeed in dealing with the demands, he implies that non-coping is not determined by the outcome of coping strategies, but rather by the availability or lack of coping skills.

In line with Antonovsky's (1987b) Salutogenic orientation to move away from the dichotomy of people being either diseased or healthy, Wiedenfield, Bandura, Levine, O'Leary, Brown and Raska (1990) postulate that human coping usually entails an ongoing process of reappraising one's coping abilities in the face of unremitting bombardment by stressors. The result of coping is that stress reactions are low when people cope with stressors, while non-coping produces substantial increases in subjective stress (Wiedenfield et al. 1990).

In summary one can say that non-coping refers to a "failure to manage internal and external demands with the result that there is a substantial increase in the level of stress". In addition, coping is an ongoing process to be seen as a continuum, and the lack of continuation leads to "non-coping" which could be due to the lack of the necessary skills (Wiedenfield, et al. 1990).

The question now is, why do individuals differ in their coping skills – why do some individuals cope with occupational stress while others in the same situation do not? There are certain personality constructs and characteristics that people draw upon to help them withstand threats posed by stressors in general.

There could be a relationship between an individual's coping ability and personality characteristics. Individuals have certain patterns of behaviour to cope with stressful life circumstances. There are some indications that a positive relationship may exist between personality characteristics and coping behaviour.

Over and above what has been discussed this far, the following could assist industrial psychologist to manage occupational stress at work:

2.6.2 Workplace Interventions of Occupational Stress

According to Ross & Altamaier (1994) the following are the six main workplace interventions.

2.6.2.1 Role Characteristics

Reducing occupational stress through tackling issues such as job ambiguity, work overload and underload and changing expectations.

2.6.2.2 Job Characteristics

Reducing stress by job redesign, job enrichment or job enlargement.

2.6.2.3 Interpersonal Relationship

Improving communication methods and systems at work.

2.6.2.4 Organisational Culture and Climate

Encouraging decentralisation, greater participation in decision-making, and surveying work-force attitudes.

2.6.2.5 Human Resource Management Systems

There are a whole series of personnel management functions that may help reduce stress at work, e.g. career development, performance feedback recruitment and selection, training, etc.

2.6.2.6 Physical Qualities

It may be necessary to change the quality of the work environment. One should consider the physical environmental stressors described above. Workers may be offered an opportunity to discuss those aspects of the environment they experience as stressful and

to brainstorm suggestions about how these physical stressors could be handled (Hardy, et al, 1998).

2.6.3 Individual Intervention

Hardy et al (1998) identified the following individual interventions in occupational stress.

2.6.3.1 Monitoring stressors and symptoms

This involves stress diaries and muscle monitoring of stress that occurs as a result of occupational stress. Individuals could benefit from taking time to identify the specific stressors and symptoms that cause them the most difficulty in their work. The rationale for these strategies is that simply becoming aware of the symptoms of occupational stress may be sufficient in increasing coping or reducing stress.

2.6.3.2 Marshalling resources and attacking stressors

This includes social skills, assertion training and problem solving skills training. It means developing skills which prepare the individual to cope with stressful situations as they occur. For example, assertiveness training will help employees respond in a straight forward manner with regard to what they believe, feel and want.

2.6.3.3 Tolerating Stressors

It has been mentioned earlier on that encountering occupational stress in life is inevitable. Given this reality, interventions can help individuals to tolerate stressors by altering the way particular stressors are viewed. These cover cognitive behavioural techniques, including cognitive appraisal, which involves teaching individuals to assess the severity of stressors by considering the perspective in which they view a particular stressful situation.

Another method is cognitive restructuring, which is based on the premise that many people believe other people or events outside of themselves are responsible for how they feel (external of control). The aim of this technique is to help individuals cope with stress by changing their beliefs or cognitions.

Cognitive rehearsal involves helping people tolerate stressors by anticipating them before they happen. This calls for visualising a potentially stressful event as happening. This calls for visualising such an event before it occurs and practicing or rehearsing how to respond. The rehearsal can be relaxed.

Stress inoculation training combines all of the techniques outlined here. It focuses on altering the way the individual processes information about a stressful situation and identifies cognitive and behavioural coping skills, to change unproductive ways of reacting.

2.6.3.4 *Lowering Arousal*

This model suggests that the human body prepares itself to respond to stress by changing certain bodily functions such as heart rate, blood flow or muscle tension. These interventions help individuals prevent the negative effects of occupational stress through lowering physiological arousal: some of the simplest techniques for lowering physiological arousal are deep breathing, meditation etc (Hardy, et al, 1998).

2.6.3.5 *Combative Strategies*

Combative strategies include developing coping resources like social support and time management, altering stress inducing behaviour patterns like changing type A behaviour patterns, and lastly, avoiding stressors through adjustment, e.g. career pathing.

2.6.4 Special Programmes

Several specialised programmes have been developed for dealing with occupational stress in the workplace (Cooper & Payne, 1988). These programmes are, in general, referred to as Employee Assistance Programmes (EAP) and Health Awareness Programmes. EAPs as they currently operate, can be considered stress reduction strategies to the extent that:

- * Emotional stress is an etiological factor in alcohol use;
- * Problem drinking itself creates employee distress; and/or

- * EAPs reduce distress among supervisors who must deal with troubled employees

EAP counsellors would need to become familiar with principles of organisational behaviour and the dynamics of the work environment / health relationship. However, EAPs currently represent a resource for occupational stress reduction and prevention (Cooper & Payne, 1988).

2.6.5 Social Support

Social support has received a great deal of research in the general life stress area, and increasingly in the job stress field as well. Supportive people in the work place are likely to help reduce strains, and in this sense, the lack of social support can be considered a stressor. Social support has, instead, usually been considered a treatment or adaptive activity for coping with occupational stress.

The literature on social support in conjunction with occupational stress is full of empirical results which are consistent with the idea that lack of social support is related to increased employee strains (Ross & Altermaier, 1994).

The following types of social support as a form of treatment are discussed:

(a) Structural and functional social support

Structural social support refers to the existence of a social network within which the person is embedded. In this regard, employees are usually part of an organised set of people who have relationships with each other. The frequency of contacts with such people is often an indicator of structural support.

Functional support refers to definitions and measurers of social support, requiring an indication that the socially supportive person or people serve a function for the focal person. This includes the provision of companionship or being instrumental for the accomplishment of the focal person's tasks (Levi, 1984).

(b) *Emotional and tangible social support*

Emotional support is seen as a kind of support that would help alleviate the effects of occupational stress better. Alleviating stressful effects usually means that the strains are reduced more, either through a buffering effect or by exerting a main effect on the strains (Beehr, 1995).

(c) *Contents of communication*

Beehr (1998) suggested the idea of examining the role of the contents of communications as an operationalization of types of social support. Talking to or otherwise communicating with the focal person can offer social support; however, more specific still would be an analysing of the contents of these talks or communications between the stressed person and the supportive person. Beehr (1985) suggested the following types of communication from potentially supportive managers: negative work-related, positive work-related and non-work-related communication.

The effects of social support in relation to occupational stress would be seen on job stressors and on individual strains. However, the most obvious problem with the social support literature is that social support has not been operationally defined in a clear, limited, consistent way (Beehr, 1985)

2.7 CHAPTER SUMMARY

In this chapter, the meaning of occupational stress was defined as a generic term, but was limited to the harmful effects and unpleasant experiences. Thereafter five approaches to occupational stress were discussed in order to present the main fields of specialisation that approach stress. With this background the sources of occupational stress in the workplace and the effects thereof were discussed.

Of the most importance, the effects of occupational stress in particular on sickness absence were discussed as the main variable against which coping skills will be measured. Later on, a discussion on coping and the management of stress followed,

which will serve as the background when recommendations are made at the end of this study.

As outlined earlier not all people find any given potential stressor situation equally perturbing and indeed, as our literature can illustrate, not all factors will evoke stress reactions to an equal extent. However, the assessment of occupational stress in this study was based on the conceptualisation of stress as an unpleasant experiential state.

CHAPTER 3 SALUTOGENIC FUNCTIONING

With reference to the research methodology as was discussed in chapter 1 (section 7), the aim of this chapter is to conduct a literature review of the salutogenic model as well as to select and discuss the constructs to be used for the empirical study. The salutogenic paradigm will first be discussed to enable the selection of specific constructs, and thereafter, each of the constructs will be discussed.

3.1 BACKGROUND OF SALUTOGENIC PARADIGM

The paradigm of salutogenesis (tracing the origins of health) was introduced by Aaron Antonovsky, a Professor of Medical Sociology at the Ben Gurion University of Negev in 1973 (Antonovsky, 1991).

The salutogenic paradigm assumes the following (Strümpfer, 1990):

- * The emphasis is placed on ongoing health or well being.
- * The primary concern is with the maintenance and enhancement of well being.
- * The assumptions that stressors are inherently bad are rejected in favour of the possibility that stressors may have salutary consequences.
- * The focus is on how a person can manage stress and stay well.

Unlike the normal pathological orientations seeking to explain why people get sick, and specifically, why they develop particular disease entities, this paradigm focuses on the origin of health (salus-health, genesis-origin) and moves away from the dichotomy of people being either diseased or healthy, in favour of what Antonovsky (1987), calls the health ease/disease continuum. This implies that all people fall somewhere between two theoretical poles of total terminal illness and total wellness. One would then ask the question: "What factors move a person from one pole to the other?"

The crucial demands in the salutogenic orientation are that the stimuli are viewed as challenges, the challenges are endemic, built into life, the dependent variable is a continuum, not a dichotomy. Antonovsky (1979) summarises the salutogenic orientation by stating: "thinking salutogenically not only opens the way for but compels us to devote our energies to the formulation and advance of a theory of coping."

The salutogenic paradigm plays an important role in the health sciences, including medicine, psychology, and psychobiology. The central thesis of this paradigm is that stressors are omnipresent in human existence, and even with a high stressor load many people (though far from most) survive and even do well (Antonovsky, 1979).

In his research on the individual who is experiencing stress of different kinds, Antonovsky (1997) noticed that stressors are omnipresent and many individuals still survive in spite of them, and asks the question: "Whence the strength?"

The implications of this paradigm are as follows:

- * Do away with the dichotomy of people being either diseased or healthy in favour of the health ease/disease continuum (Antonovsky, 1984, 1987)
- * The paradigm rejects the commonly held assumption that stressors are inherently bad (Antonovsky & Bernstein, 1986).
- * From the salutogenic view, tension doesn't automatically imply stress, in contrast to the pathogenic question: "How can we eradicate stressors?" The salutogenic question is: How can we learn to live well with stressors, and possibly even turn their existence to our advantages (Antonovsky, 1984).
- * The fourth implication is that we ought to study the "deviant case", i.e. looking at the deviants who make it against the high odds that human existence poses.

The salutogenic question is what enables some of the people, even though fewer than in control groups, to do well even though in the high stressor category; an altogether different question to the traditional pathogenic hypothesis which most of us would be inclined to investigate (Antonovsky, 1984).

Antonovsky and Bernstein (1986) analysed, criticised and commented on a sample of 31 researches to highlight the differences between pathogenic and salutogenic approaches. Salutogenic studies are designed to test a hypothesis that explains successful (healthy) outcomes, gives attention to the deviant case in both data analysis and discussion, and accepts the possibility that stressors may have salutary consequences.

However, acceptance of the salutogenic view does not imply rejection or abandonment of the pathogenic view (Antonovsky, 1984, 1987). The benefits of the pathogenic view are

visible in all clinical fields and it is exceedingly important that research directed at the discovery of pathogens and the effect of stressors should continue. The pathogenic and salutogenic paradigms do different things and in many instances complement each other. The two ought to enrich and stimulate growth in each other. The salutogenic paradigm is vitally important to new insights and new growth in the social science; it holds promise for integration of knowledge at a new, higher level (Strümpfer, 1990).

Antonovsky (1979) further argues that through life experiences, individuals develop “generalised resistance resources”, GRR, which he defines as any characteristic of the individual, group, subculture or society that facilitates avoiding or combating a wide variety of stressors. According to Antonovsky, GRRs can facilitate effective tension management in any situation of demand. The range of GRR’s that he describes includes:

- * Physical and biochemical GRRs, like immunosuppressors and potentiators;
- * Art factual material GRRs, particularly wealth that can buy food and clothing;
- * Cognitive GRRs, particularly knowledge and intelligence, e.g. avoiding AIDS
- * Coping strategies, as overall plans of action for overcoming stressors
- * Interpersonal relational GRRs, like social support and commitment
- * Macro-sociocultural GRRs of “ready” answers provided by one’s culture or religion.

According to Antonovsky (1987) the central concept of salutogenesis is a person’s sense of coherence (an inner strength) which that person develops over time. In his view, all GRRs facilitate “making sense out of the countless stressors with which we are constantly bombarded”.

This is developed by establishing an understanding of how stimuli in ones environment are perceived as logical and fit into a coherent format, whether the resources are available in the environment to meet the demands posed by these stimuli (manageability) and whether these demands are perceived as challenges and worthy of investing one’s energy (Antonovsky, 1987).

The paradigm focuses on normal behaviour and the locating and developing of personal and social resources and adaptive tendencies which result in coping and growth.

Antonovsky (1987) sees this paradigm as answering the question: “ How do we manage tension and prevent it from leading to stress?” He sees it as channelling the resources available to enable one to resolve tension. This model endeavours to promote positive health by understanding those factors that enable health to flourish (Kelly, 1989).

3.2 SALUTOGENIC CONSTRUCTS

With reference to his own concept of sense of coherence, Antonovsky (1991) identified other constructs, which serve as salutogenic combating stressors. These include Bandura’s self-efficacy, Kobasa’s personality hardiness, Rotter’s locus of control, Rosenbaum’s learned resourcefulness and Ben-Sira’s potency. All these constructs focus on how individual’s characteristically handle stressors and still remain healthy. They focus on factors such as the ability to control and resolve stressful situations successfully. They include a generalised set of beliefs about oneself and about one’s world, which shows one’s appraisal of a given stress situation (Antonovsky, 1991).

In spite of the fact that Strümpfer (1990) advises that potency should rather be replaced with Antonovsky’s sense of coherence, the researcher decided to include it as a construct. This is because potency and self-efficacy are the only two constructs that provide a strong indication of the emotional (affective) coping abilities of respondents. As employees cannot be viewed in isolation from their environment/society the incorporation of potency constructs adds an important dimension of this study as it reflects the interaction between an individual and his/her environment (Ben-Sira, 1985).

The other construct is learned resourcefulness, which Strümpfer (1990) included because it encompasses not only “beliefs”, but also the “skills” which an individual learns from the moment of birth. Thus, it serves as an indication of how an individual will employ various skills to minimise the effect of occupational stress.

All these constructs cover a range of personality characteristics and skills which are known or believed to be linked to stressors, coping and health. Although they focus on different aspects of personality functioning, these constructs complement one another. The more of each of these strengths that an individual possesses, the greater will be the coping and growth of the individual in relation to his/her environment (Antonovsky, 1991).

In the following section, each construct will be discussed fully.

3.2.1 Sense of coherence (Antonovsky)

Sense of coherence (SOC) is, according to Antonovsky (1987) the central concept of the salutogenic orientation. This construct assumes paramount importance in the movement of an individual along the health continuum. The closer one is to the healthy end of the continuum, the stronger is one's sense of coherence, and the stronger the sense of coherence, the healthier and more resilient about stress the individual will be. Sense of coherence is developed through the process of coming to understand one's life experiences, thus being rooted in the particular historical and social cultural context of the individual's lifespan.

Antonovsky (1993a) defines sense of coherence as a global orientation that expresses the extent to which an individual is able to comprehend the meaning of stimuli in the environment as being ordered and predictable. It is also based on his views that resources are available to the individual to meet the demands posed by these stimuli and that these demands are challenges, worthy of investment and engagement. Sense of coherence is developed as a single dimension of the individual's personality, consisting of the following interwoven components:

3.2.1.1 Comprehensibility

This refers to the extent to which an individual perceives the stimuli that confront him/her as making cognitive sense. Individuals find a certain logic in the sequence of events, that there is a degree of consistency from one experience to another and that in general, inexplicable events do not occur (Sullivan, 1993).

3.2.1.2 Manageability

This is the extent to which individuals perceive that resources are available and adequate to meet the demands posed by the stimuli (Antonovsky, 1984).

People who rate high on manageability have a sense that, aided by their own resources or those of legitimate others (friends, colleagues, God, history), they will be able to cope and

not grieve endlessly. Sense of coherence is strengthened by the existence of resources which an individual perceives as providing support against any potential stressors in the environment.

3.2.1.3 *Meaningfulness*

People who are rated high in meaningfulness feel that life makes sense emotionally. This is the emotional counterpart to “comprehensibility” (Antonovsky, 1984).

The more positive the approach of the individual in these areas, the higher the level of sense of coherence, and the healthier and more resilient the person will become.

According to Strümpfer (1990, 269) having a strong sense of coherence does not mean that the person views his/her entire world as comprehensive, manageable, and meaningful. People set boundaries, and what happens outside these boundaries does not trouble them.

However, Antonovsky (1987) maintains that there are four spheres that cannot be excluded if the person is to maintain a strong sense of coherence; i.e. his own feelings, immediate interpersonal relations, work and the existential issues of death, inevitable failures, shortcomings, conflict and isolation (Strümpfer, 1990)

3.2.2 **Hardiness (Kobasa)**

Hardiness was proposed by Kobasa as a global personality construct which moderates stress-health relationships. Kobasa (1979) postulates that there has been an extraordinary amount of research since the late 1950's on individuals who fell ill following their encounter with stressful events. The public is thus warned that if it wants to stay healthy, it must avoid stressful life events. In contrast to popular opinion, Kobasa points out that the coping style of some individuals consists of turning stressful events into possibilities and opportunities for personal development. In the evaluation of stressful life events , hardy personalities find opportunities to exercise decision-making, set goals and confirm life's priorities (Kobasa & Pucette, 1983).

Antonovsky (1987) mentioned that though many individuals lead quite stressful lives, many of them do not become ill, something that Kobasa has also demonstrated. Kobasa's

studies provide a basis for understanding how individuals can encounter great stress and still be healthy. Hardiness was conceived as consisting of the following components:

3.2.2.1 *Commitment versus alienation*

People rated high in hardiness involve themselves in whatever they are doing, possess a belief in the truth, the importance and value of what they are and what they are doing, and have a tendency to involve themselves actively in many situations in life. Committed people have a generalised sense of purpose that allows them to identify with and find meaningful the events, things and persons of their environment. Committed people get involved rather than being passive and avoiding being active (Kobasa, et al, 1982)

3.2.2.2 *Control versus Powerlessness*

Hardy people have a tendency to believe and act as if they can influence the events of one's life through what one imagines, says and does with emphasis on personal responsibility (Strümpfer, 1990). This implies a perception of oneself as having a definite influence through the exercise of knowledge, skill and choice (Kobasa, et al, 1982).

3.2.2.3 *Challenge versus threat*

This is an expectation that change, rather than stability, is the norm in life, and that change will present one with opportunities and incentives for personal growth and development. Challenge mitigates the stressfulness of events and the perceptual side by colouring events as stimulating rather than threatening. In coping behaviours, challenge will lead the individual to attempt to transform and thereby grow, rather than to conserve and protect what she/he can of the former existence (Kobasa, et al 1982).

3.2.3 Potency (Ben-Sira)

This construct implies "a person's enduring confidence in his own capacities as well as confidence in and commitment to his/her own social environment, which is perceived as being characterised by a basically meaningful and predictable order and by a reliable and just distribution of rewards" (Ben-Sira, 1985).

Ben-Sira (1985), views potency as a mechanism that prevents the occasional inadequate coping, from turning into a lasting stress.

In this study investigating the role of potency in the relationships between health, stress, indicators of successful coping and resources, it confirmed the relationships inferred from his conceptualisation of potency. According to him, the issue is whether the resources at the disposal of the individual were adequate for meeting the demands, and how these resources would have the power of restoring the homeostasis which they were unable to maintain in the first place. The concept of potency is of a stress-buffering mechanism: that which limits the homeostasis disturbing impact of an occasional failure in meeting a demand due to lack of resources (Ben-Sira, 1989).

In view of the close theoretical affinity between potency and the sense of coherence, Strümpfer (1990) suggests that researchers looking for a measure of salutogenesis should use the SOC questionnaire rather than the Potency Scale.

3.2.4 Learned Resourcefulness (Rosenbaum)

Meichenbaum (1977) used the term “learned resourcefulness” to describe the belief of people who have been trained in stress inoculation, that they can deal effectively with a manageable level of stress. Rosebaum extended the construct to include not only the beliefs, but also the skills and self-control behaviours which all people learn in different stages through informal training from the moment of birth (Strümpfer, 1990).

To Rosenbaum (1989) learned resourcefulness is a personality repertoire which is a set of complex behaviours, cognitions and affects that are evoked by many situations in an individual’s physical and social environment, when confronted by situations that call for self-control. By using acquired repertoires of behaviours and skills, the individual self-regulates internal responses that interfere with desired responses. Effective self-control behaviour may help individuals to sustain goal-directed behaviour even when external reinforces are not available or negative (Strümpfer, 1990).

3.2.5 Self-Efficacy (Bandura)

Bandura's self-efficacy is an inner coping mechanism against stress in the environment and a source of a mechanism for psychological growth. Self-efficacy is concerned with how individuals judge their capabilities and how, through their self-perception of efficacy, they affect their motivation and behaviour (Bandura, 1989).

It is important to also note that the theory of self-efficacy emphasizes the enhancement of coping behaviour through perceived efficacy. One might ask the question as to "what would be the sources of the individual capacity to cope with stressors?" Bandura believes that self-efficacy is the skill, competencies and capabilities an individual has to achieve a high level of self-efficacy. The strengths of efficacy facilitate resilience against stress and enable growth and learning (Bandura, 1989).

3.3 INTEGRATION OF SALUTOGENIC CONSTRUCTS

This section will attempt to integrate salutogenic constructs with the biographical variables and the health profile of the sample.

The principal focus of this research is the relationship between salutogenic functioning and sick leave. According to Antonovsky (1987), the generalised resistance resources are important determinants of the sense of coherence. The stronger the sense of coherence, the healthier and more resilient towards stress the individual will be. The closer one is to the healthy end of the continuum, the stronger is one's sense of coherence. The individual's stress control and personal growth are derived from these. The focus of salutogenesis on successful coping brings a radically different mode of thinking, of coping with life stressors (Antonovsky, 1991).

The literature review on salutogenic functioning indicates that there could be a correlation between salutogenic functioning and biographical variables, and sickness/sick leave days. The focus of the salutogenic constructs is on successful coping (Antonovisky, 1991), and they all deal with "how people manage stress and stay well" (Strumpher, 1990), therefore, these constructs collectively measure generalised personality orientations (Marais, 1997).

Salutogenic functioning may be influenced by biographical variables. The older and more experienced an individual becomes, for example, the higher he/she may measure on hardiness. This individual will be more committed to experiencing work as satisfying, having control and confidence, while seeing work life as challenging and able to cope with stress. On the other hand, however, one can argue that the older an employee becomes, the more he/she may experience health problems/sickness.

Although there is no published research on the correlation between salutogenic constructs and sickness / sick leave, Antonovsky's (1987) constructs are of fundamental importance for research in health psychology, since the primary concern is with the maintenance of and enhancement of wellness in addition to the treatment of the illness (Strumpfer, 1990).

A study was conducted on the sequel to the concentration camp experience of Jewish women (Antonovsky, 1971). Although health status was the primary dependent of the research, data was also collected on well-being, coping and role satisfaction. The data showed correlation camp survivors to be more poorly adjusted than the control group, but 29% were found to be well adapted. These individuals had experienced the most unimaginable horror of the camp followed by years of being displaced, but were still in a reasonable state of health (Antonovsky, 1971).

Salutogenic functioning focuses on the origin of health. Stressors are omnipresent in human existence, and even with a high stressor load, many people survive and even do well (Antonovsky, 1979; 1987). This functioning reflects the emphasis on health rather than illness, endeavouring to promote positive health by understanding those factors that enable health to flourish (Kelly, 1989).

One can therefore conclude that an optimally functioning individual has healthy and mature relationships, views information from the environment in a positive and constructive manner, is confident and self-fulfilled and able to use his / her inner resources to cope, solve problems and achieve results.

3.4 CHAPTER SUMMARY

This chapter reviewed the Salutogenic model and its constructs that will be used for the purpose of the empirical study which follows.

The Salutogenic paradigm analysed above reflects the emphasis on health, rather than on illness, and endeavours to promote positive health by understanding those factors that enable health to flourish. The six Salutogenic constructs discussed focus on how individuals characteristically handle stressors and still remain healthy. In addition, and of vital importance to this study, the constructs share a common belief that being high on these personality orientations facilitates successful coping, thus contributing to health. With reference to the literature objectives of this study, the last aim of the literature review has been fulfilled.

CHAPTER 4 EMPIRICAL STUDY

This chapter focuses on the empirical study undertaken in this research. The aim is to discuss the sample, the measurement of the variables (namely, the salutogenic constructs, sick leave and biographical information), data gathering, processing and the formulation of the hypothesis.

4.1 POPULATION AND SAMPLE

The research is being conducted within Eskom Enterprises. This division provides a total outsource service to manage, commission and maintain electrical secondary plant systems for utilities and large industries. The total population size at the time of this study was 350, consisting predominantly of male technical workers. Some of these technicians are located at the 11 Eskom Power Stations, while others are located at the main office in Witbank, but still render a service to the power stations and other customers outside Eskom.

The sample for this study consisted of 73 workers from PTM Eskom Enterprises (N = 73).

To obtain this sample a note was attached to the questionnaires requesting employees' participation in the research study. Although about 100 questionnaires were sent out, a sample of 73 employees was obtained. A profile of the respondents based on the work station, job grading, age, gender and number of years in service was also requested, which will be presented in Chapter 5 when results are being discussed.

4.2 MEASUREMENT OF BIOGRAPHICAL INFORMATION

The following biographical information was measured (See appendix 1). These variables were chosen in order for the research to indicate more detail about the biographical profile of the salutogenic functioning and sick leave days taken amongst this sample of employees:

- * Work Station
- * Job Grading

- * Age Group
- * Gender
- * Years of Service

4.3 MEASUREMENT OF SALUTOGENIC FUNCTIONING

Five Salutogenesis questionnaires were used as measuring instruments in this study. Next, their aim and rationale, administration, interpretation, validity and reliability will be discussed.

All instruments were chosen because of their conceptual resemblance to the salutogenic constructs as well as for their psychometric qualities.

4.3.1 Sense of coherence

** Aim and Rationale*

Antonovsky's questionnaire (1987) Orientation to Life was used to measure sense of coherence. Its aim is to measure sense of coherence in a total score, as well as comprehensibility, manageability and meaningfulness. A high total score would indicate a strong sense of coherence. If an employee scores high in the three dimensions mentioned above, this would be an indication of a high level of coping behaviour.

** Administration*

There are 29 questions relating to various aspects of life that the respondents had to respond to. Thirteen of these questions are negatively formulated and have to be reversed. Out of the 29, eleven items measure comprehensibility, ten measure manageability, while the remaining eight measure meaningfulness.

The respondent is expected to mark the number which best expresses the extent to which the statement is applicable to him/her, with numbers 1 and 7 being the extreme answers (Antonovsky, 1987).

* *Interpretation*

A high score indicates a high level of sense of coherence, as well as a high level of functioning on comprehensibility, manageability and meaningfulness. This implies that an individual will experience life and its challenges as comprehensible; will be able to manage the demands of coping with them, while at the same time finding coping emotionally meaningful (Antonovsky, 1993).

* *Validity*

Each item on the instrument was scrutinised by Antonovsky's (1993) colleagues who were familiar with the theory to measure face and content validity. These colleagues evaluated each item to refer to one of the senses of coherence and its dimensions. Construct validity varies between 0,38 and 0,72 (Antonovsky, 1993).

* *Reliability*

Antonovsky (1993) lists evidence from studies conducted in 20 countries for the reliability of this scale. In the 26 studies conducted using the 29 item scale, the Cronbach Alpha measure of internal consistency ranged from 0,82 to 0,92.

This questionnaire is universally accepted as a measurement instrument for sense of coherence as it is both valid and reliable. It is based upon a solid framework which has been empirically tested within the stress-coping-health process worldwide, as it is also seen as the core construct in the Salutogenic model (Antonovsky, 1987).

4.3.2 Hardiness

* *Aim and Rationale*

Kobasa (1979) developed the Personal Views Survey which was used to measure hardiness. The survey aims to assess the individual's resistance to illness as caused by stressful events. A high score in this survey will indicate the individual's commitment, control and challenge, while a low score indicates a lack of these characteristics.

* *Administration*

The Personal Views Survey consists of 50 items in which an individual indicates how she/he feels about a question. There are four possible answers ranging from “not true at all” to “completely true”. Responses are added to form the total score.

* *Interpretation*

According to Kobasa, et al. (1982), a high score indicates a strong sense of hardiness which serves as a predictor of the extent to which stress and illness will be buffered. Individuals scoring high on hardiness experience their everyday interactions consistently with a sense of commitment, control and challenge. They show the expected emphasis on transformational coping when they deal with stressful events, which is not the case with a person scoring low on hardiness.

* *Validity*

Kobasa (1982) indicated that the survey shows a significant internal validity of 0,85 for commitment, 0,70 for control and 0,71 for challenge. When the sub-scales were combined, a correlation of 0, 61 was shown over a period of five years (Kobasa, 1982).

* *Reliability*

A significant correlation of 0.85 for commitment, 0,68 for control and 0,70 for challenge has been reported, which indicates reliability.

The Personal Views Survey is both valid and reliable, which makes it the best current measure for hardiness. This is a good instrument to assess individual’s coping behaviour, health, morale and their effectiveness.

4.3.3 Potency

- *Aim and Rationale*

The Potency Scale was developed by Ben Sira (1985) in order to ensure potency.

The main aim of this scale is to measure self-appreciation, mastery and commitment to society. These factors are significant determinants of location of movement in the coping-stress-disease relationship (Ben-Sira, 1985).

* *Administration*

The Potency Scale consists of Sections A and B. Section A has 19 items measuring self-confidence, commitment and mastery. Each question has six possible answers ranging from 1, which indicates strong agreement, to 6, which indicates strong disagreement. Section B consists of a list of 15 conditions/diseases that could have possibly been diagnosed by a physician regarding the respondent's health. The respondent indicates by "yes" or "no", whether a physician diagnosed any of the 15 conditions or diseases (Ben-Sira, 1985).

* *Interpretation*

The respondent's high score will imply that he/she has enduring confidence in his/her own capabilities as well as confidence in and commitment to his/her social environment. According to Ben-Sira (1985), strong potency implies that the health of an individual will be affected by an occasional disturbance of emotional homeostasis and the latter will be less affected by recourse deficiency, and the emotional stability of the individual will be less affected by failure in coping, as well as by specific resource deficiency

* *Validity*

Ben-Sira (1985) reported low validity of this instrument and suggested that further studies to verify the inferences of the Potency Scale should follow. According to Ben-Sira (1985), longitudinal studies are required to verify inferences from test scores and other forms of assessment.

* *Reliability*

A correlation of 0,40 between potency and coping, and a correlation of 0,43 between potency and homeostasis were reported by Ben-Sira (1985). This implies that the scale is moderately reliable. The Potency Scale is used extensively in assessing coping behaviour

in different scenarios in spite of its lack of significant psychometric qualities (Kossuth, 1998).

4.3.4 Learned Resourcefulness

* *Aim and Rationale*

Rosenbaum (1980) developed the self-control scale to measure learned resourcefulness. This scale aims to measure the skills and self control behaviours which individuals use to cope with stressful situations. The scale includes the assessment of an individual's tendencies to apply self-control methods to the solution of behavioural problems (Rosenbaum, 1990).

* *Administration*

The self report instrument measures behaviour on a six-point scale where scores range from +3 to -3 (very characteristic of me and very uncharacteristic of me). All the items are added to obtain a total score (Rosenbaum, 1980).

* *Interpretation*

According to Rosenbaum (1980), a high score in learned resourcefulness will indicate a high degree of strength, i.e. the individual's tendencies to apply self-control methods to the solution of behavioural problems. This indicates the use of cognition to cope with emotional and psychological responses, the application of problem solving strategies, the ability to delay immediate gratification and the general belief in one's ability to regulate internal events.

* *Validity*

A low significant correlation (but statistically significant) has been reported. Rosenbaum (1980) postulates that the validation of this scale is a complex task as self-control behaviours are mostly covert, and must be inferred from the behaviour of individuals under specific circumstances or from self-reports.

* *Reliability*

The reliability of the self-control scale was established in a number of studies. Test-retest reliability after four weeks indicated reliability of 0,96, which was fairly stable. An Alpha coefficient on six different samples of subjects ranged from 0,79 to 0,86, indicating high internal consistency among the items (Rosenbaum & Palmon, 1980).

The self-control scale has a considerable status in the field of health psychology. It is also based on a sound theoretical framework which is broadly accepted in psychology.

4.3.5 Self Efficacy

* *Aim and Rationale*

This scale was developed by Bandura (1977) to measure self-efficacy, which is defined as an inner coping mechanism against stress in the environment, and a mechanism for psychological growth. It is the belief in one's ability to perform a task.

* *Administration*

The scale has 27 items in which the respondent indicates the extent to which he/she agrees/disagrees with a particular statement on a scale of 1 to 7. A score of 1 represents "strongly agree", while a score of 7 represents "strongly disagree". The scale is concerned with how people judge their capabilities and how self-percepts of efficacy affect their motivation and behaviour (Kossuth, 1998).

* *Interpretation*

According to Bandura (1989) the strength of self-efficiency facilitates resilience against stress and enables growth and learning. A high score will indicate self-efficacy, while a low score indicates a lack of it. An individual strong in self-efficacy is more likely to be motivated to do things competently and withstand failures by viewing tasks as challenges rather than concentrating on his / her shortfalls.

* *Validity*

Validity results of this scale provided evidence of the construct and criterion validity. Evidence of the validity of the self-efficacy scale was provided as a valid predictor of performance. Research suggests that self-efficacy beliefs may be reciprocally related to performance, meaning they may be both a cause and effect of performance (Bandura 1982).

* *Reliability*

A reliability co-efficient of 0,71 and 0,86 has been reported. Kossuth (1998) reported that the reliability of this instrument is satisfactory for research processes.

This scale is widely used in research such as in psychotherapy, the educational field, studies of racial behaviour and in the industrial field. It has been found that the self-efficacy theory complements the goal-setting theory.

4.4 MEASUREMENT OF SICK LEAVE DAYS

With reference to the second empirical aim of this research (chapter 1: 1.3.2.2) which is to determine the relationship between salutogenic functioning and sick leave, the number of sick leave days taken by each respondent for the previous twelve month period were downloaded from the HR system.

* *Aim and Rationale*

The main purpose of the use of sick leave days is to determine the respondents' ability to cope with occupational stress (salutogenic functioning). Occupational stress is a personal experience and not easy to measure quantitatively, therefore, the objective was to use information already on the HR system without prompting specific responses in this regard.

- *Administration*

The researcher downloaded from the Human Resources System the number of sick leave days taken. This is one score per respondent depending on the sick leave days taken.

* *Interpretation*

The higher the score (i.e. number of sick leave days taken), the more negative the behaviour in terms of salutogenic functioning (coping with occupational stress), and the lower the score, the more positive the behaviour in terms of salutogenic functioning.

* *Validity*

There is no information that could be found on the validity of sick leave days as a measuring instrument. However, access to companies' HR systems is limited to authorised users only, who input sick leave information where a signed sick leave form and certificate from the doctor is attached and approved. Based on this, leave days taken by respondents can be a valid predictor of sickness.

* *Reliability*

The information downloaded from the HR system is reliable as all the employee's absences, be they sick leave or any other kind of leave, is recorded on the system in terms of Eskom's Conditions of Service. The reliability is further enhanced by the fact that not all employees have access to the HR system, and the researcher is responsible and accountable for the HR system in PTM.

4.5 DATA-GATHERING

A booklet was prepared and printed consisting of :

- (1) A letter containing an explanation of the aim of the research relating to the vision of PTM Eskom Enterprises, the anonymity of respondents, the time frame of three weeks for completion, and an appointment with the researcher to collect the completed booklet.
- (2) The biographical measuring instrument was attached as well as
- (3) The five salutogenic functioning instruments, each with its own instructions.

The booklets were distributed by the researcher to each member of the research sample. Explanations about the research and the completion of the measuring instruments were

given. After three weeks 73 booklets were collected and completed. The measuring of sick leave days was performed as described in 4.4 above.

4.6 DATA PROCESSING

The following statistical analysis was performed in this research.

4.6.1 Descriptive Statistics

Descriptive statistics were performed on all the variables to facilitate the reporting of the biographical information and the processing of the statistical analysis.

4.6.2 Reliability of salutogenic scales

Five measurement instruments for salutogenic functioning were used in this research. Due to the relatively small sample size ($N = 73$), it was decided to accept the construct validities of these instruments as reported at the beginning of this chapter (see 4.3), rather than attempting new factor analytical analyses to construct validities of the various sub-scales.

Item analysis was performed, involving extracting a single factor on the items of a particular sub-scale, inspecting the factor loadings to ascertain whether those items indicated by theory to be reverse scored, should indeed be reverse scored, according to the factor loadings (less than 0,1) which were then omitted from the final sub-scale. In the case of each sub-scale, that scale's Cronbach Alpha was compiled as an index of the internal reliability of that scale which is now reported (Lemke & Wiersma, 1976).

Depending on the results of the item analysis, it was decided to calculate each sub-scale score as follows:

- * Calculate the scale or sub-scale as the mean of the items which represents that scale or sub-scale.
- * Ensure that all items that make up a particular sub-scale are such that a high score on each of the scales indicates high Salutogenesis. This meant that some items had to be reverse scored. The single factor analysis results, which are reported in chapter 5 on statistical results, were very useful in this exercise.

* To ease the visual display of the mean scale scores of the various constructs, all scales were transformed to a scale ranging from 0 to 100.

4.6.3 Person-Product Moment Correlation

In order to meet the first empirical aim, namely to determine the relationship between salutogenic functioning and sick leave days, Person – Product moment correlations were performed.

In this study, the Person-Product Moment correlation matrix between the two indices of health and the Salutogenesis scales was computerised and is reported. The Person-Product Moment correlation gives an index of the linear relation between two interval/ratio scales (Hays, 1963). However, the correlation may not be interpreted as proof of a causal relation. It does provide some reflection of the existence of a causal relation in the sense that a hypothesised causal linear relation implies a significant correlation. When no correlation is found, at least one can conclude that a causal linear relation does not exist either.

4.6.4 Multiple Regression Analysis

In an attempt to determine to what extent “health” can be explained by Salutogenesis constructs jointly, a multiple regression analysis was performed. For the purpose of this analysis the “health” indices were taken as the dependent variable, while the Salutogenesis constructs were the possible explanatory variable.

The so-called “stepwise” multiple-regression analysis was performed using the programme “Prog Reg” of the Statistical Software package SAS (SAS Institute, 1985). This method starts off by calculating a simple linear regression relation between the dependent variable and the explanatory variable, which is correlated highest with the dependent variable. The programme then calculated the partial correlations (i.e. correlation with the effect of the explanatory variable already in the equation removed) of the remaining explanatory variables and the dependent variable (Draper & Smith, 1981). The second step is the analysing of the explanatory variable with the highest partial correlation, provided that this variable makes a statistically significant contribution to the total variance explained of the dependent variable. The programme continues in this way

until no variable is left that can make a contribution to the explanation of the dependent variable.

4.6.5 Statistical Significance Level

The statistical tests performed in this research were mostly directional as far as the correlations are concerned, as the researcher expected a positive correlation between “good health” as measured by Section B of Ben-Sira’s Potency Scale and Salutogenesis, but a negative correlation between “days of sick leave” and Salutogenic functioning. All these tests were performed at the 0,05 level of significance.

Some motivation for this level of significance follows from the realisation that when several statistical tests are performed on the data, type I error rate (or level of significance) accumulates (Hays, 1963). Conventionally, the levels 0,05 and 0,01 are used as levels of significance for the statistical tests performed.

However, these levels of significance are possibly too severe. In the human sciences, we are simply concerned with a missing significant result, i.e. committing a so-called type II error. Winer (1971) points out that when both types of errors (Type I and II) are equally important, levels such as 0,20 (possibly even 0,30) are more appropriate than the conventionally used 0,05 and 0,01 levels of significance. Another consideration in the choice of the significance level is the sample size. The sample size in this study is relatively small ($N = 73$) with a consequence that statistical tests lack power, which implies that significant results are not easily obtained (Hays, 1963).

After all these issues have been considered the researcher decided to use the conventional level of significance of 0.05.

4.7 HYPOTHESIS OF THE RESEARCH

The purpose of formulating the hypothesis in this research will be to either confirm or reject the relationship and to indicate to what extent this relationship exists. The following hypothesis will serve as a guideline:

“The higher a person rates on Salutogenic functioning, the less a person will be inclined to sick leave and sickness”.

In the hypothesis above, it should be noted that the following assumptions are made:

- * All workers in PTM are exposed to more or less the same stressful working conditions.
- * The higher the person rates on Salutogenesis constructs, the higher his or her coping ability.
- * The construct sickness will be measured by the two variables, namely, days of sick leave and Ben-Sira’s Potency B scale.

4.8 CHAPTER SUMMARY

This chapter discussed mainly the population sample, the measuring instruments used, data gathering and data processing. In the following chapter, Chapter 5, the results of the empirical study will be reported, and the interpretation thereof is given.

CHAPTER 5 RESULTS

This chapter aims to report on the results of the empirical study and to interpret them. At the end of the chapter, an integration of results will be given followed by the summary of the whole chapter.

5.1 BIOGRAPHIC INFORMATION OF THE SAMPLE

These results will be presented in terms of the work station, job grading, age, gender and the number of years in service.

5.1.1 Work Station

Figure 5.1 illustrates the distribution of respondents according to their different work stations:

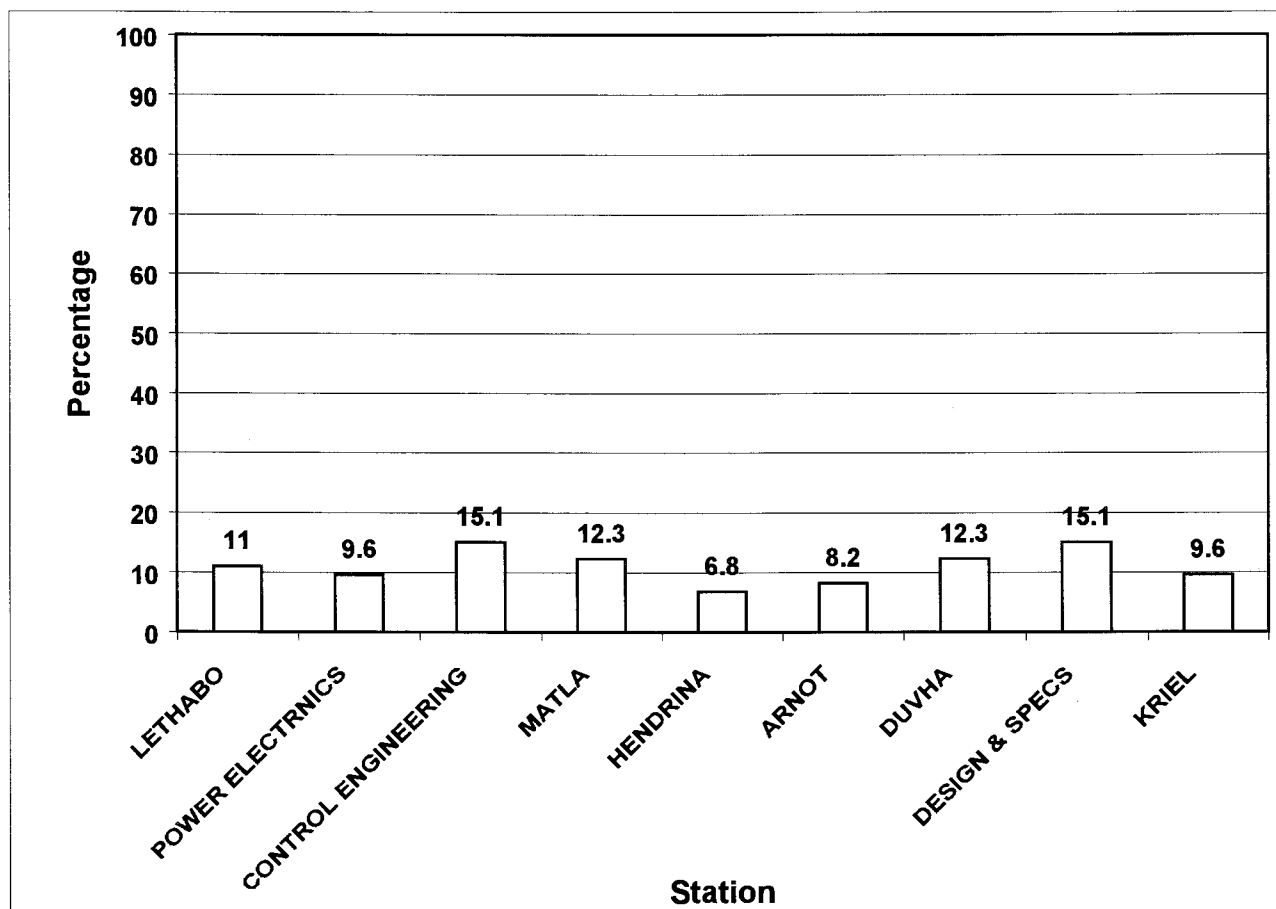


Figure 5.1 Workstation Distribution

Figure 5.1 above indicates that most respondents came from the control engineering, and design and specification sections with 15,1% respondents each. Hendrina and Arnot sections had the fewest respondents with 6,8% and 8,2% respectively.

5.1.2 Job Grading

Figure 5.2 illustrates the distribution of respondents according to their job gradings.

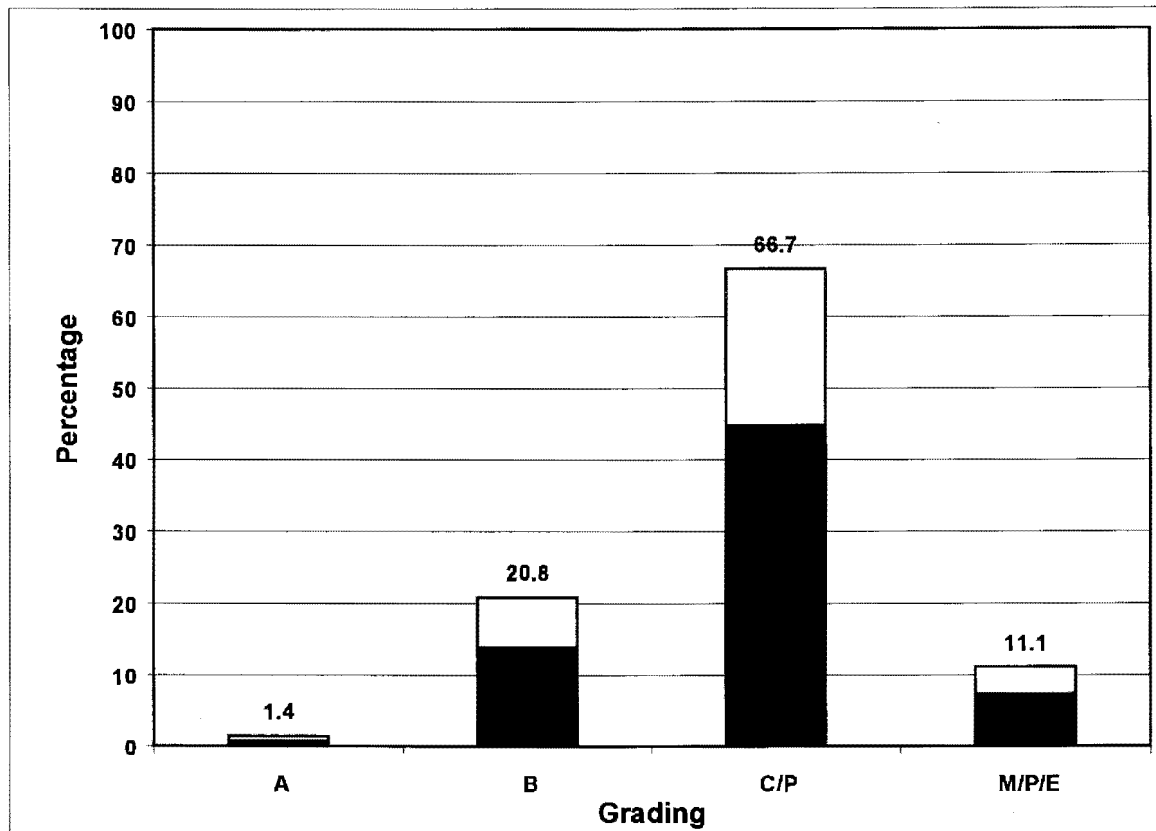


Figure 5.2 Job Grading Distribution

Figure 5.2 above indicates a high response of 66,7% respondents in the C/P band gradings. This is where most of the critical skills of PTM are located.

5.1.3 Age

Figure 5.3 below illustrates the distribution of respondents according to their age.

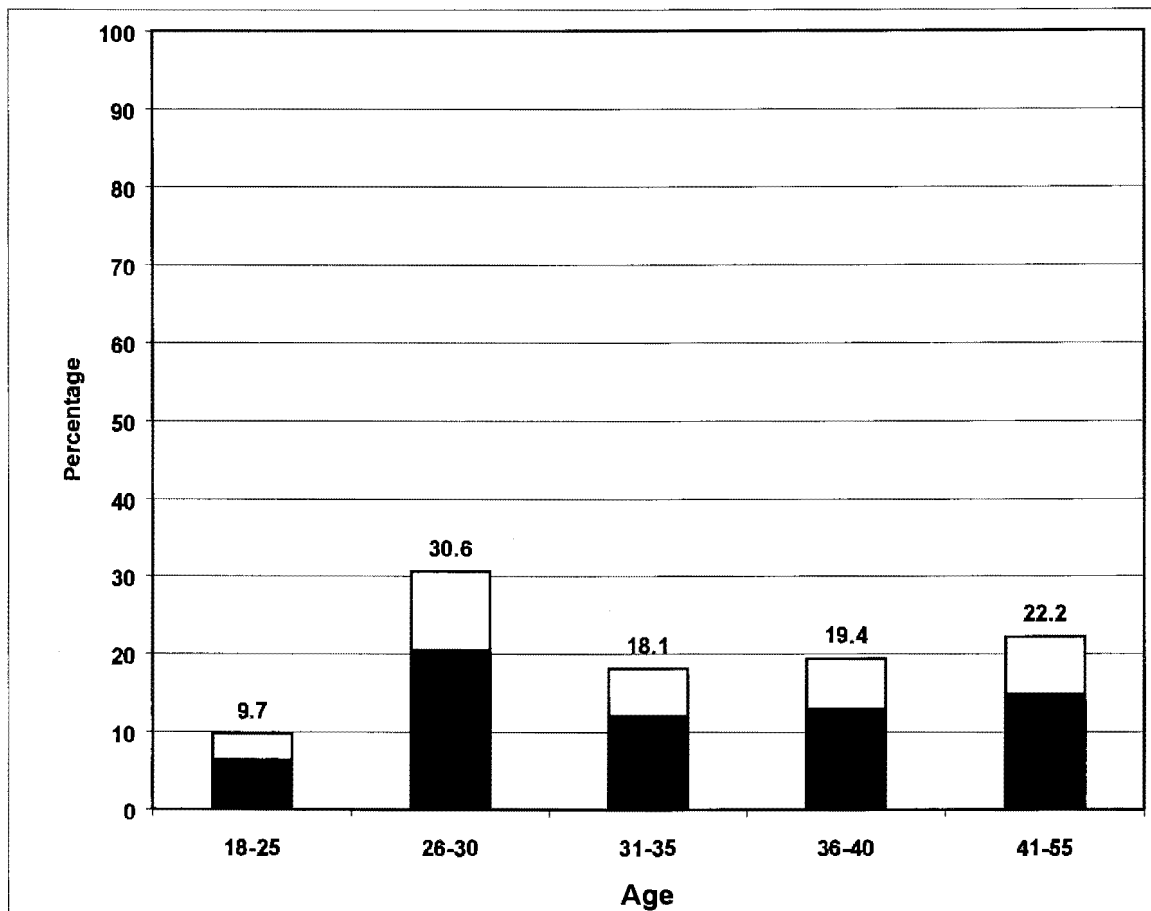


Figure 5.3 Age Distribution

Figure 5.2 illustrates that the highest response of 30,6% was from those between 26 and 30 years of age, followed by 22,2% between 41 – 55 years of age.

5.1.4 Gender

Figure 5.4 below illustrates the distribution of respondents according to gender.

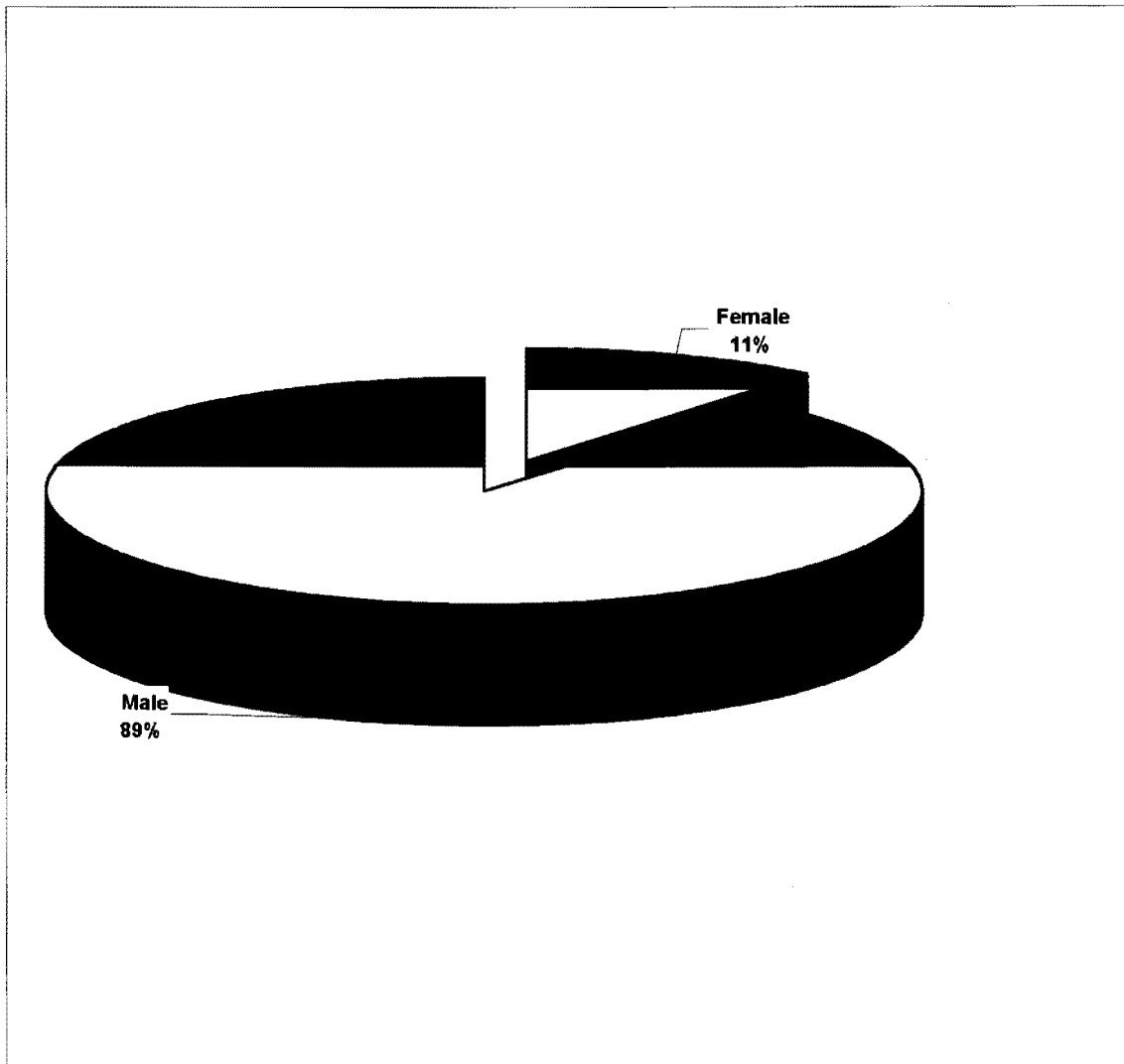


Figure 5.4 Gender Distribution

Figure 5.4 indicates that PTM is a male dominated environment. This is indicated by the fact that 89% of the respondents in the sample are males, while only 11% are females.

5.1.5 Number of years in service

Figure 5.5 below illustrates the distribution of respondents according to number of years in service.

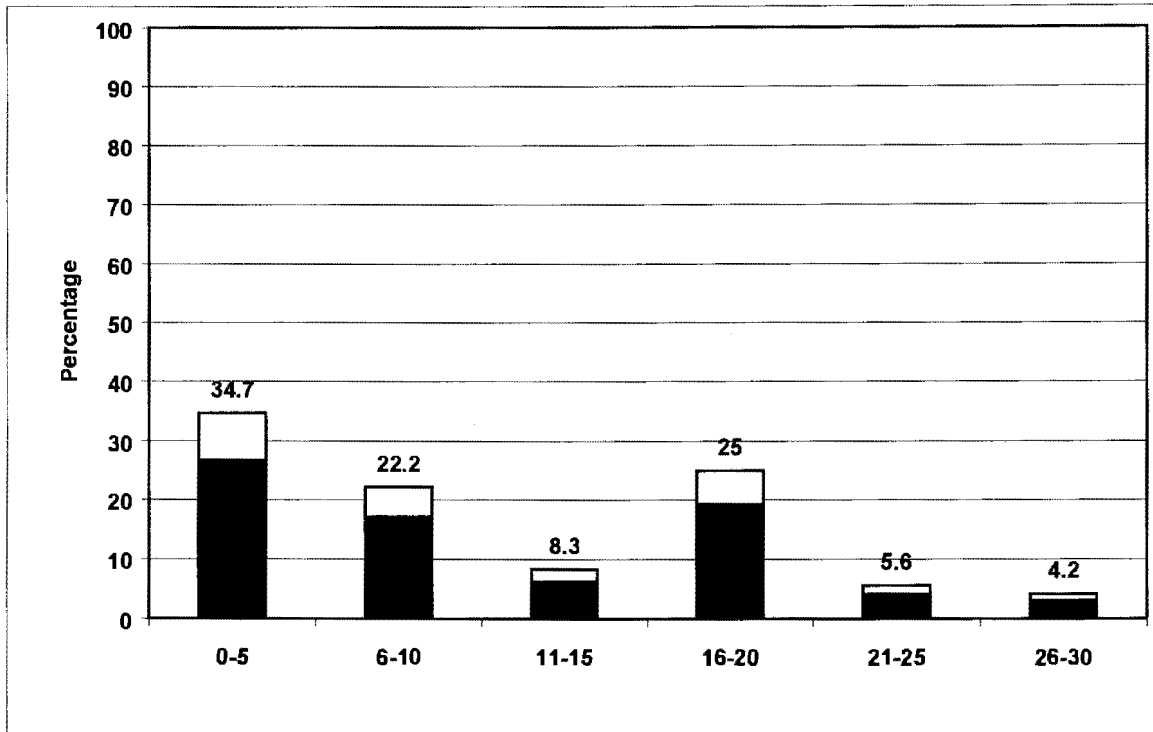


Figure 5.5 Number of years in service Distribution

Figure 5.5 indicates that 34,7% of the respondents have between 0 – 5 years of experience, 25% and 22% have between 16 – 20 years and 6 – 10 years of experience respectively.

5.2 RELIABILITY OF SALUTOGENIC SCALES

A single factor was extracted with regard to each of the sub-scales of the Salutogenic sub-scales, and the factor loadings are given in tables 5.1 to 5.5 below.

In the case of each of the scales, a decision was taken regarding which items should be reverse scored so that if a scale as the mean or total of all items that belong to that scale is scored high, this would indicate a high Salutogenesis. The Cronbach-Alpha co-efficient as a measure of the internal consistency and reliability of each scale was also computed

and is given in table 5.6 below. The internal consistency appears to vary between 0,63 and 0,86 and appears satisfactorily high.

Table 5.1 presents the single factor loadings and Cronbach Alphas for the measurement of sense of coherence.

TABLE 5.1
SINGLE FACTOR LOADINGS AND CRONBACH ALPHAS FOR SENSE OF COHERENCE

Comprehension		Manageability		Meaningfulness	
Item	Factor loading	Item	Factor loading	Item	Factor loading
1	-0.21	2	-0.22	4	0.51
3	0.51	6	0.10	7	0.64
5	-0.25	9	-0.28	8	-0.55
10	0.17	13	0.62	11	0.75
12	0.66	18	-0.46	14	0.75
15	0.38	20	0.66	16	0.49
17	0.35	23	0.51	22	-0.59
19	0.73	25	0.56	28	-0.58
21	0.62	27	0.73		
24	0.67	29	-0.55		
26	0.46				
Cronbach Alpha = 0.64 ¹		Cronbach Alpha = 0.63 ²		Cronbach Alpha = 0.75 ³	

1. Items 1 and 5 rescaled to measure in the same direction as other items
2. Items 6, 13, 20, 23, 25 and 27 rescaled to measure in the same direction as other items
3. Items 4, 7, 11, 14 and 16 rescaled to measure in the same direction as other items

Table 5.2 presents the single factor loadings and Cronbach Alphas for the measurement of hardiness.

TABLE 5.2
SINGLE FACTOR LOADINGS AND CRONBACH ALPHAS FOR HARDINESS

Commitment		Control/Powerlessness		Challenge/threat	
Item	Factor loading	Item	Factor loading	Item	Factor loading
1	0.01	3	-0.13	2	-0.02
8	0.40	4	-0.41	6	0.30
11	0.54	5	-0.32	9	0.65
14	0.64	7	0.48	12	0.37
17	0.73	10	0.42	15	0.38
20	0.49	13	0.60	18	0.43
26	0.09	16	0.08	21	0.51
29	0.68	19	0.67	24	-0.00
32	0.44	22	-0.13	27	-0.29
38	0.51	25	-0.18	30	0.60
39	0.60	28	0.37	33	0.47
41	0.54	31	0.74	36	0.76
44	0.67	34	0.60	37	0.45
47	0.57	35	0.29	40	0.54
50	0.56	42	0.45	43	0.63
		45	0.72	46	0.57
		48	0.56	49	0.47
Cronbach Alpha = 0.82 ¹		Cronbach Alpha = 0.75 ²		Cronbach Alpha = 0.78 ³	

1. Item 1 was omitted, and items 8, 11, 14, 17, 20, 26, 29, 32, 38, 39, 41, 44, 44, 47 and 50 was rescaled to measure in a positive direction
2. Item 2 was omitted and items 7, 10, 13, 16, 19, 28, 31, 34, 35, 42, 45, and 48 rescaled to measure in a positive direction
3. Items 6, 9, 12, 15, 18, 21, 30, 33, 36, 37, 40, 43, 46, and 49 rescaled to measure in a positive direction

Table 5.3 presents the single factor loadings and Cronbach Alphas for the measurement of potency.

TABLE 5.3
SINGLE FACTOR LOADINGS AND CRONBACH ALPHAS FOR POTENCY

Potency Section A		Potency Section B	
Item	Factor loading	Item	Factor loading
A1	0.60	B1	0.73
A2	0.66	B2	0.85
A3	0.20	B3	0.73
A4	0.73	B4	0.82
A5	0.55	B5	0.00
A6	0.62	B6	-0.00
A7	0.53	B7	0.33
A8	0.60	B8	0.56
A9	0.45	B9	0.70
A10	0.41	B10	-0.05
A11	0.64	B11	-0.06
A12	0.38	B12	0.40
A13	0.51	B13	-0.04
A14	0.48	B14	0.36
A15	0.11	B15	0.38
A16	0.53		
A17	0.56		
A18	0.35		
A19	0.68		
Cronbach Alpha = 0.84 ¹		Cronbach Alpha = 0.77 ²	

1. Items 3, 5 and 9 were rescaled to measure in a positive direction.
2. Items 5,6, 10, 11, and 13 omitted.

Table 5.4 presents the single factor loadings and Cronbach Alphas for the measurement of learned resourcefulness.

TABLE 5.4
SINGLE FACTOR LOADINGS AND CRONBACH ALPHAS FOR LEARNED
RESOURCEFULNESS

Self control	
Item	Factor loading
1	0.45
2	0.44
3	0.30
4	-0.54
5	0.53
6	-0.02
7	0.57
8	0.22
9	-0.16
10	0.52
11	0.56
12	0.36
13	0.64
14	0.11
15	0.66
16	-0.41
17	0.52
18	-0.25
19	-0.22
20	0.56
21	-0.27
22	0.62
23	0.35
24	0.44
25	0.44
26	0.61
27	0.60
28	0.62
29	-0.25
30	0.45
31	0.47
32	0.57
33	0.20
34	0.33
35	-0.47
36	0.17
Cronbach Alpha = 0.86 ¹	

- Items 1,2, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15, 17, 20, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34 rescaled to measure in a positive direction.

Table 5.5 presents the single factor loadings and Cronbach Alphas for the measurement of self-efficacy.

TABLE 5.5
SINGLE FACTOR LOADINGS AND CRONBACH ALPHAS FOR SELF-EFFICACY

Self - efficacy	
Item	Factor loading
1	0.25
2	-0.40
3	0.50
4	0.59
5	0.65
6	0.63
7	0.43
8	0.66
9	0.22
10	-0.26
11	-0.47
12	-0.37
13	0.19
14	0.73
15	0.71
16	0.32
17	0.21
18	0.62
19	0.40
20	0.56
21	0.66
22	-0.30
23	0.19
24	0.49
25	-0.18
26	0.19
27	0.48
Cronbach Alpha = 0.81 ¹	

- Items 1 and 9 were omitted and items 2, 10, 11, 12, 22 and 25 rescaled to measure in a positive direction.

According to the decision made in Chapter 4 (4.6.2), each scale was first compiled as the mean of the items it consists of, and then each scale was re-scaled so that scores range from 0 to 100 (see 4.6.2 of Chapter 4 for a full explanation of how the scales were constructed).

Table 5.6 presents the summary of Cronbach Alpha Value.

TABLE 5.6
SUMMARY OF CRONBACH ALPHA VALUE

SALUTOGENIC CONSTRUCT	CRONBACH ALPHA
SOC: Comprehension	0,64
SOC: Manageability	0,63
SOC: Meaningfulness	0,75
Hardiness: Commitment	0,82
Hardiness: Control/Powerlessness	0,75
Hardiness: Challenge/Threat	0,78
Potency A	0,84
Potency B	0,77
Learned Resourcefulness	0,86
Self-Efficiency	0,81

Table 5:6 above, indicates that the reliability of the scales is satisfactorily high.

5.3 THE GENERAL SALUTOGENIC AND HEALTH PROFILE OF THE SAMPLE

After the total instrument score was re-scaled to measure from 0 (low on Salutogenic functioning) to 100 (high on Salutogenic functioning), the mean scores of the sample on Salutogenesis constructs are reported.

Figure 5.6 gives an overview of the total mean scores for salutogenic functioning.

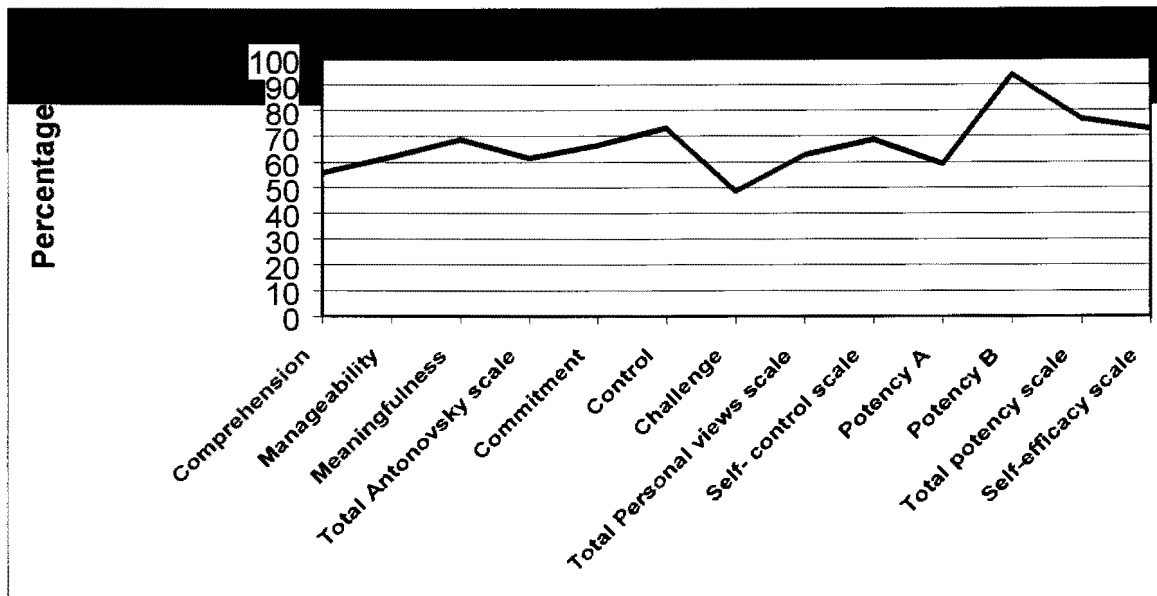


Figure 5.6 Mean profile of sample on Salutogenesis Constructs

Comprehension	=	55.63
Manageability	=	61.98
Meaningfulness	=	68.49
Antonovsky scale	=	61.37
Commitment	=	66.28
Control	=	72.99
Challenge	=	48.54
Total Personal View Scale	=	62.52
Self Control Scale	=	68.56
Potency A	=	59.07
Potency B	=	93.90
Total Potency Scale	=	76.62
Self Efficacy Scale	=	72.68

Table 5.7 below gives mean scores of salutogenesis constructs.

TABLE 5.7
MEAN SCORES OF SALUTOGENESIS CONSTRUCTS (73 ≤ N ≤ 70)

		Mean	Standard Deviation
Sense of Coherence	Comprehension	55.63 ¹	11.17
	Manageability	61.98	11.76
	Meaningfulness	68.49	14.92
	Total scale	61.37	10.86
Personal views control survey	Commitment	66.28	18.72
	Control	72.99	14.00
	Challenge	48.54	17.58
	Total scale	62.52	14.05
Self control scale	Total scale	68.56	12.29
Potency scale	Potency A	59.07	15.65
	Potency B	93.90	14.70
	Total scale	76.62	11.20
Self-efficacy	Total scale	72.68	11.20

Scores rescaled to measure between 0 - 100.

Figure 5.6 and Table 5.7 give an indication that the respondents function from average to high on all the Salutogenic constructs, except for “challenge” sub-scale on hardiness, which is lower.

The low-challenge subscale may be an indication that employees’ coping behaviours toward stressful events do not lead to growth and transformation, instead they are threatened by the stressfulness of events.

The high “Potency B” score could be an indication that employees have not been diagnosed with psycho-physiological illnesses, which shows high levels of good health.

5.4 CORRELATIONS BETWEEN BIOGRAPHICAL VARIABLES AND SALUTOGENIC FUNCTIONING WITH HEALTH INDICES

Table 5.8 below gives the correlations between biographic variables and salutogenic functioning with sick leave days and the Potency B scale. ($72 \leq N \leq 69$).

TABLE 5.8
CORRELATIONS BETWEEN BIOGRAPHICAL VARIABLES AND SALUTOGENIC FUNCTIONING WITH SICK LEAVE DAYS AND POTENCY B SCALE

		Sick Leave Days	Potency B
Biographic variables	Sick Leave Days	1.00 0.0	-0.06 0.617
	Age	0.00 0.934	-0.16 0.173
	Service	0.04 0.702	-0.03 0.784
	Gender	0.02 0.818	0.26 0.029
Sense of Coherence	Comprehension	-0.00 0.966	-0.10 0.371
	Manageability	-0.06 0.566	0.06 0.602
	Meaningfulness	0.04 0.699	0.02 0.827
	Total scale	-0.01 0.932	-0.00 0.945
Hardiness	Commitment	0.05 0.676	0.14 0.224
	Control	0.06 0.607	0.19 0.101
	Challenge	0.07 0.525	0.09 0.419
	Total scale	0.08 0.466	0.17 0.141
Potency scale	Potency A	-0.03 0.801	0.08 0.491
	Potency B	-0.06 0.617	1.00 0.0
	Total scale	-0.06 0.586	0.71 0.000
Learned Resourcefulness	Total scale	0.06 0.565	0.26 0.028
Self-efficacy	Total scale	0.14 0.212	0.28 0.015

- (1) All p-values for correlations with Salutogenesis constructs are one-tailed p-values
- (2) All p-values involving biographic variables are for two-tailed tests.

Table 5.8 indicates that as far as biographic variables are concerned, no relationships were found with sick leave days, but a significant correlation was only found as far as Potency B and gender are concerned. As gender was coded 1 = female and 2 = male, the significant positive correlation means that males tend to report greater health compared with females, as measured by Potency B.

Salutogenesis constructs on the above table were all scaled such that a high score indicated positive salutogenic functioning. Therefore, one would expect negative correlations between the Salutogenesis constructs and sick leave days, but positive correlations between Potency B and the Salutogenesis constructs.

Table 5.8, therefore, indicates no correlations between salutogenic functioning and sick leave days.

However, some significant correlations are found as far as Potency B is concerned (self-control and self efficacy). This indicates that the higher a respondent scored on these constructs, the more positively in terms of health a person scored. This confirms the major hypothesis, namely that “the higher a person rates on Salutogenesis constructs, the less a person will be inclined to sickness”.

This means then that the presence of stressful situations for the respondents does not manifest in high sickness absenteeism. This indicates strong salutogenic functioning for the respondents.

Figure 5.7 presents the number of sick leave days taken by the respondents for the past twelve months.

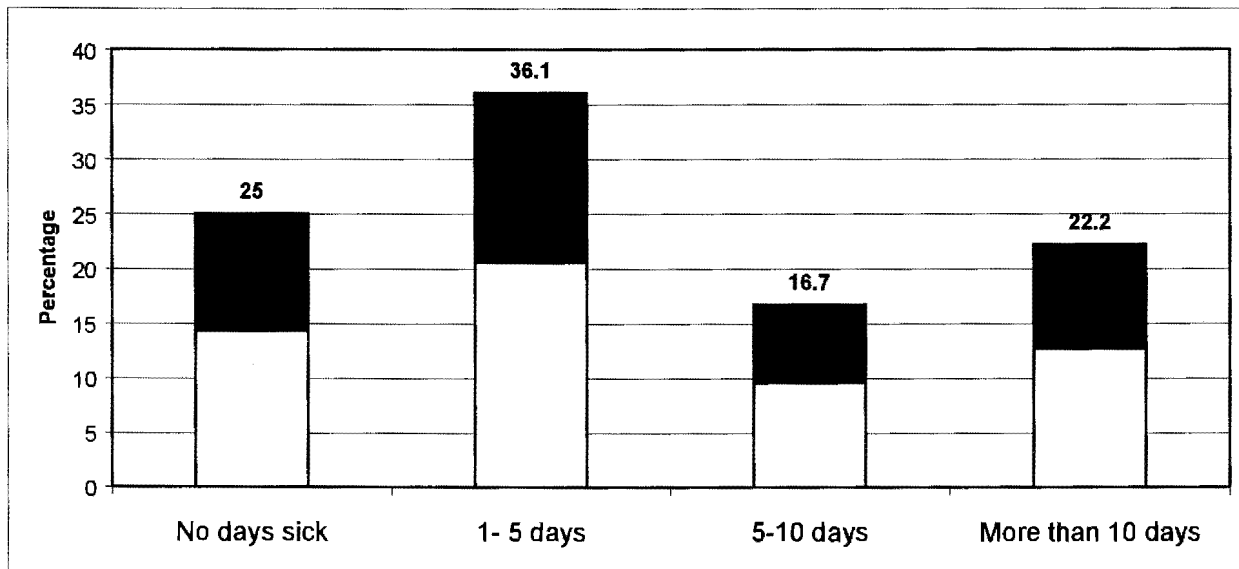


Figure 5.7 Sick Leave days

Figure 5.7 indicates that 36,1% of the respondents took between 1 – 5 sick leave days; while 22,2% of the respondents took more than 10 sick leave days, and 25% of the respondents took no sick leave days in the twelve months period.

5.5 MULTIPLE REGRESSION PREDICTION OF HEALTH INDICES

Table 5.9 and 5.10 will be given and interpreted together. Table 5.9 gives the ANOVA F-test results of the stepwise regression solution for dependent variable Potency B (Section 1 of Bandura’s Potency questionnaire), and as an explanatory variable Salutogenesis constructs, as well as gender and age groups as possible nuisance variables.

**TABLE 5.9
ANOVA F-test RESULTS**

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	4	3112.28440	778.07110	4.182	0.0046
Error	63	11721.70253	186.05877		
C Total	67	14833.98693			
Root MSE	13.64034	R-square	0.2098		
Dep Mean	93.72549	Adj R-sq	0.1596		
C.V.	14.55350				

Note that the p-value is 0,0046, which is significant at the 0,05 level. The R-square value indicates that as much as 20% of the variance of the dependent variable is explained. The actual terms in the equation and the estimated coefficients follow in the table 5.10, i.e, the actual Salutogenesis constructs used in the equation with the estimated coefficients and their significance.

Table 5.10 presents the stepwise multiple regression output for dependent variable Potency B (section 1 of Bandura's Potency questionnaire), and as an explanatory variable; the Salutogenesis constructs, as well as gender and age groups, as possible nuisance variables.

TABLE 5.10
STEPWISE MULTIPLE REGRESSION OUTPUT FOR POTENCY B

Variable	Parameter Estimate	T for HO: Parameter = 0	Prob. [T]	Standardized Estimate
INTERCEP	55.445	3.782	0.0003	0.000
COMPREH	-0.390	-2,306	0.0244	-0.290
PVSTOT	0.288	2.201	0.0314	0.272
SCSTOT	0.303	2.217	0.0302	0.255
GENDER	11.200	2.156	0.0349	0.244

From tables 5.9 and 5.10 above, the following interpretations can be drawn:

* Gender was included in the equation, which suggests that gender differences exist in the sample as far as POTENCYB is concerned. It appears from the positive correlation in the table and the fact that gender was coded as 1 = Female and 2 = Male, that Males score more positively as far as this measure of health is concerned.

* Three Salutogenesis variables make a contribution but it is difficult to explain the negative coefficient of COMPREH. The results indicate that although a number of Salutogenesis constructs relate positively to "health" as measured by Potency B, the relationships in a multivariate sense are complex and not easily interpretable. The same

regression analysis was also computed for the dependent variable "days sick leave", but no variables were found which correlated with this dependant variable.

This confirms the interpretations already made that there are no positive correlations found between salutogenic functioning and sickness, and that males tend to report greater health than females in this research.

5.6 INTEGRATION OF RESULTS

The sample in this study consists mostly of male technical workers from the two sections: control engineering and design and specifications. The sample is representative of the critical skills within PTM which are in the C/P job grading (i.e. 66,7%), mostly between 26-30 years of age (30,6%), and with between 0 – 5 years (34,7%) of experience.

As far as biographic variables are concerned, no relations were found with "sick leave", but a significant correlation was found between "Potency B" and gender. This indicated that males tend to report greater health compared to females, as measured by Potency B.

The reliability of the scales is satisfactorily high as indicated in Table 5.6. Although the scoring and the scaling of the measuring instruments indicated that the sample functions from average to high on all the Salutogenic constructs, there was a low measurement on the "challenge" sub-scale and high measurement on "Potency B".

The correlations between Salutogenesis and the health indices indicated as follows:

- * No correlations between the Salutogenesis constructs and sick leave were found. A negative correlation between the constructs and sick leave would have been expected.

- * Positive correlations were expected between Potency B and the Salutogenesis constructs. Some significant correlations as far as control, self control and self efficacy were indicated. The higher the respondent scored on these three Salutogenesis constructs, the more positive in terms of health ("Potency B").

The multiple regression indicated the following:

- * Males scored more positively as far as the measure of health is concerned (Potency B).
- * Although a number of Salutogenesis constructs relates positively to health as measured by Potency B Scale, the relationships in a multivariable sense are complex and not easily interpretable.
- * No variances were found which correlated with the sick leave variable.

In terms of the research hypothesis as stated in Chapter 4 (section 4.7) the integration of the findings concludes that the hypothesis was partially confirmed for the dependent variable of the Potency B Scale. Some of the Salutogenesis constructs correlated positively with Potency B, but couldn't be confirmed with regard to the dependent variable of sick leave days.

5.7 CHAPTER SUMMARY

This chapter presented the reporting and interpretation of results. The three aims of the empirical study have now been fulfilled (see chapter 1: 1.3.2.2).

CHAPTER 6 CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter aims to formulate conclusions in terms of the aims of this research as outlined in Chapter 1, to discuss the limitations of this research and finally, to make recommendations pertaining to the literature review, empirical study and to PTM (Eskom Enterprises) based on the findings of this research.

6.1 CONCLUSIONS

Conclusions will now be formulated with reference to the specific aims of the literature review, the specific aims of the empirical study and the hypothesis formulated.

6.1.1 Conclusions in terms of the aims of the literature review

* The first aim of the literature review was to conceptualise occupational stress. Occupational stress is a growing health problem, a problem which could have significant impact on staff absenteeism and compensation costs. The contemporary, interactive view of occupational stress is that situations are not inherently stressful. Psychological, physiological and/or behavioural responses to stress are products of the situation and the individual (Coopers & Payne, 1980).

However, looking at the literature there has been serious disagreement about the behaviours that are harmful to the individual, and there is currently no evidence that these behaviours are caused or made more severe by occupational stress (Beehr, 1987).

Not coming to work due to stress seems to be one way to avoid the pain of stress. If job stressors are the cause of absenteeism due to illness, then there should be some relationship between job stressors and absenteeism that can be classified as sick days. However, it was revealed that the relationship is not a strong one since some people will try to fight through illness in order to come to work, while everyone will sometimes be ill when this is not due to job stress.

From this, one can conclude that stress processes are one area that still needs research. Stress symptoms can lead to excessive sick leave due to ill health or failure to cope with occupational stress; however, there are many factors that can influence excessive sick

leave. It is not yet clear that all situations labelled occupational stress include the same physiological, psychological or behavioural responses or that there is a single response common to all occupational stress situations. There may turn out to be categories of responses that vary by nature of the job stressors, the associated strains, or some individual differences.

From the literature review, one can thus conclude that occupational stress is a growing problem which is omnipresent, that individuals will react differently to stressor conditions, and that management must work together with employees to help manage and cope with occupational stress. Clearly, occupational stress must be recognised as a health risk as it has been demonstrated from the literature review that its costs are high, particularly in terms of absenteeism when workhours are lost due to absent workers, which translates into many millions annually that the organisation loses.

* The second aim of the literature review was to review salutogenic functioning, the background, and the development of the salutogenic constructs. It has been discovered from the literature review that the Salutogenesis model endeavours to promote positive health by understanding those factors that enable health to flourish, with emphasis on health rather than illness. The focus is on how people can manage stress and stay well. The assumption that stressors are inherently bad is rejected by the salutogenic functioning in favour of the possibility that stressors may have salutary consequences. The central concept of salutogenesis is the person's sense of coherence (inner strength) which that person develops over time.

The five constructs discussed focus on how individuals handle stressors and still remain healthy, the constructs possess the common belief that being high on these personality orientations facilitate successful coping, thus contributing to health.

One can conclude from the literature review that the Salutogenic functioning enables a person to function in a holistic sense, thus resulting in a more balanced and better adjusted person and employee. Therefore, the constructs discussed are the best selection for the empirical study.

6.1.2 Conclusions in terms of the aims of the empirical study

* The first aim of the empirical study was to determine the relationship between biographical variables, salutogenic functioning and sick leave days. The research results indicated no relations between biographical variables and sick leave, but a significant correlation was found between gender and Potency B. Males reported greater health as compared to females, as measured by Potency B. For the research results, one can therefore conclude that biographical variables can influence the individual's salutogenic functioning. However, since this research was conducted on a small sample where there was no equal representation in terms of gender, further research is required to confirm this conclusion.

No correlations were found between salutogenic functioning and sick leave days. However, significant correlations were found as far as Potency B and self-control and self-efficacy are concerned. One can conclude, therefore, that there is a positive indication of good health in terms of the respondents' salutogenic functioning.

* The second aim of the empirical study was to determine the effect of biographical variables, and salutogenic functioning on the predictability of sick leave. From the empirical study results, one could conclude that biographical variables do not predict sick leave, but further research is required in terms of sick leave, as no published literature could be found to support this conclusion.

On the other hand, it can be said that salutogenic functioning can predict sick leave, since the profile tends to display less health and sickness problems. However, the relation cannot be interpreted as causal since it cannot be inferred from a correlation coefficient in an ex post facto type of research.

6.1.3 Integration

The general aim of this research was to determine the relationship between the employees' salutogenic functioning and sick leave. The higher the person rates on Salutogenesis constructs (i.e. the higher the ability to cope), the less a person will be inclined to sickness. It can thus be concluded from the results that those employees who

are able to cope with their job demands (i.e. with stressful work conditions) as reflected by their Salutogenic profile, tend to display less health and sickness problems.

However, one must be cautioned not to interpret this relation as causal, since a causal relation cannot be inferred from a correlation coefficient in an ex post facto type of research.

Step 9 (section 1.7.2.) of Phase 2 : Empirical Study has now been completed.

6.2 LIMITATIONS OF THE RESEARCH

The following limitations were experienced:

6.2.1 Limitations of the literature review

In terms of the limitations of the literature review, there is not much published literature on sickness and absenteeism. Absence because of illness has an important effect on productivity, and it is very important to study and establish factors that could cause employee dissatisfaction and be manifested in excessive sick absence. It is clear that the cost of sickness to all commercial undertakings can be substantial if procedures are not established and followed.

6.2.2 Limitations of the empirical study

In terms of the limitations of the empirical study, some respondents did not complete certain portions of the tests, especially the Personal Views Survey, because it had many items (50 items). Some respondents took much time, i.e. 2 – 3 weeks, in completing all the tests while others did them within a few hours. This could have in a way impacted on their responses.

Step 10 of the empirical study is now completed.

6.3 RECOMMENDATIONS

The following recommendations are made:

6.3.1 Recommendations with regard to the literature review

* The effects of occupational stress are self-evident; however, much still needs to be done in terms of managing and coping with it. Through extended research, its influence on sick leave can be further debated, as no published literature in this regard could be found.

Future research must concentrate on:

- * factors influencing excessive leave
- * the determination of costs associated with occupational stress
- * why certain employees take more sick leave than others: is sick leave being abused ?

* The salutogenic constructs are of fundamental importance for research practice in health psychology since their primary concern is with the maintenance and enhancement of wellness in addition to the prevention and treatment of illness. Based on this, future research is recommended to explore sickness and salutogenic functioning.

* Further with regard to the literature review on salutogenesis functioning, it is noted with concern that the construct "Potency B" is often used as a coping questionnaire. This construct is directly related to "illness" though, and it is recommended that researchers should conceptualise this construct differently from the others.

6.3.2 Recommendations with regard to the empirical study

The following recommendations are made:

- * It is recommended that for future research, a larger sample be used so that the results could be more generalised to the situation in PTM (Eskom Enterprises).

* The sample should be representative in terms of gender in order to extend the debate on salutogenic functioning and biographical variables.

6.3.3 Recommendations to PTM (Eskom Enterprises)

Based on the findings of this research, the following recommendations are made to PTM (Eskom Enterprises):

* Although the respondents levels of copings seem to be between average and high, management can train their staff at all levels to be perceptive of any indications of stress, be receptive, ready to acknowledge what they hear and take appropriate action.

* The respondents scored low on the construct “hardiness” under “challenge”. This could mean that the respondents either experience that their everyday interactions present no challenge, or that their work could be so repetitive that they are not challenged any more. On the other hand, this could indicate a lack of challenge and transformational coping when dealing with stressful events. If the management of PTM is interested in the issue of occupational health, and in caring about their workers as people rather than relating to them as production units, they must pay attention to the risk factors that could contribute to the lack of coping skills.

Step 11 of phase 2: Empirical study is now completed.

6.4 CHAPTER SUMMARY

This chapter has formulated conclusions in terms of the literature review, the empirical study and the hypothesis made. Limitations of the study were discussed and recommendations made. This brings us to the end of this study with all its aims being achieved.

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APPENDIX 1

BIOGRAPHICAL INFORMATION

PTM's vision of becoming a viable market driven organisation and the preferred technical service provider can only be achieved if you as an employee experience a certain quality of worklife. A critical factor influencing your success in this regard is your experience of stress.

I am embarking on this research for my studies, while at the same time I will be guiding PTM in the development and application of appropriate interventions to enhance your quality of worklife.

The validity of this survey is largely dependent upon the number of employees completing the questionnaire representing all the sections and workstations in PTM.

All the information will be treated confidentially and no-one will be identified by any means. Feedback will merely be given in terms of sections with no reference to any individual.

Thank you for your participation.

Completed forms must please be returned to **Mrs. Mologadi Motshela by 30 June 2000.**

Workstation							
What is your job grading	A	B	C/P	M/P/E			
Age Group	18 -25	26 - 30	31 - 35	36 - 40	41 - 55	56 and older	
Gender	Female	Male					
Number of years in service	0 - 5	06 - 10	11 - 15	16 - 20	21 - 25	26 - 30	30 +

APPENDIX 2**SICK LEAVE DAYS**

RESPONDENT	NO. OF SICK LEAVE DAYS
01	067
02	002
03	000
04	017
05	003
06	002
07	002
08	002
09	000
10	000
11	000
12	000
13	010
14	002
15	009
16	000
17	001
18	000
19	003
20	032
21	011
22	009
23	022
24	005
25	030
26	005
27	002

RESPONDENT NO.	NO. OF SICK LEAVE DAYS
28	003
29	000
30	000
31	000
32	010
33	000
34	003
35	004
36	007
37	001
38	012
39	001
40	007
42	000
43	003
44	007
45	002
46	019
47	004
48	006
49	012
50	001
51	000
52	024
53	004
54	000
55	024
56	003
57	057

RESPONDENT NO.	NO. OF SICK LEAVE DAYS
58	059
59	013
60	018
61	000
62	010
63	009
64	003
65	011
66	009
67	002
68	001
69	000
70	006
71	000
72	000
73	001