THE RELATIONSHIP BETWEEN PERSONALITY AND BIOGRAPHICAL FACTORS IN ABSENTEEISM

by

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DECLARATION

I declare that “The Relationship between Personality and Biographical Factors in absenteeism” is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.
ABSTRACT

This research deals with personality and biographical factors in absenteeism. The literature review looks at personality traits and absenteeism. The following question must then be asked: Can the construct “personality” be analysed and described within the context of the work environment, and can the relationship between personality, biographical factors and absenteeism be studied empirically. The empirical study focuses on measuring the relationship between personality and absenteeism.

The construct “personality” is presented within the dimensional or trait perspective. The empirical investigation is presented within the functionalistic paradigm (quantitative approach). The chosen measuring instrument, namely, the Sixteen Personality Factor Questionnaire (16 PF SA 92) was administered by means of a random sample to 72 Aviation Security Officers. The reliability of the Sixteen Personality Factor Questionnaire was determined using the Cronbach Alpha coefficient method. To determine if personality is a predictor of absenteeism, stepwise regression analysis was done. The results indicate that the degree (category) of absenteeism is associated only with marital status and number of dependants.

Key terms
personality, personality traits, personality theories, absenteeism, withdrawal behaviour, nonattendance, turnover
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CHAPTER 1: BACKGROUND AND MOTIVATION FOR THE STUDY

The research objective of this study is to investigate the relationship between personality and a biographical factor in absenteeism within a company representing the service industry. This chapter contains background information and the motivation for the research. The problem statement and the research questions of the study are discussed. The research design and method is also clarified.

1.1 BACKGROUND AND MOTIVATION FOR THE RESEARCH

Industries in South Africa and across the world are conscious of the fact that employees are often absent from work. This tendency frustrates employers more than employees who fail to report for work. Organizations with high absenteeism and employee reliability issues cannot function efficiently. This has huge implications for companies, both financially and in terms of poor service delivery. Owing to the large amount of research conducted on absenteeism, there are various definitions of the construct “absenteeism”. Each researcher highlights or stresses particular aspects of absenteeism. This research aims to present some of the different definitions and to define absenteeism, as it will be used in this research.

This research focuses on the service industries represented by the Aviation Security Officers who work in the various departure lounges at Johannesburg International Airport (Airports Company of South Africa). These Aviation Security Officers screen all departing passengers to ensure that they do not carry dangerous goods onto aircraft. They are also required to provide efficient service and to create a customer-friendly environment for the passengers.

These Aviation Security Officers are frequently absent from work. This problem is particularly prevalent amongst those who have been employed as Aviation Security Officers for longer than 12 months. The rate of absenteeism also tends to be higher amongst the previously disadvantaged groups (black,
coloured, Asian) than amongst the white population group. Younger members of staff are also more inclined to be absent from work than their older counterparts. The problem does not seem to be gender specific. Although it seems as though these Aviation Security Officers are absent more often than their supervisors, it is not yet clear whether this absenteeism follows a pattern of specific days or shifts. A further area of focus is determining if the personality type of the security officer has any impact on absenteeism.

The research question is thus: What is the root cause of absenteeism amongst Aviation Security Officers at Johannesburg International Airport? The reasons for this absenteeism could be numerous. South Africa has a history of “apartheid” which affected the majority of people living in the country (the previously disadvantaged groups) in terms of schooling, education, and job opportunities and where they could live (the so-called township developments). Since 1994, however, this has changed. The New South Africa and the South African Constitution have ensured that, in terms of legislation, all South Africans are equal. Employment Equity has been (and continues to be) addressed in the workplace and the South African workforce now reflects the country’s demographics. These changes occurred while South Africa was finding its place in the Global economy, which meant that companies were forced to adopt best practice policies and to become globally competitive. The result of such actions could result in downsizing and eventual job losses.

With the high rate of unemployment in South Africa, many families are dependent on one breadwinner. This might mean that one individual supports an entire family, that is, his or her mother, father, brothers, sisters and even extended family members. These individuals also often support family members who live away from home and use public transport to get to work. These social and economic factors add to the stresses and strains facing these Aviation Security Officers.

These Aviation Security Officers also face problems at work. They work shifts, deal with difficult passengers, are responsible for detecting dangerous goods
before they are taken on board, and are faced with peak periods where large volumes of passengers need to be processed timeously. In addition to this, they are required to render good customer service.

The researcher believes that these factors all contribute to the high levels of absenteeism amongst Aviation Security Officers at Johannesburg International Airport. The researcher asserts that these factors impact on the personality of the Aviation Security Officer. The individuals employed in this capacity need to be able to cope with the challenges associated with the job. To cope with these challenges, however, the individual requires strong ego strength. Although personality traits may not be the only causative factor that contributes to the successful or unsuccessful coping behaviour of such employees, the researcher believes that an analysis should be made of the type of personality that is required for front line customer positions so that future appointments can be made in line with these requirements. This will, hopefully, result in employees with specific personality traits, traits that will enable them to cope better with the demands of the position. Those individuals without the correct personality traits may absent themselves more frequently from work as a means of coping with the demands of the job.

1.2 PROBLEM STATEMENT

No previous empirical study has been done, as far as the researcher can ascertain, on the relationship between personality and biographical factors in absenteeism. Neither has a scientific study been conducted within this specific company (Airports Company of South Africa) to ascertain which personality and biographical factors influence employees in front line positions to cause them to be absent from work.

Given this, it is necessary to undertake a scientific study of the relationship between personality and biographical factors in absenteeism.
1.3 RESEARCH QUESTIONS

The following four research questions have been formulated for this research:

(1) Can the concept "absenteeism" and its causes be analysed, conceptualised and the impact of biographical factors understood within the work context of the Aviation Security Officer?

(2) Can the construct "personality" be analysed and described within the context of the Aviation Security Officer?

(3) Can the relationship between personality and biographical factors in absenteeism be studied empirically?

(4) Can recommendations be made regarding personality and biographical factors in absenteeism with regards to the selection criteria of employees?

One general and four specific aims have been set in an attempt to answer these research questions.

1.4 GENERAL AND SPECIFIC AIMS FOR THE STUDY

The general aim of this study is to investigate the relationship between Aviation Security Officers personality traits and biographical factors in absenteeism from work.

This general aim has the following four specific aims:

(1) Specific aim 1
   To analyse, conceptualise and describe the concept "absenteeism", as well as the causative factors of absenteeism within the Aviation Security Officers' work context focusing on biographical factors.
(2) Specific aim 2
To analyse and describe the construct "personality traits" as a possible predictor of absenteeism among Aviation Security Officers.

(3) Specific aim 3
To empirically investigate and analyse the relationship between personality traits and biographical factors in absenteeism in Aviation Security Officers.

(4) Specific aim 4
To make recommendations regarding personality as a predictor of absenteeism in selection criteria amongst Aviation Security Officers.

1.5 RESEARCH DESIGN

Research design is, synonymous with rational decision making during the research process. Irrespective of how structured or unstructured a research project is likely to be, it is the duty of the researcher to ascertain which factors may pose a threat to the validity of the findings. By paying attention to nuisance variables in a critical and systematic manner, it is possible to ensure that the ultimate research findings are likely to be valid (Mouton & Marais, 1992). In an attempt to develop an optimal research design, the research model of Mouton and Marais (1992) was used. The paradigmatic perspective for this research will be described in terms of the meta-theory: The aim of meta-psychology is to view human behaviour and experience from a holistic perspective, which assumes that a human is an organised whole that functions in totality through the interaction of structure and process. According to Magnussen (1990), the study of these interactions has more informational value than the study of structures and processes in themselves.

The disciplinary perspective of the study is placed within the context of Industrial and Organisational Psychology, which may be defined as understanding and explaining, and predicting and influencing human behaviour and experience in the work context (Bergh & Theron, 1999).
The theoretical perspective of the study is a literature review concerning personality traits and biographical factors in absenteeism (dimensional theory – trait and factor theory). The research design is described in terms of the unit of analysis and the operationalisation of the objectives.

1.5.1 Unit of analysis

The unit of analysis that has been chosen for this study comprises the Aviation Security Officers at Johannesburg International Airport who have been absent from work for more than six days in a year.

1.5.2 Operationalisation of the objectives

Within the research objective, there are three categories of objectives that can be highlighted, namely, confirmatory, descriptive and explanatory objectives.

This research is descriptive in nature. It is descriptive in the presentation of the two constructs under discussion, namely, absenteeism and personality. The important consideration in a descriptive study is to collect accurate information on the domain phenomena that are under investigation.

The research is, therefore, aimed at understanding the concept "absenteeism" as it might best be defined as one symptom of the individual’s total adjustment to the job situation according to Yolles et al., (1975). The single most sensitive measure of morale is absenteeism from work. The empirical study will be presented within a functionalistic paradigm (quantitative approach).

The following are the basis assumptions of the functionalistic paradigm (Morgan, 1980):

- It is primarily regulative and pragmatic in its basic orientation.
- It is concerned with understanding society (organisations) in a way that generates useful, empirical knowledge.
• Society has a concrete, real existence and a systematic character that is oriented to producing an ordered and regulated state of affairs.

• It encourages an approach to social theory that focuses on understanding the role of human beings in society.

Furthermore, factors that affect the level of absenteeism can be grouped under three headings, namely, attitude of the large environment (society), the organisation, and the personal characteristics of the individual. The next step is to define personality as a set of cognitive and perceptual functions that serves adaptive purposes. The final step is to present and integrate the existing literature on absenteeism and personality so that the relationship between the two constructs can be analysed.

The study will be conducted by analysing personality traits using Cattell’s Sixteen Personality Factor Questionnaire (hereinafter referred to as 16PF) (1989). The data collected from this sample group will be used for this analysis of absenteeism.

1.5.3 Research strategy

The model of Rhodes and Steers’ (1990) will be used to describe absenteeism and to indicate those factors that influence individual’s levels of absenteeism. Cattell’s 16PF (1989) will be used to measure personality.

In this research strategy, the researcher will ensure the internal validity on a contextual level by choosing models and theories in a representative manner and by presenting them in a standardised manner. The internal validity will also be ensured by choosing measuring instruments in a responsible and representative way and by presenting them in a standardised manner. In this study, the researcher will ensure the external validity by selecting a sample that is representative of the total population. The findings will,
therefore, have greater validity than merely for the project in which they were generated. The aim of the research design is to determine if the specific chosen variable, known as the independent variable, influences another variable, known as the dependent variable (Huysamen, 1993). In this research, the dependent variable is absenteeism and the independent variable personality traits and biographical factors. The integration of the aforementioned in the conclusion and recommendations will be contextualised regarding the research problem.

Absenteeism, for the purposes of this research, can be defined as the failure of an employee to report to work when he or she is scheduled to work. The construct “absenteeism” as applied in this study refers to Blau and Boal’s (1987) calculative category. The types of absenteeism that will be investigated during this research are the organisationally unexcused, calculative and voluntary absenteeism. The research aim of defining the concept “absenteeism” has thus been satisfied.

The population group comprises Aviation Security Officers who work as front line staff in a service industry (N300). The sample group will consist of employees with an absenteeism record of more than six days within a one-year period. The data will be collected via the company’s management information system. A sample group (N72) will complete the 16PF under controlled conditions and a random sample will be used for interviews.

1.6 RESEARCH METHOD

The method of research will be described in terms of two phases:

PHASE ONE
Step 1
An analysis, conceptualisation and description of the concept "absenteeism", as well as the causative factors for absenteeism of the Aviation Security Officers’ work context. This will be done by conducting a complete literature study of all the available information on the concept "absenteeism" and by
integrating the information and making an assumption about the relevance thereof for the sample group as well as discussing biographical factors and its role in absenteeism.

**Step 2**
An analysis and description of the constructs "personality" and "personality traits" to determine possible theoretical relationships between personality and absenteeism. This will be done by conducting a complete literature study of all the information on the concept "personality" and by integrating the information and making an assumption about the relevance thereof for the sample group.

**PHASE TWO**

**Step 3**
A psychometric evaluation and collection of biographical information of those individuals with an absenteeism record of more than six days in a one-year period. This will be done using Cattell's 16 PF SA 92 and a biographical questionnaire.

**Step 4**
An analysis of the relationship between the biographical information of individuals in the sample group and absenteeism as well as the relationship between personality traits and absenteeism. This will be done by analysing the results from the empirical study to determine the reliability and validity of personality as a predictor of high levels of absenteeism.

**Step 5**
A presentation of the results, summary and recommendations based on the research.
1.7 CHAPTERS

The following chapters are planned:

Chapter 1: Background and motivation of the research
Chapter 2: Absenteeism theories, models and the impact of biographical factors
Chapter 3: A Trait approach to personality
Chapter 4: The empirical study
Chapter 5: Results from the empirical study
Chapter 6: Conclusion and recommendations
CHAPTER 2: ABSENTEEISM THEORIES, MODELS AND THE IMPACT OF BIOGRAPHICAL FACTORS

This chapter analyses and conceptualises the concept “absenteeism”, the meaning thereof and the models that reflect the nature of absent behaviour. The chapter concludes with an analysis of the possible causes of absent behaviour within the ranks of the Aviation Security Officer.

2.1 ABSENTEEISM

The description of absence given by Johns and Nicholson’s (1982) “…different things to different people at different times in different situations”, serves to illustrate the complexity of absent behaviour. A great deal has been written on absenteeism and Steers and Rhodes (1984) used this information to identify four clearly defined areas of absenteeism, the pervasive nature of absenteeism across organisations and international boundaries; the high costs associated with absenteeism; the many variables (several hundred) researched in relation to it; and its potentially serious consequences for the individual employee, co-worker and organisation alike.

Rushmore and Youngblood (1979) classified the absence phenomenon into two broad categories, namely, microclimate factors and macroclimate factors. Microclimate factors include personality factors and career and organisational factors. Macroclimate factors include economic, sociocultural and ethnic factors and medical conditions. Because of the many narrowly focused studies of absenteeism and the lack of conceptual frameworks for integrating these findings, it is useful to identify the major set of variables that influence attendance behaviour and to suggest how such variables fit together in a general model of employee attendance. Steers and Rhodes (1978) present a model of employee attendance. This model incorporates both voluntary and involuntary absenteeism and was based on a review of over 100 studies of absenteeism (Rhodes & Steers, 1978). Briefly stated, the Steers and Rhodes model (1978) posits that employee attendance is largely a function of two
important variables: (1) an employee’s motivation to attend work, and (2) an employee’s ability to attend work.

Over the past few decades, industrial psychologists have tried to explain individual behaviour in terms of looking for the “key” to individual motivation and have theorised about what goes on inside “the worker’s” head, this has, interestingly enough, been seen as a “problem” for managers (Chadwick-Jones, Nicholson & Brown, 1982). Presumably, though, if managers were to find the key, they might use it to manipulate worker behaviour. But despite occasional claims of a breakthrough or a general solution to this problem, the results of this approach have been disappointing. (Chadwick-Jones et al., 1982).

Managers and applied psychologists assert that the best managerial strategy is to provide incentives for individual employees. At an ideological level, this is offensive; at a practical level, it denies that absenteeism is a social phenomenon that dictates rules or norms to which individuals collectively refer. According to Chadwick-Jones et al. (1982), individuals tend to refer to the norm or rule, which prescribes how often they may be absent from work, what form the absenteeism, may take (normal leave or sick leave) and whether or not colleagues and management will tolerate this absenteeism.

In this context, the absence of one person affects others and absences are only taken in terms of what is allowed by the organisational “culture” (Chadwick-Jones et al., 1982). While it is true that there are huge individual discrepancies in the frequency and type of leave employees takes, these differences tend to occur within the limits set by a particular culture. By culture, Chadwick-Jones et al. (1982) mean the beliefs and practices, which influence the totality of absences, that is, the frequency and duration of absences as they occur within an employee group or organisation. Employees are generally aware of this culture even if only partially or imperfectly, and will subscribe to the norm. Thus, the norm is what they collectively recognise as suitable and appropriate for people in their position,
unit or organisation, given the particular conditions (both physical and social) under which they work (Chadwick-Jones et al., 1982).

Although there is a lack of theoretical support for the concept or phenomenon absenteeism, a review of the literature has presented some theoretical views on absenteeism. To meet the research aim of this study, that is, to understand the concept “absenteeism” from a theoretical perspective, existing theories on absenteeism will now be discussed.

2.2 EXISTING ABSENTEEISM THEORIES

For more than four decades, the phenomenon “absenteeism” has captured the theoretical imaginations of researchers all over the world. Yet, despite having conducted hundreds of studies, they have still not come up with a comprehensive theory or theoretical framework that can be used to describe the phenomenon of absenteeism (Steers & Rhodes, 1978). Absenteeism can be interpreted as an exchange between employees as a group and between them and the employing organisation. In the first instance, employees “share” their absenteeism (Who else was absent today?) so that it becomes acceptable. In the second instance, absenteeism becomes a form of negative exchange between the employee and the employer; the employee withholds his or her presence from the workplace. These employees “trade off” their absence against workload pressure, boredom or the enormous artificiality of fixed work schedules. Employee attendance is determined primarily by the employee’s ability and motivation to attend work. These variables are believed to interact to the extent that someone’s perceived ability to attend work moderates his or her motivation to be present at work. In other words, motivation to attend work is influenced by a person’s satisfaction with his or her job situation and the pressure he or she feels to attend work. When one talks about absenteeism, however, it is critical to distinguish between an absence problem and a problem absentee. An absence problem impacts on an organisation in terms of service delivery and pressures on staff in the workplace. A problem absentee, in contrast, is an employee who is frequently absent from work.
Following absent behaviour is discussed using some existing theories. These theories look at the notion of the informal contract, perceived inequity, and withdrawal from stressful work situations, dynamic conflict and social exchange. The relevance of each of these perspectives to this specific research will also be discussed.

2.2.1 The informal contract

Gibson (1966), in his attempt to explain some of the main features of absent behaviour, focused on the notion of an informal contract. This type of contract is viewed as being made between an individual and an organisation. Gibson (1966) was particularly interested in those absences from work that are not long enough to result in formal legitimising (certification) procedures being taken against them. He used the concept “valence” to refer to a person’s positive or negative view of a work situation; he also pointed out that it is easier for people to justify their absence from work if the combined valences of a work situation are weak.

Gibson (1966) asserted that the size of an organisation influences levels of absenteeism. Larger organisations tend to have higher levels of absenteeism, because there is greater division of labour; this means that individual’s contributions can be minimised. He mentioned the importance of employees identifying with the organisation, particularly longer-serving employees. He also stressed the importance of an “authentic” work contract; the organisation must be seen to offer a fair deal to the individual. The individual who feels that he or she has been offered a fair deal is more likely to feel obligated to be at work. Adams (1965) suggested that since absence may be a means of resolving perceived inequity, absent behaviour is likely to increase with the magnitude of the inequity (e.g. employees may view the company as being unfair or they may believe that discrimination or imbalances exist within the organisation). Employees are likely to absent themselves from work if they are not able to find ways to reduce the inequity.
Taking these theories into consideration and given the situation at Johannesburg International Airport, it may be hypothesised that increased levels of absenteeism amongst Aviation Security Officers will not necessarily impact negatively on the organisation. The Aviation Security Department at Johannesburg International Airport is big and there are 90 security officers on duty during any one shift. This may cause Aviation Security Officers to feel that their absence will not impact negatively on the company. One consequence of unauthorised or excessive absenteeism at the Airports Company of South Africa is a disciplinary hearing, but these hearings generally drag on for long periods of time and usually result in no action being taken. At worst, an employee might be given a warning. This lack of action creates the impression that the Airports Company of South Africa tolerates high levels of absenteeism.

Many people see this company as an employer of choice, but despite this, many employees do not really enjoy their work --- they work for a salary. Many of these Aviation Security Officers need their jobs in order to care for dependants. They are faced with constant pressures from passengers and they are forced to obey rules and procedures enforced by the company. This result in them needing time out (an escape) from work, the result, absent behaviour.

2.2.2 Resolving perceived inequity

Patchen (1960), Adams (1965) and Hill and Trist (1953) have made notable theoretical contributions to the study of absenteeism. Although their research is now dated, it has been included to add depth to the broader discussion of the concept “absenteeism”. No recent literature could be found which built on these theories. Adams (1965) suggested that since absences from work may be a means of resolving perceived inequity, the probability of absent behaviour will increase with the magnitude of the inequity and if ways of reducing the inequity are not available. Patchen (1960) tested this kind of hypothesis and found a relationship between absence and perceived fairness
of pay. In other words, employees are more likely to attend work if they feel that they have been treated fairly in terms of pay and promotions.

This research will not consider this perspective, as the Aviation Security Officers working for the Airports Company of South Africa (ACSA) are paid, on average, 30 percent more than the industry norm. Although some employees may well regard pay-related issues as a problem --- which could lead to a perception of unfairness --- this perspective will not be considered in this research.

2.2.3 Withdrawal from the stress of work situations

Hill and Trist (1953; 1962) developed a theory which looked at absence from work as a sign that an employee is withdrawing from a stressful work situation. They investigated accidents rates and patterns of absenteeism at a large steel company over a period of four years. Withdrawal is, according to them, a central explanatory concept of absenteeism. Those individuals, who experience conflict between satisfaction and obligation, tend to express their dissatisfaction by resigning, by causing accidents or by being absent from work without formal permission. How the conflict is expressed, however, depends on a sequence of three phases in the employee-organisation relationship (Hill & Trist, 1962). In terms of this research, Aviation Security Officers may withdraw from their stressful situations (e.g. abusive passengers and job-related pressures) by absenting themselves from work.

When the “available” and “sanctioned” outlets for stress (i.e. those absences excused by the employing authority) become insufficient, however, employees begin to express their hostility towards the job environment by causing accidents and through unsanctioned absences from work. Absence without permission reflects an overt, paranoid expression of hostility. Hill and Trist (1962) note that the decline in accident rates with length of service conceals a rise in the numbers of accidents that are under the control of the individual. These represent a depressive mode of feeling and parallel the increase in uncertified sickness absence as another means of “coping with stress”. The
main fault with this research is, however, that there is a large gap between the level of explanation and the level of the empirical data; the data consists of collective trends of accidents and absences, while the explanation looks at individual reactions.

A study conducted by Direndonck, Le Blanc and Van Breukelen (2001), further supported the fact that supervisory behaviour has an affect on employee absenteeism. Their research indicated that leader member exchanges were strongly related to subordinates' feelings of reciprocity. Role conflict was studied by Chung and Schneider (2002) as a predictor of absenteeism for customer contact employees. Customer contact staff, in their opinion, are boundary spanners who attempt to serve both internal and external constituents. Attempting to serve two masters can result in role conflict for the employee. Role conflict in their study was viewed as it relates to employee attitudinal (job satisfaction) and behavioral (absenteeism) outcomes. Their study revealed partial support for the above-mentioned view.

All the above factors may influence whether or not the employee is absent from work, although there might be one predominant factor supported by one or more of the others. Could personality, for example, be supported by an underling medical condition?

2.2.4 Dynamic conflict

This explanation of “withdrawal” offered by Hill and Trist (1962) influenced other researchers such as Knox (1961) and As, French and Israel (1960). Gadourek (1967) describes the theories of Knox (1961) and As et al. (1960) in terms of the dynamic conflict theory. The conflict is located within the individual --- whether a person stays or withdraws is, therefore, the result of complex incentives and stresses. Within the scope of this research, the dynamic conflict theory will be looked at in terms of a personality trait where employee with certain personality profiles may opt to withdraw from the work situation.
2.2.5 Social exchange

Chadwick-Jones et al. (1982) presented a case for the theory of absenteeism that has a social rather than an individual emphasis. As a first step, Chadwick-Jones et al. (1982) assumed that there is a level of interdependency amongst employees in an organisation, that is, that individuals have some level of mutual obligation to peers, subordinates and superiors (as well as other relationships outside the work situation). In other words, individuals are subject to and represent a set of rules that need to be enforced in a work situation. What individuals do is, therefore, likely to be in answer to, on behalf of or in defense against the group.

As a second step, Chadwick-Jones et al. (1982) assumed that some form of social exchange takes place between employers and employees. These social exchanges --- which may take the form of time, effort, skill, money, security, friends, and so on --- may be between individuals and work groups or between work groups and management. It is important to note, however, that a social exchange will not take place between individuals and organisations if the social conditions and rules governing that exchange are ignored.

Chadwick-Jones et al. (1982) thought of social exchange between employees and employers as developing in or as revealed by a pattern of behaviour in the work situation that includes absences and all the other factors that constitute the contract --- whether formal or informal --- between employers and employees. Formal factors include pay, working hours, disciplinary rules, key performance areas and potential promotion lines. Informal factors include supervisory styles, peer groups relations, and --- salient to their analysis --- absences from work. Chadwick-Jones et al. (1982) did; however, point out that absence may not enter into the exchange at all, insofar as some employees or employee groups --- especially those with higher status such as factory supervisors and bank managers --- are seldom absent from work. It is, quite possible, however, that managers have greater control over how they manage their working time and thus may take periods of “time out” which are not recorded.
Levels of absenteeism reflect the social exchange within an organisation, that is, “agreed upon” types of behaviour. This means that employees understand what types of absences are acceptable --- employees’ decisions to attend work or to be absent from work conform to a normative frequency level (Chadwick-Jones et al., 1982). Employees can thus be expected to know whether or not the frequency and duration of their absences are appropriate. The question for them is not only whether to be absent today, but how often they have already been absent in the particular month or year.

From the theoretical perspectives provided, the informal contract (Gibson, 1966) and withdrawal from the stresses of a work situation (Hill & Trist, 1953, 1962) are particularly relevant to this research. The dynamic conflict theory (Gadourek, 1967) has some relevance and will be discussed in more detail later in this chapter. The various theories on absenteeism are relatively dated and the researcher was unable to find any new perspectives in the review of the literature. The existing research on absenteeism seems to be based on the early theories of absenteeism. This lack of new empirical data highlights the complexity of the construct “absenteeism”.

Harrison and Marocchio (1997) investigated the results of absenteeism research over a twenty-year period (1977-1996), particularly in terms of origins and causes. Their reading of the literature identified three classes of variables hypothesised to be the origins of absenteeism.

1. Long-term dismal origins --- personality and demographic characteristics
2. Mid-term job-related attitudes and social context
3. Short term --- proximal, decision-making mechanisms

### 2.3 A DEFINITION OF ABSENTEEISM

Owing to the large amount of research conducted on absenteeism, there are various definitions of the construct “absenteeism”. Each researcher highlights or stresses particular aspects of absenteeism.
2.3.1 Withdrawal

According to Chadwick-Jones et al. (1982), absence from work --- where work is defined by the employee’s presence at a particular location (office or workshop) for a fixed period each day --- can be interpreted as an individual act of choice between alternative activities, as withdrawal or escape from surveillance, or as individual or group resistance to an inflexible system. Thus, absence may also be viewed as a stratagem in inter-group relations, as a defensive or aggressive act in inter-group conflict (Chadwick-Jones et al., 1982).

Following from this an interesting area for research is whether South Africa’s history is seen as a starting point in the development and creation of an absent culture, that is, a culture of resistance and inflexibility towards rules and regulations?

2.3.2 Non-attendance

Another definition of absenteeism refers to the non-attendance of employees who are scheduled to work (Gibson, 1966; Johns, 1978; Jones, 1971). This definition distinguishes between authorised absenteeism and unauthorised absenteeism. This definitional emphasis seeks to focus on the key organisational consequences of unscheduled non-attendance, such as instability in the supply of labour to the firm resulting in the disruption of scheduled work processes and the loss or underutilisation of productive capacity (Allen, 1981; Jones, 1971, Nicholson, 1977).

2.3.3 Organisationally excused versus organisationally unexcused

In terms of distinguishing between types of absence, one simple distinction is the distinction between the organisationally excused and the organisationally unexcused (Blau, 1985; Cheloha & Farr, 1980; Fitzgibbons & Moch, 1980). Based on these studies, it seems that organisations operationalise excused
absences to include (within defined limits) categories such as personal sickness, jury duty, religious holidays, funeral leave and transportation problems. However, as Johns and Nicholson (1982) note, absence behaviour can have a variety of meanings for different individuals.

2.3.4 A four-category taxonomy

Blau and Boal (1987) presented a four-category taxonomy in order to describe the different meanings of absence. These categories are medical, career enhancing, normative and calculative. In the medical category, absence is viewed as a response to various infrequent and uncontrollable events (illness, injury, fatigue and family demands). If such an absence (medical) occurs, it would probably be operationalised as a sporadically occurring excused absence. In the career-enhancing category, absence is depicted as a mechanism that allows the employee to further task-related goals and career-related goals. For the normative category, absence is viewed less as a motivated behaviour and more as a habitual response to the norms of the work group’s (organisation) views of absence. As such, this type of absence would probably operationalise as a consistently occurring excused absence. Definite patterns will emerge, rather than absenteeism appearing as a random walk, as with the medical category. Thus, for this group, it would be expected not only to predict frequency, but also when absenteeism will happen. Finally, the calculative absence is viewed as a coin of exchange (Johns & Nicholson, 1982) in either fulfilling or modifying the implicit social contract between the employee and employer, and as a time allocation strategy for enhancing nonwork outcomes. This type of absence would be operationalised in terms of the employee using a certain amount of excused and unexcused absences permitted by the organisation, depending on how much the employee felt he or she should modify the implicit social contract. It could be predicted that an extremely apathetic employee (low job and organisational commitment) would take full advantage by using both kinds of absence if the sanctions imposed by the organisation in not severe. Thus, the absolute frequency and total number of days absent should be greatest for workers who are the most apathetic.
2.3.5 Involuntary versus voluntary

March and Simon (1958), in contrast, distinguished between two basic types of absences: involuntary (e.g., certified sickness, funeral attendance) and voluntary (e.g., vocation, uncertified sickness). Voluntary absences are under the direct control of the employee and are frequently utilised for personal reasons. Conversely, involuntary absences are beyond the employee’s immediate control. Hence, voluntary rather than involuntary absences from work may reflect job dissatisfaction and lack of commitment to the organisation.

The theory of social exchange is relevant to this study, since an analysis of the attendance records and the lack of action taken against employees who are frequently absent from work show that an “unwritten” level of absence is tolerated in the Aviation Security Department (by supervisors but not by the rest of the organisation).

It is clear from these definitions that an absent employee is one who should be at work, but has failed to arrive at work. These definitions do not, however, distinguish between those absences that are voluntary (under the control and motivation of the employee) and those that are involuntary (beyond the control and ability of the employee); both types of absences are unscheduled non-attendance, which disrupt the labour supply and, consequently, the production process of the organisation (Riordan, 1997; Hammer, Landau & Stern, 1981).

Part of the research aim to describe absenteeism in this study is to highlight the consequences of employee absenteeism for the individual, colleague and organisation.

2.4 CONSEQUENCES OF ABSENTEEISM

Goodman and Atkin (1984) feel that absenteeism produces both negative and positive consequences which affect the individual, co-workers, work groups
within the organisation, management, union officers, family and society. They have compiled a table of the possible consequences of absenteeism (see table 2.1). They acknowledge that their list is not comprehensive and that situations do vary. The effects may not always be felt immediately (lagging) and the duration of absences may not determine different outcomes.

For the purposes of this research, some of these consequences of absenteeism will now be discussed.

**Table 2.1 Consequences of absenteeism**

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual</strong></td>
<td>Reduction of job-related stress</td>
<td>Loss of pay</td>
</tr>
<tr>
<td></td>
<td>Meeting of nonwork role obligations</td>
<td>Discipline: formal or informal</td>
</tr>
<tr>
<td></td>
<td>Benefits from compensatory nonwork activities</td>
<td>Increased accidents</td>
</tr>
<tr>
<td></td>
<td>Compliance with norms to be absent</td>
<td>Altered job perception</td>
</tr>
<tr>
<td><strong>Co-workers</strong></td>
<td>Job variety</td>
<td>Increased work load</td>
</tr>
<tr>
<td></td>
<td>Skills development</td>
<td>Undesired overtime</td>
</tr>
<tr>
<td></td>
<td>Overtime payment</td>
<td>Increased accidents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conflict with absent worker</td>
</tr>
<tr>
<td><strong>Work group</strong></td>
<td>Greater crew flexibility in responding to absenteeism and to production problems</td>
<td>Decreased productivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased accidents</td>
</tr>
<tr>
<td><strong>Organisational management</strong></td>
<td>Greater job knowledge base in workforce</td>
<td>Decreased productivity</td>
</tr>
<tr>
<td></td>
<td>Greater labour force flexibility</td>
<td>Increased costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More grievances</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased accidents</td>
</tr>
<tr>
<td><strong>Union officers</strong></td>
<td>Articulated, strengthened power position</td>
<td>Weakened power situation</td>
</tr>
<tr>
<td></td>
<td>Increased solidarity among members</td>
<td>Increased cost in processing grievances</td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td>Opportunity to deal with health or illness problems</td>
<td>Less earnings</td>
</tr>
<tr>
<td></td>
<td>Opportunity to manage marital problems</td>
<td>Decline in work reputation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aggravated marriage and child problems</td>
</tr>
</tbody>
</table>
Opportunity to manage child problems
Maintenance of spouse's earnings

<table>
<thead>
<tr>
<th>Society</th>
<th>Reduction of job stress and mental health problems</th>
<th>Loss of productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reduction of marital related problems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participation in community political processes</td>
<td></td>
</tr>
</tbody>
</table>

Source: Goodman and Atkin (1984, p. 280)

2.4.1 The extent and cost of absenteeism

When considering the costs associated with absenteeism, it is important to note that absenteeism does not always lead to reduce operating efficiency. Staw and Oldham (1978), for example, believe that some absenteeism might actually facilitate performance instead of inhibiting it. In other words, absenteeism relieves dissatisfied workers of job-related stress and, in some cases, may allow them to be more productive when they return to work.

Cascio (1991), McKee (1992) and Fletcher (2000) focused on the cost of absenteeism as the direct cost of salaries related to absenteeism in the workplace and the indirect costs associated with the appointment of contract staff to do the work. They also refer to the indirect costs associated with loss of morale, drops in productivity, loss of quality and frustration on the part of management.

2.5 DETERMINANTS OF ABSENTEEISM

A considerable research investment spanning more than half a century has yielded relatively little cumulative knowledge regarding the determinants of employee absenteeism. Reviews of literature have consistently attributed the usually weak, often contradictory and generally inconclusive findings of previous research to a lack of theory building and the proliferation of bivariate analyses that have largely focused on correlations between job satisfaction or other job-related attitudes and absenteeism (Chadwick-Jones et al., 1982;

Fitzgibbons and Moch (1980) have identified at least three conditions or situations that might mitigate or even eliminate the effects of absenteeism on operating efficiency. These situations are (1) jobs that have been “people proofed” by automating production and by reducing the role of employees to machine motors; (2) work environments that anticipate and adjust for expected absenteeism; (3) cases where employees have little direct effect on plant-level efficiency. According to Fitzgibbons and Moch (1980), managers can have a significant influence on improving operating efficiency in certain types of work environments if they can succeed in reducing absenteeism.

A study by Anderson, Coffey and Byerly (2001) investigated the impact of formal and informal work-family practices on both work-to-family and family-to-work conflict (WFC, FWC) and a broad set of job-related outcomes. Results showed that negative career consequences and lack of managerial support were significantly related to work-to-family conflict. These were significant predictors of conflict even when accounting for the effects of work schedule flexibility. Work-to-family conflict was linked to job dissatisfaction, turnover intentions and stress, while family-to-work conflict was linked to stress and absenteeism. There were no apparent differences between men and women in terms of the observed relationships.

2.6 THE RELATIONSHIP BETWEEN ABSENTEEISM AND TURNOVER

Most research into withdrawal behaviour has focused on employee turnover and has treated absenteeism with subsidiary interest. Moreover, it is often stated in the literature that turnover and absenteeism share common antecedents and, hence, can be treated with similar techniques. A review of the available evidence by Porter and Steers (1973) argued against this assumption, noting that absenteeism as a category of behaviour differs in three important respects from turnover: (1) the negative consequences associated with absenteeism for the employee are usually much less than
those associated with turnover; (2) absenteeism is more likely to be a spontaneous and relatively easy decision, whereas the act of termination is typically more carefully considered over time; and (3) absenteeism often represents a substitute form of behaviour for turnover.

On the whole, then, although we would expect some modest relationship between factors that influence absenteeism and turnover, the relationship would clearly not be a strong one. As a result, it must be concluded that sufficient reason exists to justify the study of employee absenteeism in its own right and not simply as an analogue of turnover.

### 2.7 MEASURING EMPLOYEE ABSENTEEISM

If we are to understand the nature of employee absenteeism in various organisations, we must first understand how (or whether) it is measured in empirical studies. Although Mowday et al. (1982) found that very few organisations keep records of absenteeism; there are several methods that can be used to collect such data. Unfortunately, there is no uniformly accepted classification scheme for assessing this form of behaviour. Huse (1975) examined the following four indices:

1. absence frequency --- the total number of times absent
2. absence severity --- the total number of days absent
3. attitudinal absence --- the frequency of one day absences
4. medical absences --- the frequency of absences of more than three days

Chadwick-Jones et al. (1982) used a different approach to measure absenteeism. They used the following seven indices of absenteeism:

1. absence frequency
2. attitudinal absence
3. other reasons --- number of days lost in a week for any reason other than holidays, rest days and certified sickness
4. worst day absence --- difference score between number of individuals absent on any week’s “best” and “worst” days
time lost --- number of days lost in a week for any reason other than leave

lateness --- number of instances of tardiness in any week

blue Monday --- number of individuals absent on a Monday minus number of individuals absent on a Friday of any week

The fact that the various measures used in empirical studies are typically related to one another further compound the problem of measuring absenteeism.

Van der Walt (1999) argued that grouping the causes of absenteeism into different categories will not only shed more light on the causes themselves, but is also a place to find solutions to this problem. One such classification method categorises the causes of absenteeism into personal (income level, health, length of service, marital status, educational level and gender), organisational (type of work, size of organisation and work groups, nature of supervision, incentive schemes and shift work), attitudinal (job satisfaction and general state of the economy) and social factors (child care problems, religious beliefs and inclement weather).

2.8 A MODEL OF EMPLOYEE ABSENTEEISM

Because of the many narrowly focused studies of absenteeism and the lack of conceptual frameworks for integrating these findings, it is useful to identify the major set of variables that influence attendance behaviour and to suggest how such variables fit together in a general model of employee attendance. Steers and Rhodes (1978) present a model of employee attendance. This model incorporates both voluntary and involuntary absenteeism and was based on a review of over 100 studies of absenteeism (Rhodes & Steers, 1978). Briefly stated, the Steers and Rhodes model (1978) posits that employee attendance is largely a function of two important variables: (1) an employee’s motivation to attend work, and (2) an employee’s ability to attend work.
In addition to Steers and Rhodes’ model of absenteeism, Fichman (1984) conveniently summarised absence literature into six basic assumptions. The following six (6) aspects serve to describe the model by Steers and Rhodes.

2.8.1 Absence is approach-avoidance behaviour

Most absence studies using job satisfaction as their explanation for the absence are describing avoidance behaviour. The Steers and Rhodes model (1978) uses decision making or expectancy model elements to study approach-avoidance behaviour. Withdrawal research also utilises this behavioural theory. According to the model, Steers and Rhodes (1978) suggest that an employee’s attendance is largely a function of two important variables: attendance motivation and ability to attend.

Two main determents of attendance avoidance are (1) satisfaction with the job situation, and (2) various internal and external pressures to attend.

Seven aspects of the job situation have been identified by Rhodes and Steers (1990) as most likely to lead to increased job satisfaction (see box 1 in figure 2.1). These are increased job scope and job level, reduced stress, smaller work group sizes, considerate leadership, positive co-worker relations, and greater opportunities for advancement. Not all companies have the same expectations of a job incumbent, and individual values and expectations will determine how satisfied an individual is with the job situation (see box 2). These values and expectations have been shaped by the personal characteristics and backgrounds of the employees (see box 3) and will change as they mature and develop. During the selection of new employees, the organisation should try and match individual and organisational expectations to measure satisfaction with the job.

Five major “pressures to attend” have been recognised as enhancing attendance motivation (box 5) (Rhodes & Steers, 1990). These are economic and market conditions, incentive and reward systems, work-group norms, personal work ethic and organisational commitment. Even if a person wants
to go to work and has a high attendance motivation (box 6), there are instances where attendance is not possible. The individual may not always have the choice of attendance. There are three unavoidable limitations on attendance (box 7): (1) illness and accidents; (2) family responsibility; and (3) transportation problems.

Figure 2.1 Steers and Rhodes' model explaining employee attendance behaviour

Source: Rhodes and Steers (1990)
Steers and Rhodes (1984) feel that their model allows for management analysis and problem solving, primarily because the model provides a diagnostic framework and identifies many areas in which major problems may lie, thereby suggesting specific intervention strategies instead of more general and costly ones. Over the years, researchers have reviewed Steers and Rhodes’ model (1984) with varying degrees of support. Steers and Rhodes have suggested various modifications to improve the overall utility of the model. Firstly, the modified model highlights the presence of work-group norms and a culture of absence in recognition of the need to place absence research in a social context. Secondly, the model uses the term “work attitudes” rather than specifying one particular work attitude. Lastly, “perceived ability” replaces “actual ability” to attend work. The following figure shows the revised and simplified model which highlights the main groups of variables that affect attendance.

**Figure 2.2 An organising framework for understanding absent behaviour**

![Diagram of absent behaviour model](source)

The two factors contained in the revised model that is not contained in Steers and Rhodes’ first model is that of absence culture and work-group norms. The Aviation Security Officers at Johannesburg International Airport might feel that
no action is taken against those who are absent from work, with the result that they view absenteeism as normal behaviour.

The Brooke and Price (1989) causal model of absenteeism modifies and extends the conceptual framework of Steers and Rhodes (1978) and includes routinisation, centralisation, pay, distributive justice, work involvement, role ambiguity, conflict and overload, kinship responsibility, organisational permissiveness, job satisfaction, job involvement, organisational commitment, health status and alcohol involvement as the determinants of absenteeism. The researchers’ write, “… the causal model has shown considerable promise as a basis for investigating multivariable relationships among the determinants of absenteeism” (Brooke & Price, 1989, p. 14).

As mentioned earlier, withdrawal research also utilises approach-avoidance behaviour. The progression of withdrawal hypothesis predicts a hierarchy among withdrawal behaviours, with lateness being followed by absence, which, in turn, results in resignation (Rosse, 1988). While Rosse (1988) and Beehr and Gupta (1978) have found some support for relating the forms of withdrawal behavioural, Clegg (1983, p. 88) concludes that the “generalisation notion of withdrawal is misleading”.

Lastly, under approach-avoidance behaviour, the dynamic attendance model of Fichman (1984, 1989) is briefly described. According to Fichman (1989, p. 325), “… absence and attendance are studied by assessing the changing hazard rate, (h (t)), of taking an absence over time in attendance. Hazard (h (t)) is the instance rate of going from work attendance to work absence in a unit of time, given that the individual has been in attendance until time t”. Fichman (1984) proposed the hypothesis that the rate of absence taking increases with increasing time in attendance. His results strongly support the hypothesis. In other words, the longer one works for a company, the more likely one is to be more absent from work.

Although the dynamics and withdrawal models are both approach-avoidance models, there are several differences between them. In the dynamics model,
absence is not necessarily a withdrawal from unpleasant work conditions, but rather an approach to a more attractive non-work situation (Fichman, 1984). The withdrawal theory only allows for behaviour substitution in a compensatory fashion and thus, if work is not aversive, cannot predict absences of a prolonged duration (Fichman, 1989).

In a study conducted by Burton, Lee and Holton (2002), which was based on the model of Steers and Rhodes, they developed four hypotheses to expand on this model:

(1) The ability to attend will be positively related to the frequency of absenteeism that is attributed to family issues in terms of the sample group. Individuals are parents with a number of dependants to support. Unmarried staff members support extended family members who are unemployed.

(2) The ability to attend will be positively related to the frequency of absenteeism that is attributed to transportation problems. Within the sample group, staff members travel long distances to work due to the geographical location of suburbs.

(3) Motivation to attend will be negatively related to the frequency of absenteeism that results in a failure to notify the organisation.

(4) Motivation to attend will be actively related to the frequency of absenteeism that is attributed to illness.

The results of their study indicated that people’s perceived ability to attend but not their motivation to attend significantly predicted absenteeism attributed to family issues. In addition, motivation to attend predicted absences attributed to illness. Surprisingly, they found that a person’s motivation to attend was not significantly related to the level of overall absenteeism. An employee’s age, however, acts as a suppressor to the relationship between
motivation to attend and overall absenteeism. Finally, they concluded that motivation to attend becomes a significant predictor of overall absenteeism.

2.8.2 Absence is the result of a decision process

In the decision process model, the person decides on any given day whether or not to attend work. Fox (1974) argued that being unable to work is not a static condition but a dynamic process. The cause, and therefore the treatment, of absences for different durations can be very different. The following distinctions can be made between the durations of sickness absence.

Subjective syndromes lasting one to three days are characterised by a high degree of freedom of decision by the individual to withdraw. This can also be classified as voluntary absence, which is under the control of the employee, with little or no warning given to the organisation. In organisations where absenteeism is recorded and classified according to type of absence, such voluntary absenteeism will form a considerable percentage of sick or medically certified absences (Riordan & Miller, 1986).

Objective-subjective syndromes last between four and seven days. These are characterised by a high degree of freedom at the start, but less so at the end when doctors or other people may encourage a decision to return to work. Acute respiratory infections may fall under both these durations.

Objective syndromes usually last for up to fourteen days. These absences are due to genuine incapacitating disease and morbidity. Little freedom of decision by the individual exists at the beginning of such an absence period. The longer such objective syndromes last, the greater the freedom of the individual to decide when he or she feels fit to return to work. Objective syndromes can be considered involuntary in that the element of choice in staying away from work is massively reduced or absent.
A certain amount of overlap would occur between the various categories mentioned; Hammer et al. (1981) and Smulders (1980) would describe this behaviour as representing a continuum of degrees of employee choice.

2.8.3 Absence is the outcome of an adjustment process

The models of Gibson (1966) and Hill and Trist (1953) can be described as adjustment models. As job conditions change, so the relationship between the organisation and the employee is renegotiated. Absences are, for example, compensation for unattractive aspects of the job. Cultural and social expectations are included here in their control of absenteeism.

Hill and Trist (1953, 1962) introduced the concept of an “absence culture” to describe how workers learn to adjust their behaviour to the stresses of remaining in employment (Riordan, 1997). An absenteeism culture is created by every organisation. Allen and Higgens (1979) state that absenteeism has its own cultural norms that constitute the expected supported and accepted ways of behaving with regard to absences from work. These norms are often symptoms of larger organisational problems. The importance of work group norms as an influence on absenteeism was taken up by subsequent researchers (Chadwick-Jones et al., 1982). Given the complex nature of absenteeism antecedents and the instability of absence phenomena, absenteeism needs to be placed within a social context (Riordan, 1997).

2.8.4 Absence is a habit

Habit suggests that a few workers are responsible for most absences and that these workers can be thought of as being “absence prone”. Rushmore and Youngblood (1979) define an employee as being absence prone “… when he or she consistently takes more time off work than average”. The results of their work showed a large proportion of lost time could be attributed to a small number of employees, with some degree of interperiod stability in the absence behaviour, indicating absence proneness. The earlier works of Ferguson (1972) and Foggatt (1970) support the concept of absence proneness.
Fichman (1989), however, using a hazard rate approach to modeling attendance, provides evidence against the notion that attendance is a habit.

2.8.5 Absence is a consequence of an apparently unrelated event

Unrelated or apparently unrelated events, such as a stressful family crisis (e.g. divorce) or some behavioural problem (e.g. alcohol abuse) may lead to absence.

2.9 ABSENTEEISM RESEARCH AND THE IMPACT OF BIOGRAPHICAL FACTORS

Various absenteeism researchers, such as Landy, Vasey and Smith (1984) have commented that due to the complex nature of absenteeism and the measurement of absenteeism, careful consideration must be exercised in drawing comparisons across studies, since different studies use different definitions of absenteeism (Muchinsky, 1977). Muchinsky (1977) pointed out that the single most vexing problem associated with absenteeism as a meaningful concept involves the measurement of absenteeism. Absenteeism was highlighted as a problem by the Airports Company of South Africa, because the security department had exceeded its budget in terms of overtime expenditure; this department was forced to employ workers on an overtime basis, because of staff shortages during shifts. This led to an investigation into the causes of the absent behaviour. Other concerns highlighted in the literature will now be briefly discussed.

2.9.1 Statistical recording

As mentioned previously, very few organisations keep accurate records of employee absenteeism and this makes studying the problem of absenteeism even more problematic. The Airports Company of South Africa keeps absenteeism records and these records are used to determine absenteeism trends. The reliability of the information captured in this system (especially the
information pertaining to reasons for sickness or absence) are reliant on human interface --- something that will always be questionable.

### 2.9.2 Limitations and uses of the time-lost (severity) measure

Chadwick-Jones et al. (1982) draw a qualitative distinction between long absences and extremely short absences. The former tend to be a result of serious illness and unavoidable incapacity, while the latter, specifically absences of one or two days, often seem to express employees’ decisions not to attend work. In practice, it is impossible to check whether “a slight cold” or a “muscular pain” is simply a convenient excuse.

It can thus be argued that short absences are more likely to be under the employee’s own control, which results in him or her deciding to take a day off work (Chadwick-Jones et al., 1982). While it is by no means certain that longer-term absences are involuntary, they are, however, somewhat less likely to be voluntary.

The time-lost (severity) measure is thus used mainly to understand the value of sickness trends (Chadwick-Jones et al., 1982).

### 2.9.3 Average figures and absence patterns

According to Chadwick-Jones et al. (1982), a great disadvantage of absence statistics in surveys conducted nationally or regionally has been that they yielded only gross totals of days lost and gave no information about the distribution of absences within an occupational group or organisation. There are two reasons why this information is useful. Firstly, the proportion of absence free or zero values in samples has important implications for statistical assumptions, particularly that of the normal distribution; they might, therefore, influence the choice of statistical operations on data. Secondly, discovering the size of the minority having frequent absences has important implications for what Chadwick-Jones et al. (1982) refer to as an absence “norm” and a normative pattern of absences within an occupational group.
2.9.4 Biographical Factors influencing absenteeism

2.9.4.1 Women’s higher absence rates

In a study conducted by Ichino and Moretti in 2005, women employees in manufacturing occupations tend to absent themselves from work more frequently yet for shorter periods of time than men (Chadwick-Jones et al., 1982). Women employed in banks and hospitals tend to follow this pattern as well. Some of the reasons for these frequent absences include family responsibilities, children and home maintenance. It should also be noted that women employed in manufacturing industries generally hold low-status, low-paid and repetitive jobs; women in professional occupations might, therefore, not be absent from work so frequently (Thibault, 1976). Here again, however, it might be a question of how much control people in higher-status jobs have over their time.

Other research conducted on male and female teachers shows that there is very little difference in the absence rates of male and female teachers. Some studies show that women of average child-bearing age (i.e., between 20 and 30) tend to have higher levels of absenteeism. According to Hedges (1973), the male/female differences are greatest for the 25 to 34 age bracket, and absences “for personal reasons” are highest among women in this age group. Hedges (1973) noted that 70 percent of those women with children under the age of 18 tend to absent more often than males in the same category.

2.9.4.2 Marital status

Barmby, Orme & Treble (1990) in a study regarding worker absenteeism looked at factors influencing the rate of absence for individual workers and to quantify their impact. The findings indicated that the incidence of absenteeism appears to be determined mostly by personal characteristics (especially gender and marital status).
2.9.4.3 Health and dangerous working conditions
Leigh (1991) studied characteristics that would correlate with absenteeism, statistically significant predictors of the study included health variables such as being overweight, complaining of insomnia, and hazardous working conditions. Other factors that were identified were job characteristics and personal variables such as being a mother. Variables reflecting dangerous working conditions appear to be the strongest correlates of absenteeism. Notable variables which do not predict absenteeism include age, race, wages and job satisfaction.

2.9.4.4 Race
Lambert, Camp, Edward & Saylor (2005) conducted a study among federal correctional staff to determine what influences level of absenteeism amongst staff. During the study attention was given to the impact of race with regards to absenteeism, the study concluded that as compared to white respondents, black and hispanic respondents reported greater use of sick leave. On the other hand, there was no statistically significant difference in level of absenteeism between White staff members and staff members who were another race than Black or White.

2.9.4.5 Travel distance to work
It appears intuitive that absenteeism would be greater for those workers travelling greater distances. Along commute can be a fatiguing in itself, and it can reduce the enjoyment received from working. Absenteeism was found by Hinze, Ugwe & Huggard (1984) to be particularly low among workers who lived within ten miles of work.

2.9.4.6 Age
Martocchio (1989) conducted a study to determine age-related differences in employee absenteeism, the meta analysis was performed on 34 samples that include correlations of the age and employee absenteeism relationship. Samples were categorized into two groups for voluntary absenteeism and involuntary absenteeism based on the frequency index and the time-lost index respectively. Results indicated that both voluntary and involuntary absence is
inversely related to age. Work demand was negatively associated with age but not in the expected direction. Work demand did not moderate the age-absence relationship for either voluntary or involuntary absence. Hunter, Schmidt & Jackson (1982) as sited in Hackett (1990) revealed that that age had a modest relationship with avoidable absence; neither age nor tenure was associated with unavoidable absence, and sex of the sample was identified as a moderator.

2.9.4.7 Gender
Ichino & Moretti (2006) stated that illness-related absenteeism is higher among female workers. Using personal adapt set of a company they showed the probability of a absence due to illness increases for females, relative to males, 28 days after the previous illness, this difference disappears for workers age 45 or older (the interpretation, that this is evidence that the menstrual cycle raises female absenteeism). Since men are absent from work because of health and shirking reasons, while women face an additional exogenous source of health shocks, the signal extraction based on absenteeism is more informative about shrinking for males than for females. Thomas & Thomas (1994) in a study compared the absenteeism on Navy enlisted women and men to determine if single parent loose more time than other personnel. The result indicated that gender had no significant effect on absenteeism except where pregnant women from ships were temporary assigned.

2.9.4.8 Number of dependants
Burton, Chen, Conti, Pransky & Edington (2004) examined the loss of productivity care for an ill dependent. The result of the study indicated that as the demand for care giving time increased, caregivers reported a significant increase in work limitations. Care giving for ill dependents is associated with increased absenteeism and significant work limitations while on the job. Lee & Hui (1999), in a study investigated the mediating role of work-family conflict mediates the relationship between career development and job security and work based family support programmes. Further, while family –shows a negative association with job security and a positive association with
perceived benefit of work based family support programmes. Additionally, work-family conflict, while shows a negative association with life satisfaction, is positively related to absenteeism. The study also confirmed that the gender gap in work family conflicts is narrowing and what applies to one gender is also applicable to the other.

2.9.5 "Causes" and "cures" of absences

Both the identification of "causes" and the claims made for "cures" seem to vary according to the specialisation of the expert, that is, health specialists will advocate health programmes; management experts tend to advise creative leadership activities, supervisory controls or job enrichment; while psychologists suggest reinforcement learning and behaviour modification methods translated into monetary incentives of various kinds. There are a number of "remedies" for absenteeism, such as "chasing down" malingerers, giving closer medical attention to sickness absentee, and trying financial incentives as rewards for a record of uninterrupted attendance. These incentives are all apparently effective in the short term.

Job dissatisfaction undoubtedly contributes to high levels of absenteeism, but the measurable contribution is relevantly small as is the proportion of employees in any organisation who are completely dissatisfied. Overall or global measures of job satisfaction are deficient, because they mask the possibility that a satisfied employee may find some aspects of the job boring or may experience overload at certain times of the week or month.

Boredom is one factor that influences levels of absenteeism --- both in white collar and blue-collar jobs. Some authors have suggested that job redesign or enrichment can reduce absence, but the evidence does not prove or disprove this. Some authors suggest a system of rewards and "punishments", such as disciplinary pressures (Gary, 1971); disciplinary measures can take the form of a warning followed by a suspension or counseling. Alternatively, absence-free employees may be rewarded. Rewards for good attendance may include a bonus day off for each six months of absence-free attendance and bonus
pay for absence-free quarterly periods. Some firms arrange contests or prize drawings which are only open to absence-free employees (Nord, 1970). Although it is clear that companies might experience short-term improvements in levels of absenteeism, there is no evidence to suggest that these results will be long lasting.

In contrast to these approaches, Chadwick-Jones at al. (1982) argue that if the objective is to gain greater organisational control of absenteeism, it should be fairly easy to establish patterns of absenteeism. They furthermore argue that absenteeism should be understood as a characteristic of the department or organisation. The statistical analysis and the explanatory framework will, therefore, be made at this level, so that they take into account the social pattern of absences.

2.9.6 An "acceptable" level of absenteeism

A writer such as Lewin (1950) argues that once a target is recognised, reviews of employee records should be followed by corrective action to maintain the level. In a discussion of “avoidable absences”, Clark (1971) exhorts managers to establish standards (maximum acceptable levels of absenteeism/turnover). Lewin (1950) argues for “standards” – “a simple standard might provide for 15 absences per year... allowable absenteeism could be permitted to accumulate so that an employee with only eight absences in the first year could be permitted twenty-two in the second...”. No information is, however, given concerning how these “standards” should be determined.

The Airports Company of South Africa has set a two percent absence rate benchmark, that is, the level of absenteeism that will be “tolerated”. This was done in an attempt to manage absenteeism. Reporting on this benchmark is done on a monthly basis.
2.9.7 Renegotiating the norm

When a statistical analysis shows a company has high levels of short-term absenteeism, management might need to renegotiate the existing collusive (tacit, informal) agreement concerning levels of absenteeism in an attempt to reduce it. In their Ontario study, Robertson and Humpherys (1978) identified what amounted to a management tendency to “blame the victim”, that is, to attribute absences to “personal problems” and “a poor work ethic” among absentee employees. If absence levels are seen to be part of an informal contract between employers and employees, absence then forms part of the package and renegotiating the package involves concessions, offers and counteroffers between management, unions and employee representatives. Thus, reaching agreement on new levels of absenteeism may be attempted through group decision making. This would require starting with improved measurement techniques and separating sickness and injury (long term) absences from casual absences.

2.9.8 Renegotiating social exchange

For consensus to be reached between management and unions about absenteeism levels, the nature of the exchange and what the quid pro quo for reducing absenteeism might be should be considered. Dunette (1978) discusses an interesting scheme called Absence Performance Paid Leave. The scheme provides an incentive directly geared to the root cause of causal absenteeism, which is that employees, for whatever reason, wish to have more free time. In simple terms, employees are rewarded by a number of paid days leave related to their absence record for the year. The scheme is based on “the principle of increasing leisure time”, but ensures a return for the company in improved attendance. The only disadvantage of the scheme, according to Dunette (1978), is that it is complicated to set up and administer. The benefits, however, are huge for those companies with high levels of absenteeism.
Baum and Youngblood (1975) assert that organisational control over absenteeism is derived from three effective sources: legal controls based on legitimate authority; instrumental controls comprising valued rewards and incentives; and intrinsic controls inherent in an attractive job or occupation. In the case of a renegotiated absence norm, the legal sanctions for new “rules” are secured in management-union agreements, which could bring into operation the pressures of group commitment in which the force of and additional form of control --- social controls --- is added to the legal and instrumental ones. A decision is made within the organisation to manage the absenteeism problem by forcing managers to report on the percentage of staff who are absent on a monthly basis based on the set norm of two percent per department. If the percentage is higher, reasons need to be given for the deviation. The process is facilitated by the Human Resources department. The following section will focus on those challenges faced by the Aviation Security Officers and those factors that impact on their job.

2.10 CONCLUSION

Knowledge of the factors causing absenteeism is critical if one is to develop a strategy to manage the problem both from an organisational and individual perspective. The results of their study indicated that people's perceived ability to attend but not their motivation to attend significantly predicted absenteeism attributed to family issues. In addition, motivation to attend predicted absences attributed to illness. Surprisingly, they found that a person’s motivation to attend was not significantly related to the level of overall absenteeism. An employee’s age, however, acts as a suppressor to the relationship between motivation to attend and overall absenteeism. Finally, they concluded that motivation to attend becomes a significant predictor of overall absenteeism. Byron and Peterson (2002) conducted a study with MBA and MPA students, which focused on extra organisational stressors (employee and company reaction to 09/11/01) that led to perceived stress. The end result of the study indicated that employees who report more strain from a traumatic life event are more likely to be absent from work in weeks following the event.
Most of the theories that were studied had a mix of these types as no single cause was identified. The authors argue that the problem absentee gives rise to an absence problem that then leads to poor services delivery, high financial costs for the company, as well as a indication that personality traits may play a role in employees being absent from work. The problem of absenteeism amongst Aviation Security Officers can be further analysed by investigating biographical aspects related to age, marital status, and distance from work and number of dependants that they support.

The above only highlights the fact that care must be taken during the selection process and that individuals should be employed with a strong self-belief and coping mechanism.
CHAPTER 3:  A TRAIT APPROACH TO PERSONALITY

This chapter focuses on the construct "personality traits" and the theories that describe them. A definition is then given of the construct "personality" as defined by the relevant research. Thereafter follows an analysis of the following authors’ work: Eysenck (1970), McCrae and Costa (1986), and Cattell (1989). The final analysis of the chapter is an evaluation of Cattell's Personality Factor Questionnaire (16PF) (1989).

3.1 INTRODUCTION

The term "personality" has several meanings. Personality Psychology is a discipline that seeks to establish better ways of understanding people through the use of different research strategies (Gatchel & Mears, 1982). Another distinguishing feature of Personality Psychology, according to Ewen (1988), is its emphasis on assessment methods to study, understand and predict behaviour and to make valid decisions about individuals. Some of the assessment methods used in this regard are interviewing, administering psychological tests, observing and monitoring behaviour, measuring psychological responses, and analysing biographical responses and personal documents. Personality Psychology is that area of Psychology that strives to find answers to questions such as the following: Which elements are essential for a description of the structure of personality?; In what respect are people similar and yet different?; How does the human personality function?; Why does a person behave the way he or she does?; How does personality develop and how does individuality arise?; Why do individuals behave consistently?

Although psychologists recognise that there are similarities in the ways people behave, their primary concern is to explain why and how people differ from one another while showing consistency in individual behaviour (Hjelle & Ziegler, 1992).

Within the field of Psychology, there is no generally agreed upon definition for the word "personality" (Enos, 1998). In fact, there are as many definitions of
the concept as there are theorists who have tried to define it. Gordon Allport (1937) has given as many as 50 different definitions of personality and this suggests that personality is a complex phenomenon for which there are no simple explanations (Moller, 1995).

Definitions of personality vary in accordance with the different approaches to personality (Meyer, Moore & Viljoen, 1997). The Psychoanalytic Theory emphasises the role of the unconscious in the description of personality. It is somewhat surprising, therefore, that Freud, the founder of the Psychoanalytic Theory, did not give a clear definition of the word "personality". For Freud, personality was synonymous with the psyche (mind), this theory is a theory of psychology in general. Biological energy or instincts motivate behaviour. According to Freud, biological energy that is transformed into psychic energy is the basic cause in terms of which behaviour can be explained. He described personality as comprising three aspects of the psyche, that is, the id, the ego and the super ego. Much of Freud’s personality theory deals with these three aspects and their interaction.

The Psychoanalytical Theory also emphasises early experience in the description of personality. According to Jung, the roots of personality go back to before the birth of the individual, that is, way back to the dawn of humankind’s origin on earth. From this theory of personality, Jung proposed the existence of a collective unconscious that houses primordial images he called archetypes (Burger, 1993). The collective unconscious contains material that each person inherits from past generations and which is basically the same for all people.

Jung described the personality as an archetype or an innate psychic predisposition that leads people to the world in certain ways. For Jung, each person becomes separated from the collective through individuation. Jung used the term "individuation" to describe the lifelong process by which all aspects of the personality enable a person to attain self-actualisation. The concept "personal unconscious" followed from this. He identified two basic attitudes of personality, namely, introversion and extraversion. Introverts tend
to focus their attention on their inner worlds; they are introspective and withdraw from society. Extroverts, in contrast, tend to focus their psychic energy outwards; they are characterised by outgoing, active lifestyles and an interest in people and the external world (Rychlak, 1981).

Fromm (in Potkay & Allen, 1986) gives the most comprehensive definition of the term "personality". He defined it as the totality of inherited and acquired psychic qualities which are characteristic of one individual and which make the individual unique.

Sullivan (in Burger, 1993) emphasised the role of anxiety that comes from interpersonal experiences. According to him, the images we have of ourselves are of particular importance. Sullivan defines personality as “the relatively enduring or recurrent interpersonal situations, which characterise a human life” (Potkay & Allen, 1986, p. 120).

Skinner based his work on the behaviouristic approach and he described personality as behaviours learned through reward and punishment. According to Skinner, human behaviour follows certain basic laws or principals of learning; it is the result of chaining together a number of stimuli --- response sequences. Bandura expanded the Learning Theory to include social learning. People can learn new complex behaviour patterns by observing others. According to Bandura, there is a continuous, reciprocal interaction between the cognitive, behavioural and environmental determinants in the social learning process (Rychlak, 1981).

Rogers described personality in terms of the “self”, that is, the core of the personality. Rogers believed that we all need to find out what our real self is so that we are able to become that person, and to accept and value ourselves for the person we are. According to Rogers, we all need to receive positive regard from others. Congruent people function at the highest level; they are open to experience and are not defensive; they view people and things accurately; they get along well with others and have a high level of self-esteem. Rogers saw human nature as positive and good (Bergh, 1992).
Based on the humanistic tradition, Maslow’s description of personality sees individuals as motivated by a hierarchy of needs. According to Maslow, human needs have different orders of priorities. He organised human needs in the form of a pyramid, with the most elemental physiological needs at the bottom (Byrne & Kelly, 1981; Rychlak, 1981). At the bottom of the pyramid are the physiological needs (hunger, thirst and sex), followed by the need for safety and security, the need to feel loved and to belong, the need for esteem, cognitive needs, aesthetic needs and, at the top of the pyramid, the need for self-actualisation. Once the individual’s needs are met, that individual can strive to fulfill the need for self-actualisation.

The trait approach assumes we can identify individual differences in behaviours that are relatively stable across situations and over time (Burger, 1993). Trait theories are usually not concerned with any one person’s behaviour, but rather with describing behaviour that is typical of people at certain points along a trait continuum. Allport, a trait theorist, defined personality as “the dynamic organisation within an individual, those psychophysical systems that determine his characteristics, behaviour and thought”(Allport, 1968, p. 48). In defining the term “personality”, other theorists have emphasised the measurement of personality in their theories and, surprisingly, have came up with definitions that stress the predictive utility of their measurement. Raymond Cattell, for example, a prominent theorist with this orientation, defined personality as “that which makes it possible to predict what a person will do in a given situation”(Cattell, 1956, p. 25). Theorists with a deterministic genetic orientation often chose a definition that emphasises the psychological process within the person. Hans Eysenck, for example, defined personality as “the more or less stable and permanent organisation of a person’s temperament, intellect and physique which determines his unique adaptation to the environment” (Eysenck, 1970, p. 2). The major concept of trait theories is that human behaviour can be organised by labelling and classifying observable personality characteristics. Trait theories propose continuous dimensions, such as intelligence or warmth that vary in quality and degree. Traits describe what a general action tendency is; people are assumed to possess traits in varying degrees (Burger, 1993).
Recent research provides fairly consistent evidence that human personality is structured in terms of five basic dimensions. McCrae and Costa (1994) concluded that personality can be defined in terms of five similar traits: introversion-extraversion, neuroticism, agreeableness, consciousness and openness to experience (Ewen, 1988).

Although the various definitions of personality are diverse, it is possible to summarise them. Most definitions refer to personality as the characteristic structure, combination and organisation of the behavioural patterns, thoughts and emotions which make every human being unique (Liebert & Spiegler, 1979; Meyer et al., 1997; Moller, 1995). Personality refers to the dynamic nature of humankind and its tendency to react fairly consistently or predictably in a variety of situations over time (Maddi, 1996; Meyer et al., 1989). Some definitions regard personality as the product of the interaction between certain constitutional factors and certain environmental influences (Moller, 1995).

Apart from these common themes, however, personality definitions differ substantially from theorist to theorist. To understand what a particular theorist means by the word "personality", the theory must be examined in considerable detail. Definitions of personality are not necessarily true or false, but are more or less useful to psychologists in pursuing research, in explaining irregularities in human behaviour, and in communicating their conclusions (Hjelle & Ziegler, 1992).

Meyer et al. (1997) give a general definition of the term "personality". They state that "personality is the constantly changing but nevertheless relatively stable organisation of all physical, psychological and spiritual characteristics of the individual which determines his or her behaviour in interaction with the context in which the individual finds himself or herself" (Meyer et al., 1997, p. 12). Schultz and Schultz give another general definition. They define personality as “the individual’s unique way of making sense out of life experiences”(Schultz & Schultz, 1998, p. 30).
Trait concepts are used to describe personality structure, motivation, adjustment and even personality development in terms of specific and combined elements of dimensions. In the sense that most or all the theories use constructs to describe the various aspects of personality, they can all be regarded as dimensional; think, for example of the psychoanalytical descriptions of the id, ego, superego, conscious and unconscious. The objective of these applications is to fit people’s dispositions to the characteristics, demands and conditions of a work situation. The most well known proponents of the trait or dimensional approach in personality are Cattell, Eysenck, Allport and Wiggins; there are, however, also many others. For the purpose of this study, Cattell’s Sixteen Personality Factor Test (16PF) will be used to predict some of the factors that are critical to ensure coping within the Aviation Security Industry. As a first step, it is important to define the concept “personality trait” from a theoretical point of view.

3.2 WHAT IS A PERSONALITY TRAIT?

Bergh and Theron (1999) assert that according trait descriptions, personality have specific dimensions and those they explain characteristic ways of behaving, thinking, feeling and doing. Traits are inherited and represent learned potential or predispositions, which direct and motivate behaviour and which give structure to personality. A combination of traits can lead to a profile or a type of style description. Traits can thus be used to indicate possible sources or causes of behaviour, descriptions of characteristics and consistent behaviour, and methods to explain the structure of personality.

Allport (1961) saw traits as organised mental structures, which vary from person to person and which initiate and guide behaviour. Allport (1961) further indicated that a trait is a neuropsychic system which possesses the ability to functionally equate stimuli and then give rise to equivalent forms of behaviour. Stated more simply, a trait is a predisposition to react in an equivalent manner to a variety of stimuli. Various stimuli could cause a similar response or various responses and have the same functional meaning in terms of the trait.
Matthews and Deary (1998) state that personality traits make two key assumptions. Firstly, traits are stable over time. Most people would accept that an individual’s behaviour naturally varies somewhat from occasion to occasion, but would also maintain that there is a core of consistency, which is apparent across a variety of situations. Secondly, it is generally believed that traits influence behaviour directly.

Matthews and Deary (1998) assert that more recent research has added two important qualifications to the general principles stated above. Firstly, Hettema and Deary (1993) point out that the explanation of behaviour requires different levels of analysis, including genetics, physiology, and learning and social factors. Secondly, the causal effects of traits on behaviour may be indirect. Traits interact with situational factors to produce transient internal conditions or states --- these may sometimes have a greater direct influence on behaviour than the trait.

Brody (1994, p118) states the following: “I assume that personality traits are causal. They are genotypically influenced latent characteristics of persons that determine the way in which individuals respond to the social world encounter.”

Guilford (1959) described traits as those distinctive, relatively stable aspects in which one person differs from another. In this sense, a trait is a label to describe the differences in the directly observable behaviour of people.

Buss and Craik (1983) argue that traits are simply descriptions of natural categories of acts. Wright and Mischel (1987) characterise traits as conditional statements of situation-behaviour contingencies. Two or more people in a social interaction, according to the social dynamics of the situation, may jointly construct more traits (Goldberg, 1993).

In summary, traits can be viewed as an explanation for the characteristic ways of behaving, thinking, feeling and doing. Furthermore, they are organised mental structures that guide behaviour. Traits are stable over time and
influence behaviour directly. What is important here is to analyse traits in their relation to social interaction and situational factors.

As far as the Aviation Security Officer is concerned, it is important to determine the traits in predisposition with his or her social and situational environment that could help to determine the causes of absenteeism.

### 3.3 TYPES OF TRAITS

Bergh and Theron (1999) assert that traits are inherited and represent learned potential which directs and motivates our behaviour and which gives structure to personality. A combination of traits can lead to a profile or a type of style description. Traits can thus be used to indicate possible sources or causes of behaviour, descriptions of characteristics and consistent behaviour, and the methods to explain the structure of personality. Below follows a discussion of some or the most important work on traits.

#### 3.3.1 Eysenck’s theory: The three factor model of personality

Eysenck believed that measurement is fundamental to Personality Psychology (Peterson, 1992). According to Eysenck (1995), personality comprises three basic types of dimensions, which he later used to develop self-report measures. Eysenck labelled these dimensions of personality as follows: introversion-extraversion, emotional stability -neuroticism (a factor sometimes called instability- stability) and tough–mindedness - psychoticism (tender mindedness). Accordingly, it is possible to separate people into four groups, each being a combination of low or high on one type dimension, together with low or high on the other dimension. Eysenck stated that the types of dimensions are normally distributed and continuous and thus allow for a wide range of individual differences (Hjelle & Ziegler, 1992). According to Eysenck, these dimensions are presumed to be biologically and genetically based (Gregory, 1996). The dimensions furthermore assume numerous specific traits. A moderately extraverted person, for example, who is also moderately unstable might be characterised by these traits: aggression, excitability and
changeability (Eysenck, 1995). An extremely introverted person who is also midway on the stable-unstable dimension might be viewed as unstable, quiet, passive and careful. Eysenck's three-factor model is one of the most sophisticated and influential trait approaches in the study of personality. The model (table 3.1) is used in the assessment and description of behaviours in various applications.

Table 3.1 Eysenck's three factor model of personality factors and subfactors

<table>
<thead>
<tr>
<th>Extroversion vs introversion</th>
<th>Emotional stability vs neuroticism</th>
<th>Tough-mindedness vs psychoticism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Low self-esteem</td>
<td>Aggressiveness</td>
</tr>
<tr>
<td>Sociability</td>
<td>Unhappiness</td>
<td>Assertiveness</td>
</tr>
<tr>
<td>Risk-taking</td>
<td>Anxiety</td>
<td>Achievement orientation</td>
</tr>
<tr>
<td>Impulsiveness</td>
<td>Obsessiveness</td>
<td>Manipulation</td>
</tr>
<tr>
<td>Expressiveness</td>
<td>Lack of autonomy</td>
<td>Sensation seeking</td>
</tr>
<tr>
<td>Lack of reflection</td>
<td>Hypochondria</td>
<td>Dogmatism</td>
</tr>
<tr>
<td>Lack of responsibility</td>
<td>Guilt</td>
<td>Masculinity</td>
</tr>
</tbody>
</table>

3.3.2 The five-factor model of personality

The five-factor model (also referred to as the Big Five) was proposed by Norman in 1963, but has only achieved real popularity within the last 20 years (Maddi, 1996). The researchers, Paul Costa and Robert McCrae, have attempted to explore the implications of the five-factor model for personality theory. Although they still need to do a great deal of conceptualisation to have a bona fide personality theory, they have made sufficient a start for it to be included; this inclusion is based on the assumption that this is a new generation of personological thinking (Peterson, 1992). Bergh and Theron (1999) believe that the five-factor model of personality has developed into an approach that arguably now enjoys the most support as an integrative trait description of personality and gives an excellent account of the development that was started by Thurstone in the 1930s.
McCrae and Costa (1994) worked on the assumption that there are five source traits that are evident in people, namely, neuroticism, extroversion, openness to experience, agreeableness and conscientiousness (see table 3.2).

Table 3.2  McCrae and Costa's five-factor model of personality

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extroversion (surgency)</strong></td>
<td><strong>Introversion</strong></td>
</tr>
<tr>
<td>Warmth, assertiveness, activity-seeking excitement, gregariousness, positive emotions</td>
<td>Silent, unadventurous, timid, unenergetic, unassertive</td>
</tr>
<tr>
<td><strong>Agreeableness (friendliness)</strong></td>
<td><strong>Antagonism</strong></td>
</tr>
<tr>
<td>Trust, tender-mindedness, straightforwardness, altruism, compliance, modesty</td>
<td>Stingy, unkind, selfish, distrustful, unhelpful</td>
</tr>
<tr>
<td><strong>Conscientiousness (dependability)</strong></td>
<td><strong>Lack of direction</strong></td>
</tr>
<tr>
<td>Order, competence, achievement, striving, deliberation, self-disciplined, dutifulness</td>
<td>Impractical, lacy, distrustful, Unhelpful</td>
</tr>
<tr>
<td><strong>Neuroticism (emotional instability)</strong></td>
<td><strong>Emotional stability</strong></td>
</tr>
<tr>
<td>Hostility, anger, anxiety, impulsiveness, depression, self-consciousness</td>
<td>Relaxed, calm, contented, unemotional, stable</td>
</tr>
<tr>
<td><strong>Openness to experience (intellect)</strong></td>
<td><strong>Closedness</strong></td>
</tr>
<tr>
<td>Values, fantasy, aesthetics, actions, feelings, ideas</td>
<td>Uncreative, uninquisitive, unreflective, unsophisticated, unimaginative</td>
</tr>
</tbody>
</table>

Each of the five factors is described using specific traits, which present a finer analysis of personality. Every one of the complex five factors has roots in the knowledge or conceptual base of Psychology. McCrae and Costa agree with Eysenck that extraversion-introversion (Factor I) and neuroticism or low emotional stability (Factor IV), are two major traits identified in virtually every large-scale investigation of personality. McMartin (1995) states that research
indicates that the traits of agreeableness-antagonism (Factor II), conscientiousness-lack of direction (Factor III), and openness to experience (Factor V) are three important ways of describing differences among people.

Rolland, Parker and Stumpf (1998), and Piedemont and Chae (1997) discuss the development of tests based on the five-factor model of personality. The dimensions of neuroticism, extraversion and openness are seen to provide a useful set of constructs for evaluating the personality of an individual. Goldberg (1990) asserts that the dimensions of the five-factor model represent constructs in a variety of societies that can be used for understanding culture-specific phenomena (Saklofske & Zeidner, 1995).

3.3.3 Cattell's theory: The sixteen factors model of personality

Abrahams (1996) believes that Cattell’s sixteen factor theory is one of many in which an attempt is made to describe the personality of people. Many of Cattell’s theoretical ideas, particularly those related to development, are closely related to the writings of Freud and subsequent psychoanalytic theorists. Although Cattell’s factor theory strongly resembles Allport’s trait psychology, he depends heavily on results obtained from factor analytical studies (some of which are derivations from experimental findings or simple behavioural studies) (Abrahams, 1996). Cattell (1989) provided a very short, general definition of personality at the beginning of his book entitled Personality: A systematic theoretical and factual study as he believed that a complete definition of a concept can only be given after a theory is fully described by a theorist. He defined personality as follows: “Personality is that which permits a prediction of what a person will do in a given situation” (Cattell 1950, p. 2).

Cattell’s factor analysis led him to identify the underlying structure of the personality (Maddi, 1996; Peterson, 1992). He referred to the innumerable differences that can be observed among people as surface traits (Gregory, 1996); language gives us the total domain of surface traits. Surface traits
typically emerge in the first stages of factor analysis when individual test items are correlated with each other.

Hall and Lindsey (1970) already found a number of points in favour of Cattell’s theory. Firstly, that theories of personality based on factor analysis reflect the current psychological emphasis on quantitative methods. This results in a large number of specially designed personality studies.

Secondly, they welcomed the introduction of an era of tough mindedness and an emphasis on the concrete. In an age of immense complexity and theoretical explicitness, they found some hope in “simplicity and impositions that are cardinal virtues of this brand of theory” (Hall & Lindsey, 1970).

Thirdly, they asserted that whereas most personality theorists have arrived at their conception of the crucial personality variables through a process that is largely intuitive and unspecified, factor theorists provide an objective and replicable procedure for the determination of underlying variables.

Fourthly, because the factor analyst objects to subjectivity, they eliminate it the first time it is encountered; what they are doing is merely moving subjectivity or intuition “back to the point where they decide what tests or measures will be introduced into there matrix of correlation’s” (Hall & Lindsey, 1970). A popular criticism of factor analysis is that the end result is directly related to what is put in. Although this criticism is valid when the variables used are sufficient to produce the fundamental dimensions of personality, this is not the stand of many factor theorists, and Cattell in particular. His concept of sampling a defined personality sphere provides a rational basis for a more broadly exploratory approach.

Fifthly, Hall and Lindzey (1970) stated that Cattell’s theory was by far the most comprehensive and fully developed theory of personality based on factor analysis. According to Cattell, Eber & Tatsuoka (1970) two situations have been distinguished in testing, the client situation where a person wants help
and is willing to answer questions, and the personnel situation where a candidate is being tested for a position or a scholarship, etcetera.

Sixthly, Hall and Lindsey (1970) stated that whatever the shortcomings of factor theories may be, it is clear that the emphasis on explicitness and adequate standards of measurement represent a very healthy influence. It may be contended that the content of factor theories may or may not make a fruitful contribution to future theories of personality, but the style or mode of approach of these theorists will surely influence how future theory will develop.

Cattell (1989) asserts that each trait has its own history and is derived from a complicated interaction between inherited disposition and learning from experience. Some traits primarily involve the internal regulation of impulses and services defensive or adaptive purposes in people’s behaviour. Others are maintained by habit or are functionally autonomous. Still others seem to be stylistic responses to the pressure of inner drives. In all, they have a pervasive effect on every facet of a person’s overall functioning and way of being in this world.

Palil (1983) believes that, as a point of departure, Cattell’s theory is necessary to examine his definition of personality as that which permits a prediction of what a person will do in a given situation. Although he deliberately provides only a very general definition of personality, Cattell says is of great importance in understanding his theory. Cattell goes on to state that the goal of psychological research in personality is thus to establish laws about what different people will do in all kinds of social and general environmental situations. Personality is thus defined by all of the individual's behaviour --- both overt and under the skin. Cattell and Butcher (1970) describe Cattell’s theory in the following manner: “The multivariate experimental approach through the technique of factor analysis.” They believe that the main problem with studying human personality is the measurement of those factors, influences and sources that are the most significant, that is, the common traits that occur in a normal personality in a culture and which are important for
development reasons and which can be understood by a general psychological theory.

The basic research foundations of the 16PF stretch back to a series of interlocking research studies stretching over 25 years and directed at locating unitary, independent and pragmatically important source traits, both in ratings and questionnaires. By source traits, Cattell means factors affecting large areas of the overt personality, such as intelligence, emotional stability, superego strength, surgency and dominance.

3.4 AN EVALUATION OF CATTELL’S SIXTEEN FACTOR THEORY

The essence of Cattell’s factor-analytical trait theory (Cattell, 1984) is, firstly, that personality is both a product of genetic maturation and learning and, secondly, that in order to study personality learning, one has to measure attributes of personality at different moments in time so that theses measurements can be compared. Cattell had the belief that the solution of social, economic and moral problems of society lies in effective research leading to understanding of behaviour. This viewpoint was not shared by all; the following is some of the criticism against Cattell’s theory.

3.4.1. Criticism on the theory

The criticism of Cattell’s theory revolves mainly around his use of the technique of factor analysis. Moreover, reviewers of his work invariably show a mixture of admiration and uneasiness. Goldberg (1993) suggests that this “ambivalence” may involve confusion between Cattell “the tactician” and Cattell “the strategist”. Virtually all previous criticism has focused on Cattell the tactician and has brushed aside Cattell the strategist – “a fault akin to ignoring Freud on the grounds that free association is a poor measurement technique” (Goldberg, 1993). He has been roundly criticised because his efforts to chart the whole domain of personality structure have prevented him from focusing on any one delimited portion of the total task. Hall and Lindsey (1970) state, however, that it is clear that Cattell and his co-workers have produced a volume of empirical data related to their theory which exceeds that
inspired by most of the other personality theories. Guilford (1959) supports the technique of factor analysis by stating that as a single, common logical model for unifying the facts of individual differences, there is at present no rival to the model provided by factor theory.

Although Cattell’s theory can never be said to be as popular as those of Freud, Rogers or even Murray, there is much to commend it. “His laboratory has gathered a wealth of theoretical ideas and a ‘treasure-trove’ of raw facts over the years” (Guilford, 1959). His theory can be considered a dynamic one in that it is actively developing and changing. Hall and Lindsey (1970), in fact, state that no final evaluation is necessary or appropriate at this point in time.

3.4.2 The Sixteen Personality Factor Questionnaire (16PF)

The Sixteen Personality Factor Questionnaire (16PF) is a self-report personality inventory based on Cattell’s trait or factory theory (Cattell et al., 1970). Cattell refined existing methods of factor analysis to help reveal the basic traits of personality. Central to Cattell’s theory is the distinction between source traits and surface traits. Cattell referred to the more obvious aspects of personality as surface traits. These would typically emerge in the first stages of factor analysis when individual test items are correlated with each other. Anyone can observe surface traits and recognise that they are correlated without the aid of tests or complicated statistical analysis. Ross (1992) believes that we all know someone who is friendly, cheerful, generous, talkative and who loves loud music. In contrast, source traits are basic underlying structures which Cattell viewed as constituting the building blocks of personality. Hjelle and Ziegler (1992) comment that source traits exist at a “deeper” level of the personality and are some of the causes of behaviour in diverse domains over an extended period of time. After extensive factor analytic research, Cattell et al. (1970) concluded that approximately 16 source traits constitute the underlying structures of personality. These factors are best known in connection with a scale that measures them, namely the 16PF. The 16PF was developed in America by Cattell in 1949 (Cattell et al., 1970).
For many years, Cattell focused on identifying the basic personality traits through factor analysis. He carried out consecutive factor analyses with data and although he did not find the same factors in each case, there was, nevertheless, a high degree of correspondence in the results of the different studies. On the basis of these, he differentiated between a group of 16 original or primary traits, which he viewed as stable in human behaviour (Moller, 1995).

Prinsloo (1992) indicated the following uses of the 16PF: Career counselling may be given to individuals, based on the scores of the 16PF. Like with all personality questionnaires, the 16PF cannot be used alone as the predictor of behaviour. Rather, for greater effectiveness, the result of the 16PF can be coupled with the results of other tests, such as interest intervention and intelligence tests. The 16PF, together with other tests such as an English proficiency questionnaire and some sections of the Academic Aptitude Test (AAT), can be used to select students for different study programmes. In industry; the result may be used for assessing individuals when recruitment, selection, placement and/or promotion take place. They may also be used for the diagnosis of individual problems that might hamper productivity at work. In counseling, the scores may be used to aid marital and family therapy. It may be applied in a clinical context in order to identify personality disorders. It may be useful in research and academic settings as postgraduate students when undertaking research projects can use it as a basis when developing new instruments. Table 3.3 highlights the traits as identified by Cattell:

<table>
<thead>
<tr>
<th>Table 3.3</th>
<th>Traits measured by Cattell’s 16PF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor</strong></td>
<td><strong>Low Score Description</strong></td>
</tr>
<tr>
<td>Factor A</td>
<td>Reserved, detached, critical, cool, impersonal</td>
</tr>
<tr>
<td>Factor B</td>
<td>Less intelligent, concrete-thinking</td>
</tr>
<tr>
<td>Factor C</td>
<td>Emotionally unstable, easily upset, changeable</td>
</tr>
<tr>
<td>Factor</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Factor E</td>
<td>Submissive, mild, accommodating, easily led, conforming</td>
</tr>
<tr>
<td>Factor F</td>
<td>Sober, prudent, serious, taciturn</td>
</tr>
<tr>
<td>Factor G</td>
<td>Expedient, disregards rules, feels few obligations</td>
</tr>
<tr>
<td>Factor H</td>
<td>Shy, restrained, threat-sensitive, timid</td>
</tr>
<tr>
<td>Factor I</td>
<td>Tough minded, self reliant, realistic, no-nonsense</td>
</tr>
<tr>
<td>Factor L</td>
<td>Trusting, adaptable, free of jealousy, easy to get on with</td>
</tr>
<tr>
<td>Factor M</td>
<td>Practical, careful, conventional, regulated by external realities</td>
</tr>
<tr>
<td>Factor N</td>
<td>Forthright, natural, genuine, unpretentious</td>
</tr>
<tr>
<td>Factor O</td>
<td>Placid, self-assured, confident, secure, self satisfied</td>
</tr>
<tr>
<td>Factor Q</td>
<td>Conservative, respecting established ideas, tolerant of traditional difficulties</td>
</tr>
<tr>
<td>Factor Q2</td>
<td>Group dependent, joiner and a sound follower</td>
</tr>
<tr>
<td>Factor Q3</td>
<td>Casual, careless of protocol, follows own urges</td>
</tr>
<tr>
<td>Factor Q4</td>
<td>Relaxed, tranquil, torpid, un-frustrated</td>
</tr>
</tbody>
</table>
The following is a discussion of the clinical interpretation of the factors of the 16PF as well as its relevance to this study.

3.5 RESEARCH ON PERSONALITY AND ABSENTEEISM

The following research studies have been conducted to examine the impact of personality on absenteeism. From the study done by McCrae and Costa (1994), extroverts are more likely to deal with stress by engaging in positive thinking, taking rational actions and finding satisfaction in other areas of their lives.

Three of the Big Five traits have been shown to be related to stress and coping. The first trait is extraversion-introversion. Extraverts typically report that they feel good about themselves and life in general --- to a greater extent than introverts (Maddi, 1996; McCrae & Costa, 1994; McCrae & John, 1992). The second trait of the Big Five shown to be related to stress and coping is neuroticism or emotional instability, people high on this trait frequently feel fearful, sad, angry or guilty. Such an individual tends to exhibit the low emotional stability associated with the trait of neuroticism (Larsen & Ketelar, 1991). The third trait of the Big Five related to stress and coping, is openness to experience. People scoring high on this trait are described as creative, imaginative, curious and having broad interests (McMartin, 1995). Those people with low scores are described as down to earth, conforming, traditional and having few interests. From their findings, McCrae and Costa (1986) concluded that adults who scored high on this trait handled the stress in their lives by trying to find humour in the situation; those with low scores coped by simply putting their faith in God or in other people.

Judge, Martocchi and Thoresem (1997) investigated the degree to which dimensions of the five-factor model of personality are related to absences. On the basis of previous descriptions of the Big Five traits and drawing on prior research, they hypothesised that neuroticism and extraversion positively predict absence while conscientiousness negatively predicts absence. The result of their study suggests that extraversion and conscientiousness predict absenteeism and that part, but not all, of the relationships between these traits
and absence are mediated through absence history. Extraversion is viewed as a possible cause of absenteeism, because an individual with this type of profile is assertive, seeks activity and excitement, and is gregarious. Such an individual might be prone to absent behaviour if the work environment does not provide the necessary excitement and stimulation. In contrast, the profile of the conscientious individual focuses on order, competence, achievement, striving, deliberation, self-discipline and dutifulness. If the work environment does not allow this type of individual this freedom, it might also lead to absent behaviour from work.

The 16PF has been widely used as an instrument for selection purposes within a wide range of industries. The instrument was used in totality or with the focus on a selective group of factors so as to predict success in the workplace. Herman and Usia (1994) utilised the 16PF as a screening tool in the selection of adult volunteers who would match children from single-parent homes. They concluded that mean scores indicated appropriate volunteers scored higher on intelligence $B^+$; lower on apprehension $O^+$; dominance $E^+$; conscientiousness $G^+$; discipline $Q^3$ and second-order anxiety. Such a volunteer, in their view, would generally be portrayed as self-assured, flexible, intelligent and tenacious. Apprehension, anxiety, rigidity and poor judgment characterised inappropriate volunteers.

Anshel (2000) investigated the development of a conceptual model for coping of law enforcement officers. His view is that law enforcement has been recognised as one of the most stressful occupations. In addition to experiencing job-related stressors, such as dealing with unlawful, often dangerous, actions of citizens, there is also abusive treatment in the workplace. Not surprisingly, police officers have more stress-related physical complaints and psychological problems than workers in most other professions. This results in high incidents of sickness, absenteeism, burnout and premature retirement. In his view, experiencing job-related stress in police work is likely to be due to the combination of situational factors and the officer’s poor coping skills.
From the research the following areas were identified as being critical areas for coping: higher self-esteem and greater self-confidence, hardiness, neuroticism, and extraversion.

In a study conducted by Nakano (1992) regarding the role of personality characteristics in the coping behaviour of Japanese college students, the focus of the study was to examine the relationship between coping behaviours and personality characteristics (introversion/extraversion). The results showed that extroverted individuals used more avoidance and sought more social support. Van Wijk (2000), in a study of South African military divers who are responsible for underwater sabotage device disposal (USDD), looked at the potentially severe environmental stressors these people experience in the execution of their duties. By utilising the 16PF, Van Wijk (2000) came to the following conclusion in terms of personality traits that would fit the job: high factor C: ego strength; high factor E: dominance; high factor H: adventurousness; low factor I: tough mindedness; and low factor O: untroubled adequacy.

Van Wijk (2000) also conducted a study on the personality characteristics of South African Navy submarine personnel. The sailors are exposed to a wide range of potential stressors: physical (cramped living, confined space, lack of exercise), mental fatigue and social stressors. His aim was to determine the extent to which personality and ability testing can be used to describe successful submariners. The factors of the 16PF that were of significance were high factor H: adventurousness; low factor O: untroubled adequacy; low factor Q2: group inherent; and high factor Q3: high self-sentiment. The above factors as described by Van Wijk (2000) may be important in the day-to-day emotional survival of submarine personnel.

In a study conducted by Bellani, Furlani, G necchi, Pezzotta and Trotti (1996) regarding burnout and related factors amongst HIV/AIDS health care workers, one of the most remarkable findings shows ego weakness as a likely predictor of burnout. Furthermore, Lorr and Stack (1994) conducted a study to determine the personality profiles of police candidates. Part 1 of the study
consisted of the 16PF. The results of the study indicated that the description of the “good” or typical cop is self-disciplined (control), socially bold (independent), extraverted, emotionally tough, and low in experienced anxiety.

Many issues have been raised in South Africa and elsewhere in the world about the cultural fairness of the 16PF. There has been a lot of debate regarding this matter since 1994 in South Africa, with the result that psychometric testing has taken a backseat because of the Employment Equity Act; this Act forbids psychometric testing unless it is valid, reliable and culturally unbiased. Some of the studies that have been conducted in South Africa are as follows. Taylor & Boeyens (1991) investigated the comparability of the scores of blacks and whites on the South African personality questionnaire (SAPQ). This test was developed by Steyn in 1974 on a sample of South African whites in fact this instrument was not designed to assess all racial groups in South Africa. Two black and two white samples were included, and a number of statistical methods were used to analyse the data and to determine item and construct comparability. Modest support for the construct comparability of scales in both white and one black group was found, but the bulk of the questions failed to meet the non-bias or item-total correlation criteria.

Spence (1982), in a study to investigate the characteristics of black guidance teachers, administered the SAPQ and other instruments to black teachers. She concludes that the test was unsuitable for the black sample and questioned the suitability of this instrument for blacks at all. In 1982, White investigated work stress experienced by blacks and whites on South African mines and administered six tests from the USA and measured job satisfaction, anxiety, escapist, drinking and job tension. Although the researcher conducted a number of item analysis to improve tests, scale reliabilities remained at an unacceptably low level. Biesheuvel (1952) stated that traditional cultures are in state of disintegration or re-adjustment as a result of Western culture being adopted by Africans. The South African nation like many other African societies is striving for stability and equilibrium. In South Africa, the African population is heterogeneous, comprising different languages, environments and cultures. Taylor (1994) found assessment results in general to be strongly
influenced by these group and cultural differences. Botha (1978) states that assessments instruments meant for white groups overseas cannot be validated on African samples, since most assessments content are culture bound with assessment content derived from a specific culture. When translated, this content loses much of its meaning.

Meiring, van de Vijver, Rothmann & Barrick (2005) studied bias with two cognitive tests and a personality test at three levels (construct, method and item bias) with a sample consistent with 13,681 participants. The cognitive instruments produced very good construct equivalence and low item bias. However, various scales of the personality questionnaire revealed construct bias in various ethnic groups. The item bias in the personality scales was low. Method bias did not have any impact on the (small) size of the cross-cultural differences in the personality scales. In addition, several personality scales revealed low internal consistencies, notably in the black groups. In a newspaper article in the Business Day of 29 January 2002, the focus was on the fact that all employees should be tested in terms of personality and cognitive factors, not just competence. The viewpoint of some industry representatives is that employees should be tested in terms of personality and cognitive factors and not competence alone. (Within this debate the 16PF is critical as it measures personality) This would then give insight into the inherent make-up of the person. Other viewpoints in the article state that instruments such as the 16PF are not to be used and that the Myers Briggs type indicator should be used instead (based on Jung’s model); other alternatives include the investigating 360° feedback tool, and assessment and development centers using case studies simulations and role plays. Section 4.4.3.7 of this study will discuss research on the 16PF from a South African perspective.
3.6. CONCLUSION

Based on there theoretical and research preferences the definition of personality has different meanings for different authors and researchers. In summary, though, personality, according to Cattell, is “that which makes it possible to predict what a person will do in a given situation”. It is also important to define traits and thus determine what the possible causes of behaviour are. Traits are thus descriptions of characteristics, which can be used to explain the structure of personality. Traits are best described by an analysis of the work done by Eysenck, McCrae and Costa, and Cattell through the use of the factor analysis.

It is clear from this research that Cattell’s 16PF can be used to predict personality traits for the selection of employees so as to ensure that they meet the requirements of the job. The research focused on identifying personality traits that would enable individuals to work under difficult circumstances (coping/burnout and stressful working conditions). It is clear from the research that a high C score (ego strength), a low I score (tough minded) and a low O (self-assured) are essential characteristics for working under difficult working conditions.
CHAPTER 4: THE EMPIRICAL STUDY

A analysis of the relationship between personality and biographical factors in absenteeism were given in chapters 2 and 3. This chapter, which focuses on the empirical study, will look at the composition of the sample, descriptive statistics of the sample group, the decision to use Cattell’s Sixteen Factor Personality Questionnaire (16PF SA92), a discussion of the Sixteen Factor Personality Questionnaire (16PF) as an instrument and the motivation for using the instrument. The chapter will conclude with a critical analysis of the reliability and validity of the Sixteen Factor Personality Questionnaire (hereinafter referred to as the 16 PF).

4.1 EMPIRICAL OBJECTIVES

The following two empirical objectives have been developed for this study:

(1) Biographical variables are not predictors of absenteeism.

(2) Personality traits as measured by the 16PF are not predictors of absenteeism.

The following sample was used in an attempt to meet the research objectives for this study.

4.2 SAMPLE GROUP

The sampling plan will be discussed in this section. The first step in the sampling plan was to divide the target population, comprising 291 Aviation Security Officers, into subgroups according to days absent. Once these groups had been identified, the individual members were ranked according to age within each group. A systematic random sample was then taken from each group.
In this study, the researcher attempted to explain the construct “absenteeism”. Although the main focus was on the 16PF as a predictor of absenteeism, the researcher also looked at the possibility of biographical variables such as age and gender; and demographical variables, such as distance from work also influencing absenteeism.

4.3 A DESCRIPTIVE STATISTICAL ANALYSIS OF THE SAMPLE GROUP

The following descriptive statistical analysis provides a profile of the sample group, namely, the Aviation Security Officers in terms of age, number of dependants, distance from work, marital status, gender composition and ethnic origin.

4.3.1 Age distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
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</thead>
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<td>2</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
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<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
<td>100</td>
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</tr>
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</table>
The sample group comprised people aged between 21 and 53. The largest number of respondents (42 respondents or 58% of the respondents) fell into the age category 28 to 36 years. The age groups 24 and 36 have the highest levels of absenteeism, namely, 8.3 percent and 9.7 percent, respectively.

4.3.2 Number of dependants

The results in terms of the number of dependants of each research participant for the sample group ranged between 0 and 5, with an average of 2 dependants per participant in the sample group. The results of this are summarised in table 4.2.

<table>
<thead>
<tr>
<th>Dependants</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
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<td>15.5</td>
<td>15.5</td>
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<tr>
<td>1</td>
<td>12</td>
<td>16.7</td>
<td>16.9</td>
<td>32.4</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>19.4</td>
<td>19.7</td>
<td>52.1</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>19.4</td>
<td>19.7</td>
<td>71.8</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>20.8</td>
<td>21.1</td>
<td>93.0</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>6.9</td>
<td>7.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>98.6</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is clear from table 4.2 that at least 85 percent of the research participants have dependants who require one or another type of support. The majority of the sample group has between two and four dependants. The respondents who form the largest part of the sample group have four dependants.

4.3.3 Distance traveled to work

The distance traveled to work by the sample group ranges between 2 and 65 kilometers. The average distance is 22 to 23 kilometers. This is depicted in table 4.3.
### Table 4.4: Marital status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>31</td>
<td>43.06</td>
<td>43.1</td>
<td>43.056</td>
</tr>
<tr>
<td>Married</td>
<td>31</td>
<td>43.06</td>
<td>43.1</td>
<td>86.11</td>
</tr>
<tr>
<td>Widowed</td>
<td>1</td>
<td>1.39</td>
<td>1.4</td>
<td>87.5</td>
</tr>
<tr>
<td>Living together</td>
<td>9</td>
<td>12.50</td>
<td>12.5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

It is clear from this analysis that the sample group is evenly split in terms of being married or being single. Once the living together group result was
added to the married group, however, this group formed the largest percentage of the sample group, namely, 54 percent.

4.3.5 Gender composition

The result of the sample group in terms of gender composition is summarised in table 4.5.

Table 4.5: Gender composition

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>34</td>
<td>47.22</td>
<td>47.22</td>
<td>47.22</td>
</tr>
<tr>
<td>Female</td>
<td>38</td>
<td>52.78</td>
<td>52.78</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The sample group was fairly evenly spread, with females forming 38 percent of the group and males 34 percent.

4.3.6 Ethnic origin

Table 4.6 gives a summary of the ethnic composition of the sample group.

Table 4.6: Ethnic origin

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>White</td>
<td>11</td>
<td>15.28</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>43</td>
<td>59.72</td>
<td>59.7</td>
</tr>
<tr>
<td></td>
<td>Coloured</td>
<td>10</td>
<td>13.89</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>8</td>
<td>11.11</td>
<td>11.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>72</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The largest percentages of the respondents were black (59.7%). Whites, Coloureds and Asians made up the other 40.3 percent of the sample.
4.4 MEASURING INSTRUMENTS

Two measuring instruments were used in this study. The first was a biographical questionnaire which the research participants were required to answer. This questionnaire was developed by the researcher. The second was the Sixteen Personality Factor Questionnaire (16PF) as developed by Cattell and adjusted for South Africa (SA 92). The Sixteen Personality Factor Questionnaire (16PF) is a self-report personality inventory based on Cattell’s trait or factor theory (Cattell et al., 1970). Cattell refined existing methods of factors analysis to help reveal the basic traits of personality. Central to Cattell’s theory is the distinction between source traits and surface traits. Cattell referred to the more obvious aspects of personality as surface traits. These would typically emerge in the first stages of factor analysis when individual test items are correlated with each other. Anyone can observe surface traits and recognise that they are correlated without the aid of test or complicated statistical analysis. Ross (1992) believes that we all know someone who is friendly, cheerful generous, and talkative and who loves loud music. In contrast, source traits are basic underlying structures which Cattell viewed as constituting the building blocks of personality. Hjelle and Ziegler (1992) comment that source traits exist at a deeper level of the personality and are some of the causes of behaviour in diverse domains over an extended period of time. After extensive factor analytic research, Cattell et al. (1970) concluded that approximately 16 source traits constitute the underlying structures of personality. These factors are best known in connection with a scale that measures them, namely the 16PF. The 16PF was developed in America by Cattell in 1949 (Cattell et al.,1970). The following is a description of the instruments used.
4.4.1 Biographical questionnaire

A biographical questionnaire included questions about the biographical characteristics of the research participants. The questionnaire was developed in such a way that research participants merely had to tick the most applicable box for each question. The questions aimed to gather information on biographical factors and determine a direct correlation with absenteeism and the specific personality traits that may predict whether an individual will absent himself or herself from work. The following seven items were included in this biographical questionnaire:

1. *Name*. This question was included so as to verify that the individual completing the questionnaire was part of the randomly selected sample group.

2. *Job title*. This question was included so as to verify that the individual completing the questionnaire was an Aviation Security Officer and not employed in some other capacity in the company. It is essential that the sample group comprises only Aviation Security Officers.

3. *Age*. This question was included to determine if there was any significant difference in terms of age of Aviation Security Officers being absent from work.

4. *Marital status*. This question was included to investigate if marital status influences the sample group’s levels of absenteeism in any way.

5. *Number of dependants*. This question was included to investigate if the number of dependants supported by the Aviation Security Officer influences levels of absenteeism in any way.

6. *Gender*. This question was included to investigate if there is a difference between gender groups in terms of absent behaviour.
(7) *Distance travelled to work.* This question was included to investigate whether the distance the Aviation Security Officer has to travel to work will impact on the level of absenteeism.

### 4.4.2 The Sixteen Personality Factor Questionnaire (16PF)

A discussion of Cattell’s Sixteen Personality Factor Questionnaire (16PF) will now follow. This discussion will look at various factors measured by the 16PF (Bergh, 1992; Cattell, 1965; Con & Rieke, 1994; Van Eeden & Prinsloo, 1996), the development and rationale of the 16PF, a description of the scales, the administration of the test, an interpretation of results, previous research as well as the reliability and validity of the instrument.

#### 4.4.2.1 16PF Factor description

**Factor A: Reserved/outgoing**

It is clear that extreme scores at both poles A+ and A- would tend to indicate undesirable traits. In our Western culture, it is probably better to have a high than a low A score. A good many people make a living by expressing high A tendencies. Such people would be happy in occupations which require a certain degree of isolation from other people. A person with a high A score in conjunction with a low Q2 score (self-sufficient) is even more likely to be unhappy in an isolated occupation, while high group dependence would reinforce the need for human interaction. Individuals with high A scores can be very demanding in their interpersonal relations, because their intense dependency leads them to make great demands on the time and attention of others.

A person with a low A score, on the other hand, is likely to experience far graver adjustment problems than the A+ individual. Scale A is a prominent element in two of the second-order factors. The first is the introversion-extraversion factor, which combines high scores on A, F and H and low scores on Q2. Scale A also features in the second-order factor criteria. It is thus possible to expect that an individual who has chosen a career as a security officer would have a more outgoing personality and should thus be
able to manage the interactions with passengers. In the event of a security officer having a more reserved personality, this might lead to absenteeism as the security officer does not want interaction with others and thus withdraws from the situation.

**Factor B: Less intelligent/more intelligent**

Despite its deficiencies, scale B has been found to be a valuable general measure of intelligence. If nothing else, it provides a fair indication of the amount of attention devoted to the questionnaire. Scale B is often used for a further, more illuminating interpretation of other personality factors, but no definite conclusions are possible without establishing a person's IQ by means of a good intelligence test. This factor should not be regarded for the study.

**Factor C: Emotionally unstable/emotionally stable**

It is not surprising that the concept "ego strength" should rank high in a list of personality factors. A glance at its constituent items makes it clear that the C factor measures something like ego strength or the absence of neurosis. Someone with a low C score usually reports a lack of energy, irrational fears, sleep problems and a measure of grievance. A person with low ego strength will predictably experience major problems of adjustment and this is apparent from the wide range of problems covered by this scale. C is one of the best indications of emotional stability and a low score should instantly alert the interpreter. Cattell puts factor C in a nutshell by stating that the high C individual is able to express his or her emotional energy along integrated channels rather than impulses. Briefly then, a low C score indicates that the subject needs further attention, whereas a high C score indicates better adjustment. In relation to this study, it might be that an individual who is emotionally stable will be less absent from work than a colleague who is emotionally unstable and does not have the coping skills (energy) needed to deal with his or her work situation.

**Factor E: Submissive/self-assertive**

The items on the E scale describe a person who likes to dominate, control and criticise others (E+). Such a person likes to be in control, enjoys challenges,
feels superior to others and does not shrink from imposing his or her ideas on others. In relation to this study, it could be argued that a security officer who is self-assertive may be less absent from work than his or her co-worker who is submissive and thus finds it difficult to work with challenging passengers. As a result, he or she may be absent from work more often.

**Factor F: Sober/carefree**
The F scale causes problems in differentiating between factors. When items on different scales are compared, it is clear that the basic concept of scale F is very similar to that of scale A. This is due mainly to Cattell's method of factor analysis, namely, that there can be a distinct difference between related factors. Whereas A shows a person to be warm and extroverted, a person with a high F level is impulsive, capricious, unrestrained and feels that he or she has a large number of friends; they probably lack, however, the helpfulness of the A+ individual. Scale F in the 16PF comes close to being a measurement of the clinical concept of the manic-depressive. F frequently indicates depression. F therefore gives an indication of the seriousness of an individual's approach to life. If a reliable, cautious and tactful person is required for an important post, a somewhat low F score is indicated. If, on the other hand, enthusiasm is required, a high F score is needed. In relation to this study, a sober individual will be required, that is, someone who can adhere to policies and is reliable in the execution of his or her job. A person with a carefree attitude will find the work monotonous and may be inclined to be absent from work more often.

**Factor G: Expedient/conscientious**
Factor G consists of a number of questions embodying what might be described as ideal virtues in Western culture. A high G person is a highly moral, conventional and inflexible person. Very high scores are unlikely in people who are not deliberately trying to falsify their scores. Very low scores also call for attention, however. A very low score on moral awareness suggests a person with little interest in settling disputes between others, that is, someone who flourishes on disorder and is left cold by social standards. An extreme G profile may, therefore, indicate a grave lack of inner standards and
a degree of sociopathy. In terms of this study, it may be that an individual who is conscientious is less inclined to be absent from work, because of his or her moral work ethic.

**Factor H: Shy/venturesome**
The items on the H scale show this factor to imply bold adventurousness and spontaneity --- in a nutshell, risk taking. H is essentially a willingness to accept challenges, an adventurous, globe-trotting temperament and a highly outspoken interest in the opposite sex. H+ has a strong hereditary component, as well as decided physical and more particularly automatic determinants. The activities of the sympathetic nervous system are, in other words, well controlled. The opposite applies to the H- person, who has a potent reaction to any threat. To succeed in our society, a measure of H+ is essential: nothing ventured, nothing gained. The H- personality is fated to frustration and resultant hostile feelings, which create an even greater threat. The factor should not have any relevance to the study.

**Factor I: Tough minded/tender minded**
The following two trends emerge clearly from the items on the scale: a love of cultural things and an aversion to interfering in hostile situations. Clinically speaking, Factor I is not associated with pathology, particularly if it is the only deviant score in a profile. It may well be, however, that someone with a very low score is repressing personality components that require emotional expression. This is not necessarily pathological, unless emotional expression is a necessity. Someone with a low score would probably not function well in a service profession such as social work or clinical psychology. When it comes to enduring stress, I- may be a better score than I+. An emotionally sensitive (I+) person will probably develop psychosomatic disorders under stress. In relation to this study, this factor could be a predictor of absent behaviour. This may be particularly true of the emotionally sensitive security officer who is abused by passengers. In contrast, a tough-minded security officer may be more comfortable managing the situation.
Factor L: Trusting /suspicious
Factor L is clearly an excellent indicator of personality disorder. High L people insist on imposing their own views. They feel that people talk about them behind their backs, they cannot tolerate human failings, they are constantly opposed to others, and they are inclined to argue and are hostile and touchy. This is clearly the general psychiatric syndrome of extreme paranoia. Cattell calls it pretension, an abbreviation of paranoid trend. Obviously, someone with a high L score is not going to get on well with other people. The L+ person reasons are usually not well rooted in reality: he or she is vindictive and hostile, and he or she projects and displays hostile feelings. A high L score should, therefore, put one on the alert particularly since most L+ responses are not socially desirable. L-, even a very low L score, should be seen as wholesome. People with very low scores may be too trusting and adaptable, but this is often refreshing. It may cause them to be disappointed in others, but never leaves them feeling aggrieved or vindictive. They are usually seen as pleasant and although their childlike trust may sometimes lead to disappointment, they generally overcome this. This factor may not be related to the study.

Factor M: Practical/imaginative
From the items in the scale and from Cattell’s description, it is possible to deduce that M+ indicates the pursuit of intellectual and aesthetic interests, whereas M- indicates the absences of such interests. The M- person is generally very practical. M+ people are unconventional, vague and prone to fantasy. A high or low M score is a crucial factor in choosing an occupation. An M+ profile, for example, would be highly undesirable in an air traffic controller. M- is one of the primary factors in distinguishing between anxiety neurotics and psychosomatic cases, the latter achieving a lower average M score. This factor may not be related to this study.

Factor N: Forthright /shrewd
The N+ person prefers not to put his or her cards on the table. He or she is not interested in physical or outdoor activities. He or she likes to associate with well-bred, sophisticated people in a group context. He or she prefers to
remain calm when putting ideas across and generally knows how to use people and to control groups in order to get things done unobtrusively. Factor N is an important predictor of success in a demanding occupation. Low N people are not adept at social relationships. N+ personalities can maintain enough distance between themselves and others to be able to adapt well. This factor may not relate to the current study of absenteeism.

**Factor O: Placid/apprehensive**

Clinically speaking, O is one of the most important scales on the 16PF. Anxiety, worry and guilt show up time and again. Clinical experience has shown that deviations on both sides call for attention. In a person who is too untroubled, the question arises whether superego control is effective. In an unduly worried person, there is the possibility of excessive guilt. The clinical importance of this scale is clear from the fact that it is one of the main components of the second-order anxiety factor. Items show that an O+ personality is under great stress and therefore neurotic. Apart from anxiety, O also contains an element of depression. O+ is often a response to a recent traumatic incident. O thus fluctuates more than the other anxiety components do, and it is subject to situational influences --- it is a state of personality flux rather than a personality trait. This factor may be of importance to the study as it relates to stress the security officer may encounter; this, in turn, could relate to absent behaviour from work.

**Factor Q1: Placid/apprehensive**

Items on the scale Q1 point to a powerful desire to overthrow established traditions and customs. There are similar items with factor E (dominance), but with less dominance and hostility and more emphasis on constructive reform. A high Q+ personality probably never learned how to handle his or her problems with authority figures. Q1+ people are not good subordinates in work situations. A pattern comprising Q1+ E+ (dominance) and L will make it clear that this is a difficult person to get on with. Q1+ is grouped with E+, L+, M+ and Q2+ on the second-order independence factors. It is expressed in adolescent rebelliousness and in various forms of intellectual hostility. It generally increases towards middle life. This factor might have an impact on
the study in the sense that a security officer with an O+ score is not a good subordinate in terms of following rules and regulations. Because of this, he or she might find the work boring or lacking in challenge. He or she may choose, therefore, to be absent from work.

**Factor Q2: Group dependent/self-sufficient**

The items on this scale imply introversion-extraversion, a basic belief that the world contains more fools than worthwhile people and an inclination to learn about social problem from a textbook rather than from a recent novel on the subject. Deviations from the norm in both directions, especially when coupled with abnormalities on other scales, may be diagnostically significant. A person who is very high on Q2 but is low on the rest of the second-order extraversion factors (A-; F-and H-), does not necessarily have good working habits or high self-sufficiency --- this person is more likely to withdraw from people. Someone scoring low on Q2 (group dependence) and high on impulsiveness may adjust to certain types of work. Many activities cannot be successfully carried out without a measure of self-sufficiency.

**Factor Q3: Casual/socially controlled**

The main trait associated with Q3 is a controlled, exact willpower versus an uncontrolled and lax temperament associated with Q3. Item responses show the Q3+ person to behave in socially approved ways. In group dynamics, high Q3 scores are found in those people chosen as leaders. It is clinically important as the component with the most significant loading on the second-order factor of integration versus anxiety. This factor can be ascribed to a harmonious and well-disciplined upbringing resulting in socially desirable habits and high standards. In interpreting Q3, it is vital to distinguish it from C and G, which belong to the same group of integration factors. Q3 is concerned with manners, morals, reputation and self-control of a civilised and well-educated person. It is a crucial component of the second-order anxiety factor (negative pole) along with C, O and Q4. Good mental health is associated with a high rather than a low Q3 score. A Q3 person will have difficulty functioning in a large organisation that rewards responsibility and compulsivity.
Factor Q4
Q4 plus people are discouraged rather than helped by criticism. They evade people in public places, feel certain that they cannot succeed, find frustration difficult to accept, says hurtful things when displeased, are intolerably irritated by trifling things, do not easily calm down once distressed, and feel anxious and fearful when alone in a house. Psychoanalytically, Q4 may be seen as pressure exercised by the id or as unsatisfied drive demands converted into anxiety by repression. Q4 represents a total instinctive tension level, that is, stimulation minus satisfaction with regard to all that is prevented by repression. It represents tension in the subconscious id, that is, an unconsciously stimulated drive, the discharge of which is prevented by repression.

It is clear from the research that Cattell’s 16PF can be used to predict personality traits when selecting employees so as to ensure that they match the requirements of the job. The areas that were described focused on identifying personality traits that would predict working under difficult circumstances (coping/burnout and stressful working conditions). The research clearly shows that a high C score (ego strength), a low I score (tough minded) and a low O (self-assured) are essential to combat the pressures of difficult working conditions.

Based on the research and the understanding of the challenges faced by the Aviation Security Officer, the researcher believes that the following personality traits are essential in ensuring that the correct individuals are selected. This will enable individuals to cope with the challenges of the job and will, consequently, result in a reduction in the level of absenteeism experienced by the company.

The following six personality traits have been selected:

(1) High factor C: Emotionally stable
(2) High factor E: Dominant
(3) Low factor F: Sober
(4) High factor G:   Conscientious  
(5) Low factor I:   Tough-minded  
(6) Low factor O:   Self-assured  

4.4.3 The Sixteen Personality Factor Questionnaire (16PF)  

The 16PF attempts to make available information about and individual’s broad personality functioning (Cattell et al., 1970) by means of a multidimensional set of questionnaire scales, that is, 16 primary (first order) and 8 secondary (second order) factors. Rather than being seen as a clinical measuring instrument that looks at serious pathology and deviations from the normal mental health, the 16PF was constructed to measure the strengths weaknesses in a normal person. This information can be used to facilitate and understand the evaluation of general personal functioning in a clinical situation, during vocational guidance, or training and self-development (Cattell et al., 1970).

The 16PF SA 92 has undergone five revisions since its original publication and has been adapted for South African use (Gouws, Louw, Meyer and Plug, 1979). As the 16PF has been used as an instrument in this study, it is important to investigate the rationale behind the development of the 16PF. The following is thus a description of the rationale as viewed by Cattell and others.

4.4.3.1 Rationale of the 16PF  

The 16 Personality Factor Questionnaire is one of the most frequently used personality inventories and, according to Cattell et al. (1970), is firmly based on comprehensive research. If all the primary and second-order factors measured by this questionnaire are examined, the total personality can be evaluated regardless of the field of application of this information. Cattell used factor analysis to uncover the deep basic traits that underlie human behaviour. The 16PF scales that he had derived measure temperament; a person’s characteristics; and style of thinking, perceiving and acting over a relatively
long period of time and in a wide range of different situations. These personality traits are manifested in a set of attitudes, preferences, and social and emotional reactions and habits (Cattell, 1989).

During the first half of the 20th century, the multivariate tradition gained a lot of ground. According to this, attempts were made to examine and describe extensive databases by means of mathematical models. Cattell also applied this model to personality measurements. Accordingly, he carried out factor analysis on 18 000 personality descriptions that had been compiled by Allport and Odbert before 1936. The result was the exposure of sixteen primary or first-order factors. It was assumed that the wide-raying list of dictionary terms found in the colloquial language were given the status of correct personality descriptions in daily human intercourse. For this reason, it was furthermore regarded as a fairly comprehensive list of possible personality traits. The sixteen fields in which the enormous number of descriptions were grouped by means of factors analysis are, therefore, regarded as the core personality traits which are universal, relatively stable and which are encountered amongst all people.

4.4.3.2 General description of the 16 PF

The 16PF is, in essence, a standardised, systematic impersonal interview (Pervin, 1975) in which the respondent read the question and self report on it. It is structured in such a way that there are only three alternative responses to each item and it is voluntary in that the subject is free to choose his or her own response rather than to give a correct response.

The South African version (SA92) was developed because of the relativity low reliability coefficients that were found in respect of certain scales of the existing 16PF questionnaire. There was also a strong need to ensure that individuals were not adversely affected during the assessment process. In recent times, much has been done to demonstrate that tests do not contain biased items which discriminate against subgroups. Furthermore, the existing 16PF questionnaire (forms A & B) were standardised many years ago when
bias did not receive much attention, this too was a deciding factor in developing the SA92.

The practice of subjecting the 16PF to adaptation for the sake of improving its psychometric properties, has already been followed in other countries. The logical step was to examine the large pool of 16PF items from all existing forms in order to retain the best items in a composite form.

### 4.4.3.3 Scales of the 16PF

Raymond Cattell developed the 16PF in 1949 using a factor analysis of items that were designed to measure personality source traits. Source traits are believed to be inherent traits, underlying the more manifested behavioural traits (Spangenberg, 1990). The test is direct and is not disguised, that is, the subject knows that this is a test of his or her personality, and he may in some cases be able to discern the significance of an individual item; in many cases, though, the relevance of items to personality characteristics is not apparent (Cattell et al., 1970; Pervin, 1975). The response sheet of the subject is objectively scored by hand or as in the case here in South Africa, the scale itself is computerised for faster application, marking and specific profile printouts (Owen & Taljaard, 1988). The test yields scores for the subject on 16 personality dimensions of factors. These are assumed to take cognisance of the total personality in all of its main dimensions (Pervin, 1975).

The 16PF consists of the following bipolar factors: 16 primary personality factors or traits and 8 secondary factors. The 16 primary personality factors are presented in table 4.7.

**Table 4.7: Scales of the 16PF**

<table>
<thead>
<tr>
<th>LOW SCORE:</th>
<th>HIGH SCORE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Warmth</td>
<td>B: Intelligence</td>
</tr>
<tr>
<td>Reversed, detached critical, cool</td>
<td>Less intelligent, concrete</td>
</tr>
<tr>
<td>Outgoing, warmhearted, easy-going, participating</td>
<td>More intelligent, abstract-thinking,</td>
</tr>
<tr>
<td>C: Emotional stability</td>
<td>Thinking</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Affected by feelings, emotionally liable, easily upset, lower ego strength</td>
<td>Emotionally stable, calm, faces reality, higher ego strength</td>
</tr>
<tr>
<td>E: Dominance</td>
<td>Humble, obedient, easily led, docile, submissive</td>
</tr>
<tr>
<td>F: Sober, serious, taciturn</td>
<td>Enthusiastic, heedless, happy-go-lucky, carefree</td>
</tr>
<tr>
<td>G: Conformity</td>
<td>Expedient, opportunistic, disregards rules, lower super ego strength</td>
</tr>
<tr>
<td>H: Boldness</td>
<td>Shy, timid, restrained, sensitive to threats</td>
</tr>
<tr>
<td>I: Sensitivity</td>
<td>Tough-minded, self-reliant, realistic, having no illusions</td>
</tr>
<tr>
<td>L: Suspiciousness</td>
<td>Trusting, adaptable, free of jealousy, easy to get on with</td>
</tr>
<tr>
<td>M: Imagination</td>
<td>Practical, careful, conventional, regulated by external realities, proper</td>
</tr>
<tr>
<td>N: Shrewdness</td>
<td>Forthright, natural, unpretentious, sentimental, artless</td>
</tr>
<tr>
<td>O: Insecurity</td>
<td>Self-assured, placid, confident, serene, unperturbed, self-sufficient</td>
</tr>
<tr>
<td>Q1: Radicalism</td>
<td>Conservative, respecting, established ideas, tolerant</td>
</tr>
<tr>
<td>Q2: Self-sufficiency</td>
<td>Group-dependent, a joiner and sound follower</td>
</tr>
<tr>
<td>Q3: Self-discipline</td>
<td>Undisciplined, casual, careless of protocol, low self-sentiment, follows own urges</td>
</tr>
<tr>
<td>Q4: Tension</td>
<td>Relaxed, tranquil, torpid, unrestricted, low ergic tension</td>
</tr>
</tbody>
</table>
Although the 16PF handbook (Cattell et al., 1970) describes eight-second order factors, only four factors are commonly used, namely, extraversion (Q1), anxiety (Q11), tough poise (Q111) and independence (QIV) (Spangenberg, 1990). The 16PF furthermore contains three validity scales, namely, a fake-bad scale, a random response scale and a motivational distortion (fake-good) scale. The fake-good scale is most valuable in personnel selection where applicants may attempt to create a favourable impression (Spangenberg, 1990).

4.4.3.4 Administration and scoring of the 16PF

The test material of the 16PF SA (92) consists of a test booklet, an answer sheet (for either hand or machine scoring), a set of scoring stencils, profile sheets and norm tables. There are five forms which can be used with the 16PF. Forms A and B is the most popular and used more often. Only forms A and B were available in South Africa before 1992. These forms are suitable for adults with a language comprehension (including reading ability) of at least a grade 11/12 learner. During 1992, Prinsloo developed two new forms and standarised them in South Africa, namely, forms E and SA (92). The SA (92) consists of a test book containing 160 items.

The 16PF questionnaire can be completed within 60 to 90 minutes. The test can be administered to an individual or a group (Cattell et al., 1970). Instructions for the completion of the 16PF appear in the reusable test booklet. The subjects can read the instructions in the test booklet themselves and then answer the questionnaire on separate answer sheets; the subjects need to indicate to what extent each question is applicable to his or her behaviour. The test administration and scoring procedures are available in two versions (fully computerised and a partly-computerised version). In the computerised version, the whole questionnaire is administered and scored by means of a personal computer. The transformation of the raw scores to standard scores (norm score) and the drawing of a profile is executed by the computer. In the partly-computerised version, the questionnaire is completed in the traditional way on a special answer sheet and then marked with the aid
of a scoring programme. The raw scores are then converted to sten scores by using the norm tables judged applicable. A profile of the primary factors is then plotted. The secondary factors and validity scores are calculated by using specific combinations of the above-mentioned sten scores (Cattell et al., 1970).

4.4.3.5 Interpretation of the 16PF

The primary factors are interpreted as follows with the help of the profile and the secondary factors. A sten score of one, two or three points to the presence of a negative loading on the source trait; a score of eight, nine or ten points to a positive loading; and a score of four, five, six or seven to an average loading on the source trait. For interpretative purposes, the subject’s scores are plotted on a profile sheet. Interpretation, diagnosis and prediction can then proceed, with objective detachment, on the basis of a statistical analysis of profile scores (Pervin, 1975).

Further processing leads to the calculation of the second-order factors (a combination of scores from the primary factors). In practice, other types of combinations of scores or profiles are frequently calculated as an indication of specific types of behavioural traits such as interpersonal relations, leadership, neuroticism, accident proneness, potential for success and the ability to adapt (Krug, 1981). For further interpretation purposes, each factor gets discussed in great detail in the handbook of the 16PF (Cattell et al., 1970).

4.4.3.6 Reliability of the 16PF

Scale reliabilities as measured by dependability and stability quotients seem acceptable (Spangenberg, 1990). Dependability coefficients (tests-retest with less than a two month interval) for form A (Canadian subjects, n = 243) varied between 0.72 for tension to 0.92 for boldness with a median of 0.82 (Zuckerman, 1985). Cattell et al. (1970) refer to test-retest reliability correlation’s ranging from 0.58 to 0.88 with a two month interval between the administrations.
The result of a retest of 124 testers from the South African Police Services during February and March 1992 are reported to give an indication of the retest reliability of the SA 92 form. The questionnaire was used with the same test takers at more than one centre, with the second application four to six weeks after the first one. Care was taken that sufficient protocols were obtained to study the effect of the most important biographical variables on the retest reliability coefficients. The variables “language”, “gender” and “population group” were subsequently manipulated to achieve this. The result was as follows: 24 test takers; 58 were male and 66 female; 70 were black and 54 were nonblack; 44 completed the test in Afrikaans and 80 in English.

The retest reliabilities calculated for the total group were generally highly satisfactory. Coefficients were also calculated for the second-order factors. Apart from coefficient Q III, as calculated by means of the conventional Cattell formula, only the coefficient of Q VIII was below 0.70. This is also seen as satisfactory. The South African questionnaire --- which does not deviate from the original with regards to item format, broader construct contents, and so on --- will reveal more or less the same psychometric characteristics and levels of reliability.

4.4.3.7 Validity of the 16PF

The main evidence for validity lies in the factor analytic construction of the test (Maas, 1989; Pervin, 1975). Many of the factors correspond to those derived from rating and experimental data, which lends support to their validity. Many potential applications of the test are cited (in clinical, educational and industrial settings), and the test is described as being preferable to the crystal ball guesses involved in the use of unreliable projective methods. Its validity in these areas, however, remains to be demonstrated (Pervin, 1975). The 16PF has been described by Adcock (1965, p.197) as follows: “No other test covers such a wide range of personality dimensions and never before have the dimensions been so meticulously determined.”
American research on the validity of Cattell’s entire 16PF has been documented and is seen, in principal, to suit South African conditions. Some remarks can, nevertheless, be made about the results of the factor analysis of the patterns of second-order factors, especially in view of the comparisons that can be drawn between subgroups. The effect of the different rotations was examined, before it was decided that the Equamax Rotation method would be applied. It can be emphasised that a broad basis of correspondence exists with the current information and structures of other local and even international forms of the questionnaire, as well as good agreement between the score patterns of subgroups. The SA92 thus corresponds, in essence, with Cattell’s content as far as construct and content validity are concerned.

In South Africa studies have been conducted regarding the validity of the 16PF, Abrahams (1996) during a study indicated that mixed results have been obtained when using the 16 PF cross culturally. However a number of researchers have found major differences when the test was administer cross culturally. Once again these studies differed in the way comparability was determined. The weakest study was conducted by Mcquaid in 1967 who administer the 16 PF to 1700 Scottish subjects divided into eight groups. The data were calculated means and standard deviations and he found that the Scottish subjects obtained higher anxiety scores and lower introversion scores than the American norm group. His study confirmed the results found by Cattell and Warburton however no indication was given of the mean ages, level of education and gender composition of the sample. In addition, merely recording the descriptive data is not sufficient to make conclusions.

In the research conducted by Abrahams (1996) the research showed that in many instances, scores are not comparable cross- culturally. For example, studies in New Zealand clearly indicate that the test is not suitable for a New Zealand population. The test seems to be unsuitable in a western country with a largely western population which ostensibly very similar to that of the United States. In South Africa, with its multicultural population which is not fully westernised, and suffering from the after affects of apartheid, there is a great
possibility that the test does not measure the same constructs as found in the USA.

Van Eeden and Prinsloo (1996) conducted a study on the second-order factors of the 16PF using 637 applicants for posts at a multi-cultural business institution. A cultural distinction was made using home language as a basis, and the sample comprised 317 subjects with an African language as a home language and 320 English or Afrikaans speaking subjects. Van Eeden and Prinsloo (1996) performed an exploratory factor analysis and extracted five second-order factors. These five factors were identified as Extraversion (QI), Anxiety (QII), Independence (QIV), Compulsivity (QVIII), and Emotional Sensitivity (QIII). These factors could be found for the English/Afrikaans group, and all but the fifth factor (Emotional Sensitivity) could be found for the African language group. Van Eeden and Prinsloo (1996) concluded that the 16PF could be used cross culturally in that specific occupational context, but cultural and gender-specific trends needed to be taken into account when interpreting results on the test.

A study by Abrahams and Mauer (1999a) yielded results that did not support the comparability of constructs of the 16PF across four race groups in South Africa. Using 983 Industrial Psychology students from a number of South African universities, Abrahams and Mauer (1999a) drew up four sub-samples on the basis of race, namely Black (N = 253), Coloured (N = 252), Indian (N = 229), and White (N =249). Alpha coefficients were extremely low for the Black sample, ranging from 0.02 to 0.63. Internal consistency alphas were also relatively low for the other three groups, and ranged from 0.32 to 0.80. Abrahams and Mauer (1999a) also performed a factor analysis using a target rotation. The results indicated that Cattell’s 16-factor structure could not be replicated with the data, the White group best fitting the structure, and the Black group with the poorest fit.

In a related study, Abrahams and Mauer (1999b) conducted two qualitative studies in order to establish the extent to which participants understand the meaning of words used in the 16PF. The first study consisted of 71 second-
year industrial psychology 52 students, who spoke English as a second or third language. The students had to provide acceptable synonyms for 136 words found in items of the 16PF. These synonyms were marked correct or incorrect based on definitions provided by three different dictionaries. It was found that most respondents could not provide acceptable synonyms. However, it must be noted that the words were not placed in any context, and the meaning of a word can often be derived by the structure or context of the sentence. The second study required 10 Black industrial psychology honours students to provide a meaning for each item in the 16PF and comment on the usefulness of the item. Numerous interpretational problems arose, revealing both cultural and language discrepancies in the interpretation of the items (Abrahams & Mauer, 1999b). Abrahams and Mauer (1999a) stated that the recommendations for the construction of a new South African personality assessment instrument (Taylor & Boeyens, 1991) had not yet been heeded, and made the following pertinent remarks about testing in South Africa: A factor which is particularly bothersome is that it is common knowledge that there are many psychological assessment instruments which are used on a regular basis, but which do not comply with the psychometric – and legal – requirements (p. 58).

Prinsloo and Ebersöhn (2002) responded to Abrahams and Mauer’s (1999a, 1999b) studies on the 16PF, highlighting methodological issues and the need for differential interpretation of test scores across cultures. Prinsloo and Ebersöhn (2002) stressed that “high” or “low” scores obtained on the 16PF do not mean “good” or “bad”, rather than in certain situations, more or less of a given personality construct could be desirable.

A replication of Abrahams and Mauer’s (1999b) study on the impact of home language on responses to items on the 16PF was carried out by Wallis and Birt (2003). The original study made no comparisons between first-language English speakers (native English speakers) and those people with English as a second or third language (non-native English speakers). Wallis and Birt (2003) investigated whether there was a discrepancy between these two groups in their ability to understand words in the 16PF. A sample of 96 native
English-speaking and 35 non-native English speaking students were asked to provide synonyms for the 135 words extracted from the 16PF in Abrahams and Mauer’s (1999b) study. One word was repeated in the original list, hence 135 items instead of the original 136 items. Using the same strict methodology as in the original study, Wallis and Birt (2003) found that most respondents could not provide correct synonyms for the words most of the time. However, when the responses were marked according to colloquial language usage (i.e. accepting Afrikaans translations, subtle synonyms, and everyday English meanings that are not technically correct, but mean the same thing), both groups seemed to understand most words in the list. This is an indication that the results obtained by Abrahams and Mauer (1999b) were more a result of the methodology than language-related problems (Wallis & Birt, 2003). It was recommended by Wallis and Birt (2003) that studies using different methodologies should be undertaken in order to determine the extent to which language barriers are causal of score differences.

In a study conducted by Tack (1998) understanding the cross cultural validity and comparability of the 16PF, Tack in his summary indicated that the scores between the different cultures in his research imply that personality assessment instruments standarised on Western cultures cannot be applied cross-culturally in South Africa. The 16PF (SA92) in his view is not cross-culturally suitable.

Research on the 16PF, has yielded conflicting results regarding whether or not it is a culturally biased measure. The conclusion regarding the 16 PF SA92 can thus be reached in that until there is greater clarity whether the instrument is culturally biased or not, it should be used with caution.

4.5 STATISTICAL METHOD

In the section that follows, a description will be given of the statistical methods that were followed when analysing the measurement data in this study.
4.5.1 The electronic capturing of data

The responses of the 72 subjects to the biographical section of the questionnaire and the items of the 16PF questionnaire were captured in Excel (an electronic database) and then converted an SPSS (SPSS, 2001) database. The scores of each subject on each factor of the 16PF questionnaire were scored programmatically following the indicated scoring regimes indicated for each factor.

4.5.2 Descriptive statistics.

Simple descriptive statistics were calculated for each variable in the study. In the case of categorical data, this involved the calculation of the frequency distribution of the responses to each categorically-scaled question. A frequency distribution shows in absolute or relative (percentage) terms how often (popular) the different values of a variable are found among the respondents. Biographical and organisational questions are generally categorical in nature as was the case in the present study. The frequency distributions of the responses to these questions were computed.

4.5.3 Relations between variables

In the final analysis, research is mostly about relations between variables. The appropriate statistical strategy necessary to ascertain the existence or not of a relation depends mostly on the measurement scale of the two variables involved that is personality and absenteeism. The following two scenarios presented in this research:

(1) Both variables were categorical in nature. In such cases, contingency tables of frequencies are calculated between the two variables involved and the chi-square of independence (Hays, 1963; Kerlinger, 1986) is calculated as a test to see whether the two variables are related. This is usually necessary when the organisational variables are involved, as these variables are usually categorical in nature.
Both variables measured on an interval scale. In such cases, the Pearson product moment correlation coefficient (Hays, 1963; Kerlinger, 1986) is calculated as a measure of the linear relation between the two variables. This was especially the case with those variables where the item responses are made on a likert-type scale. Correlations estimate the extent to which the changes in one variable are associated with changes in the other variable and are indicated by the correlation coefficient (r). Correlation coefficients can range from +1.00 to −1.00. A correlation of +1.00 indicates a perfect positive relationship, a correlation of 0.00 indicates no relationship and a correlation of −1.00 indicates a perfect negative relationship.

4.5.4 Internal consistency reliability analyses of the scales

In the present study, the internal consistency reliability of each scale was calculated by calculating the Cronbach Alpha as an index of the internal consistency reliability of a scale (Lemke & Wiersma, 1976). According to Lemke & Wiersma (1976, p. 99), “internal consistency” mean the degree to which the items inter-correlate or the degree to which the items measure the same trait”.

4.5.5 Correlations and partial correlations

In this study, the Pearson moment correlation (Hays, 1963, p. 499) was calculated between variables as an index of the strength of the linear relationship between variables.

A correlation coefficient varies in value from -1 (a perfect negative value) to +1 (a perfect positive correlation). Values close to 0 indicated no linear correlation. Correlations are never perfect so that +1 and -1 is never achieved. Suppose a positive correlation of 0.5 between variable X and Y is found. This means that the higher a person’s score on X, the higher that same person’s score will be on Y. Or put differently: the lower a person’s scores on X, the lower that person’s score on Y will be.
If the correlation is *negative*, such as -0.5, then the *higher* a person’s score on X, the *lower* that same person’s same score is likely to be on Y. Or put differently: the *lower* a person’s score on X, the *higher* that person’s score on Y. When the correlation matrix is large, it sometimes becomes difficult to sort out the relations between variables and a data-reduction technique such as factor analysis may be helpful.

### 4.5.6 Level of statistical significance

Conventionally, most researchers use the significance levels 0.05 and 0.01. These are small values as the researcher wishes to be sure before he or she concludes a significant result. The intention is to limit the risk of committing a so-called Type I error, namely, rejecting the null hypothesis when in fact it is true. It is as if we would rather run the risk of missing a significant result, than mistakenly concluding one.

### 4.6 HYPOTHESES

In order to empirically investigate analyse absenteeism the following hypotheses were formulated.

**Hypotheses 1:**
There are no significant correlations between the different biographical categories and the categories of absenteeism.

**Hypotheses 2:**
There are no significant correlations between the different dimensions of the 16PF and the categories of absenteeism.
4.7 CONCLUSION

The empirical study was discussed in this chapter. It was done by first describing the empirical objectives of the study and then evaluating the personality traits that lead to absenteeism among Aviation Security Officers. As a starting point, the sample group was described in terms of age, number of dependants, distance travelled to work, marital status, gender as well as ethnic origin.

The measuring instruments, the 16PF and the biographical questionnaire, were described. The 16PF was described in terms of its development, rationale, and description of the test, the scales of the test instrument, administration, reliability and validity of the instrument. The chapter was concluded with a description of the statistical methods that were used during the study.
CHAPTER 5: RESULTS OF THE EMPIRICAL STUDY

In this chapter, the relationship between absenteeism and personality is explored. Although the main focus is on the 16PF as a predictor of absenteeism, the possibility that biographical variable (e.g., gender and age) and some demographic variables (e.g., distance from work) may explain absenteeism is also explored. The composition of the categories of absenteeism will be given first, followed by the internal consistency reliability item analysis of each of the 16PF primary scales. Absenteeism is explained in terms of biographical and demographic factors after which a prediction of possible causes of absenteeism amongst members of the sample group is given.

5.1 CATEGORY OF ABSENTEEISM

Table 5.1 gives an analysis of the sample group's levels of absenteeism over a period of one year. It is clear from the data that almost 70 percent of the sample group were absent from work on one or more occasions during the one year period. Just more than a third (33%) of the sample group fell into the category of being absent from work for between one and five days, while just less than a third (26.4%) were absent from work for more than six days.

<table>
<thead>
<tr>
<th>Sick leave days</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>11+</td>
<td>8</td>
<td>11.11</td>
<td>11.1</td>
<td>100.00</td>
</tr>
<tr>
<td>6-10</td>
<td>19</td>
<td>26.39</td>
<td>26.4</td>
<td>88.89</td>
</tr>
<tr>
<td>1-5</td>
<td>24</td>
<td>33.33</td>
<td>33.3</td>
<td>62.50</td>
</tr>
<tr>
<td>0</td>
<td>21</td>
<td>29.17</td>
<td>29.2</td>
<td>29.17</td>
</tr>
</tbody>
</table>
5.2 INTERNAL CONSISTENCY RELIABILITY OF THE PRIMARY FACTORS OF THE 16PF

Item analyses were performed for each of the primary factors of the 16PF, the Cronbach Alpha values are reported for each factor in table 5.2.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.45</td>
</tr>
<tr>
<td>B</td>
<td>0.37</td>
</tr>
<tr>
<td>C</td>
<td>0.52</td>
</tr>
<tr>
<td>E</td>
<td>0.30</td>
</tr>
<tr>
<td>F</td>
<td>0.46</td>
</tr>
<tr>
<td>G</td>
<td>0.24</td>
</tr>
<tr>
<td>H</td>
<td>0.75</td>
</tr>
<tr>
<td>I</td>
<td>0.50</td>
</tr>
<tr>
<td>L</td>
<td>0.52</td>
</tr>
<tr>
<td>M</td>
<td>0.34</td>
</tr>
<tr>
<td>N</td>
<td>0.28</td>
</tr>
<tr>
<td>O</td>
<td>0.58</td>
</tr>
<tr>
<td>Q1</td>
<td>0.48</td>
</tr>
<tr>
<td>Q2</td>
<td>0.66</td>
</tr>
<tr>
<td>Q3</td>
<td>0.46</td>
</tr>
<tr>
<td>Q4</td>
<td>0.66</td>
</tr>
<tr>
<td>MD</td>
<td>0.62</td>
</tr>
</tbody>
</table>

In this study, a score for each subject was calculated for each of the factors in table 5.2 by calculating the sum of the item's scores. The scoring of the factors and the items that make up a factor is given in appendix 1.
5.3 BIOGRAPHICAL AND DEMOGRAPHIC PREDICTORS OF ABSENTEEISM

The following is an analysis of the biographical and demographic details of the sample group as it relates to the various categories of absenteeism. The focus is to determine which of the various biographical factors correlate with absenteeism.

5.3.1 Gender

The distribution of males and females in each category of absenteeism is given in table 5.3.

**Table 5.4: Chi-square test for gender by category of absenteeism**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson chi-square</td>
<td>2.196</td>
<td>3</td>
<td>0.533</td>
</tr>
<tr>
<td>Fisher's exact test</td>
<td>2.231</td>
<td></td>
<td>0.541</td>
</tr>
<tr>
<td>No of valid cases</td>
<td>72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is clear from tables 5.3 and 5.4 that the distribution of males does not differ significantly from that of females (p-value of chi-square test = 0.546) across the categories of absenteeism. Males (34 of 72 = 47, 20%) and females (38 of 72 = 52, 80%) were about equally represented in the total sample.
5.3.2 Marital status

Table 5.5 gives an analysis of the sample group in terms of marital status as it relates to absenteeism.

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Single</th>
<th>Married</th>
<th>Widowed</th>
<th>Living Together</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days sick leave</td>
<td>Frequency</td>
<td>14</td>
<td>5</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>% within marital status</td>
<td>45.16</td>
<td>16.13</td>
<td>22.22</td>
<td>29.17</td>
</tr>
<tr>
<td>1-5 days sick leave</td>
<td>Frequency</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>% within marital status</td>
<td>32.26</td>
<td>22.58</td>
<td>100</td>
<td>66.67</td>
</tr>
<tr>
<td>6-10 days sick leave</td>
<td>Frequency</td>
<td>4</td>
<td>15</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within marital status</td>
<td>12.90</td>
<td>48.39</td>
<td>26.39</td>
<td></td>
</tr>
<tr>
<td>11+ days sick leave</td>
<td>Frequency</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>% within marital status</td>
<td>9.68</td>
<td>12.90</td>
<td>11.11</td>
<td>11.11</td>
</tr>
<tr>
<td>Total Frequency</td>
<td>31</td>
<td>31</td>
<td>1</td>
<td>9</td>
<td>72</td>
</tr>
<tr>
<td>% within marital status</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100</td>
</tr>
</tbody>
</table>

The composition of the sample consisted of Aviation Security Officers who were either single (31 of 72 = 43%) or married (also 31 of 72 = 43%). About 12.5 (9 of 72) percent reported that they lived together with a partner.
Table 5.6: Chi-square tests for marital status groups by category of absenteeism

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson chi-square</td>
<td>21.10</td>
<td>9</td>
<td>0.012</td>
<td></td>
</tr>
<tr>
<td>Fisher's exact test</td>
<td>20.29</td>
<td></td>
<td></td>
<td>0.004</td>
</tr>
<tr>
<td>No of valid cases</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the chi-square test and Fisher's exact test, there were differences in the distribution of the various marital status groups across the categories of absenteeism. An inspection of the frequency percentages in table 5.5 reveals that the difference is primarily between those who are single and those who are married or living together. It would seem that the married security officers (and those living together) were more highly represented in the “high” absenteeism categories than those who were single.

5.3.3 Ethnic origin

Table 5.7 is an analysis of the ethnic origin distribution of the sample group.

Table 5.7: Distribution of the ethnic origin groups by category of absenteeism

<table>
<thead>
<tr>
<th>Days</th>
<th>Frequency</th>
<th>Ethnic origin</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>0 days sick leave</td>
<td>Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% within ethnic origin</td>
<td>36.36</td>
<td>34.88</td>
</tr>
<tr>
<td>1-5 days sick leave</td>
<td>Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% within ethnic origin</td>
<td>27.27</td>
<td>34.88</td>
</tr>
<tr>
<td>6-10 days sick leave</td>
<td>Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>% within ethnic origin</td>
<td>36.36</td>
<td>13.95</td>
</tr>
<tr>
<td>11+ days sick leave</td>
<td>Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within ethnic origin</td>
<td></td>
<td>16.28</td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>43</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>% within ethnic origin</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>
The largest ethnic group were blacks (43 of 72 = 59.70%) followed by whites (11 of 72 = 15.30%). The distribution of these ethnic groups across the absenteeism categories was not found to differ significantly. This means that the ethnic groups did not differ with regard to absenteeism.

### Table 5.8: Chi-square tests for ethnic groups by category of absenteeism

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson chi-square</td>
<td>12.819</td>
<td>9</td>
<td>0.171</td>
<td></td>
</tr>
<tr>
<td>Fisher's exact test</td>
<td>11.695</td>
<td></td>
<td>0.177</td>
<td></td>
</tr>
<tr>
<td>No of valid cases</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The largest ethnic group were blacks (43 of 72 = 59.70%) followed by whites (11 of 72 = 15.30%). The distribution of these ethnic groups across the absenteeism categories was not found to differ significantly. This means that the ethnic groups did not differ with regard to absenteeism.

### 5.3.4 Age

Descriptive statistics regarding the age of each of the categories of absenteeism are given in table 5.9.

### Table 5.9: Age by category of absenteeism

<table>
<thead>
<tr>
<th>Category of absenteeism</th>
<th>N</th>
<th>Mean</th>
<th>Std deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days sick leave</td>
<td>21</td>
<td>30.190</td>
<td>6.728</td>
<td>21.000</td>
<td>46.000</td>
</tr>
<tr>
<td>1-5 days sick leave</td>
<td>24</td>
<td>35.042</td>
<td>5.849</td>
<td>24.000</td>
<td>50.000</td>
</tr>
<tr>
<td>6-10 days sick leave</td>
<td>19</td>
<td>34.158</td>
<td>8.700</td>
<td>24.000</td>
<td>53.000</td>
</tr>
<tr>
<td>11+ days sick leave</td>
<td>8</td>
<td>34.125</td>
<td>4.486</td>
<td>28.000</td>
<td>41.000</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>33.292</td>
<td>7.012</td>
<td>21.000</td>
<td>53.000</td>
</tr>
</tbody>
</table>

Table 5.9 gives a one-way analysis of variance performed on the means. The f-value was found to be 2.094 with a p-value of 0.107 which represents a nonsignificant result.
at the 0.05 level. The categories of absenteeism do not, therefore, differ significantly with respect to age.

5.3.5 Number of dependants

Descriptive statistics regarding the number of dependants in each of the categories of absenteeism are given in table 5.10.

Table 5.10: Number of dependants by category of absenteeism

<table>
<thead>
<tr>
<th>Category of absenteeism</th>
<th>N</th>
<th>Mean</th>
<th>Std deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days sick leave</td>
<td>20</td>
<td>2.200</td>
<td>1.361</td>
<td>0.000</td>
<td>4.000</td>
</tr>
<tr>
<td>1- 5 days sick leave</td>
<td>24</td>
<td>2.208</td>
<td>1.668</td>
<td>0.000</td>
<td>5.000</td>
</tr>
<tr>
<td>6-10 days sick leave</td>
<td>19</td>
<td>2.053</td>
<td>1.433</td>
<td>0.000</td>
<td>4.000</td>
</tr>
<tr>
<td>11+ days sick leave</td>
<td>8</td>
<td>3.875</td>
<td>1.126</td>
<td>2.000</td>
<td>5.000</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>2.352</td>
<td>1.541</td>
<td>0.000</td>
<td>5.000</td>
</tr>
</tbody>
</table>

A one-way analysis of variance was performed on the means in table 5.10 above. The f-value was found to be 3.268 with a p-value of 0.027 which represents a significant result at the 0.05 level. Post-hoc bonferroni tests indicate that the absenteeism category “11+ days sick leave” had, on average, a higher number of dependants than the other absenteeism categories.

The bonferroni p-values of the category “11+ day’s sick leave” with the other categories were as follows:

“11+ days sick leave” and “0 days sick leave”: p = 0.050
“11+ days sick leave” and “1- 5 days sick leave: p = 0.047
“11+ days sick leave” and “6-10 days sick leave: p = 0.027
5.3.6. Distance from work

The table below outlines the distance from work the sample group has to travel.

<table>
<thead>
<tr>
<th>Category of absenteeism</th>
<th>N</th>
<th>Mean</th>
<th>Std deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days sick leave</td>
<td>20</td>
<td>23.40</td>
<td>15.42</td>
<td>3.00</td>
<td>65.00</td>
</tr>
<tr>
<td>1-5 days sick leave</td>
<td>24</td>
<td>21.92</td>
<td>14.44</td>
<td>2.00</td>
<td>60.00</td>
</tr>
<tr>
<td>6-10 days sick leave</td>
<td>19</td>
<td>20.08</td>
<td>14.76</td>
<td>5.00</td>
<td>60.00</td>
</tr>
<tr>
<td>11+ days sick leave</td>
<td>8</td>
<td>28.13</td>
<td>19.81</td>
<td>5.00</td>
<td>65.00</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>22.54</td>
<td>15.29</td>
<td>2.00</td>
<td>65.00</td>
</tr>
</tbody>
</table>

A one-way analysis of variance was performed on the means in table 5.11 above. The f-value was found to be 0.543 with a p-value of 0.654. No significant differences were thus found between the categories as far as distance from work was concerned. The distance an employee lived from his or her work did not seem to relate to the degree of absenteeism.

5.4 THE 16PF AS A PREDICTOR OF ABSENTEEISM

The main hypothesis of the current study concerns the relationship of the 16PF factors with degree of absenteeism. The descriptive statistics for each factor are given in table 5.12
<table>
<thead>
<tr>
<th>Factor</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>72</td>
<td>2.00</td>
<td>16.00</td>
<td>10.14</td>
<td>3.21</td>
</tr>
<tr>
<td>B</td>
<td>72</td>
<td>2.00</td>
<td>10.00</td>
<td>6.21</td>
<td>1.84</td>
</tr>
<tr>
<td>C</td>
<td>72</td>
<td>.00</td>
<td>17.00</td>
<td>9.83</td>
<td>3.29</td>
</tr>
<tr>
<td>E</td>
<td>72</td>
<td>6.00</td>
<td>19.00</td>
<td>13.14</td>
<td>3.24</td>
</tr>
<tr>
<td>F</td>
<td>72</td>
<td>3.00</td>
<td>16.00</td>
<td>9.35</td>
<td>2.82</td>
</tr>
<tr>
<td>G</td>
<td>72</td>
<td>6.00</td>
<td>18.00</td>
<td>13.40</td>
<td>2.75</td>
</tr>
<tr>
<td>H</td>
<td>72</td>
<td>.00</td>
<td>16.00</td>
<td>10.39</td>
<td>3.97</td>
</tr>
<tr>
<td>I</td>
<td>72</td>
<td>4.00</td>
<td>18.00</td>
<td>10.86</td>
<td>3.68</td>
</tr>
<tr>
<td>L</td>
<td>72</td>
<td>6.00</td>
<td>20.00</td>
<td>12.83</td>
<td>3.86</td>
</tr>
<tr>
<td>M</td>
<td>72</td>
<td>2.00</td>
<td>20.00</td>
<td>12.51</td>
<td>3.54</td>
</tr>
<tr>
<td>N</td>
<td>72</td>
<td>11.00</td>
<td>24.00</td>
<td>18.07</td>
<td>3.21</td>
</tr>
<tr>
<td>O</td>
<td>72</td>
<td>1.00</td>
<td>16.00</td>
<td>7.72</td>
<td>3.35</td>
</tr>
<tr>
<td>Q1</td>
<td>72</td>
<td>5.00</td>
<td>20.00</td>
<td>12.51</td>
<td>3.15</td>
</tr>
<tr>
<td>Q2</td>
<td>72</td>
<td>.00</td>
<td>18.00</td>
<td>6.42</td>
<td>4.12</td>
</tr>
<tr>
<td>Q3</td>
<td>72</td>
<td>6.00</td>
<td>18.00</td>
<td>13.65</td>
<td>2.79</td>
</tr>
<tr>
<td>Q4</td>
<td>72</td>
<td>1.00</td>
<td>17.00</td>
<td>7.42</td>
<td>3.49</td>
</tr>
<tr>
<td>MD</td>
<td>72</td>
<td>1.00</td>
<td>10.00</td>
<td>6.46</td>
<td>2.14</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In table 5.13, the sample group's mean scores are compared to the sten scores of the norm table of the SA92 using the General/combined norm table. What is interesting is that the sample group's sten scores differ on a number of factors: A, B, F, G, H, I, L, M, N, Q1, Q2, Q3 and MD.
<table>
<thead>
<tr>
<th>Factor</th>
<th>SA 92 Mean</th>
<th>Sten</th>
<th>Sample group Mean</th>
<th>Sten</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8.69</td>
<td>5</td>
<td>10.14</td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>8.40</td>
<td>5</td>
<td>6.21</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>10.41</td>
<td>5</td>
<td>9.83</td>
<td>5</td>
</tr>
<tr>
<td>E</td>
<td>12.41</td>
<td>5</td>
<td>13.14</td>
<td>5</td>
</tr>
<tr>
<td>F</td>
<td>10.50</td>
<td>5</td>
<td>9.34</td>
<td>4</td>
</tr>
<tr>
<td>G</td>
<td>11.99</td>
<td>5</td>
<td>13.40</td>
<td>6</td>
</tr>
<tr>
<td>H</td>
<td>9.21</td>
<td>5</td>
<td>10.39</td>
<td>6</td>
</tr>
<tr>
<td>I</td>
<td>12.59</td>
<td>5</td>
<td>10.86</td>
<td>4</td>
</tr>
<tr>
<td>L</td>
<td>11.65</td>
<td>5</td>
<td>12.83</td>
<td>6</td>
</tr>
<tr>
<td>M</td>
<td>12.06</td>
<td>6</td>
<td>12.51</td>
<td>6</td>
</tr>
<tr>
<td>N</td>
<td>16.03</td>
<td>5</td>
<td>18.07</td>
<td>7</td>
</tr>
<tr>
<td>O</td>
<td>7.98</td>
<td>5</td>
<td>7.72</td>
<td>5</td>
</tr>
<tr>
<td>Q1</td>
<td>10.75</td>
<td>5</td>
<td>12.51</td>
<td>6</td>
</tr>
<tr>
<td>Q2</td>
<td>9.80</td>
<td>5</td>
<td>6.42</td>
<td>3</td>
</tr>
<tr>
<td>Q3</td>
<td>11.38</td>
<td>5</td>
<td>13.65</td>
<td>6</td>
</tr>
<tr>
<td>Q4</td>
<td>8.67</td>
<td>5</td>
<td>7.42</td>
<td>5</td>
</tr>
<tr>
<td>MD</td>
<td>4.50</td>
<td>3</td>
<td>6.46</td>
<td>7</td>
</tr>
</tbody>
</table>

The following is a graphical view of the profile of the sample group. It is clear that the sample group has the distinct profile in terms of the following elements of the 16PF:

- B  Concrete
- F  Serious
- I  Tough minded
- N  Unpretentious
- Q2 Group dependent
5.4.1 Correlation of 16PF factors with category of absenteeism

It was shown previously that the biographical variables, marital status (married or living together versus single) and number of dependants are related to the degree of absenteeism. It was thus necessary to consider the effect of these two biographical variables and the effect of their possible interaction on absenteeism as possible nuisance variables when exploring the 16PF’s correlation with absenteeism. Provision was made for the possible interaction between marital status (reduced to a dichotomous variable) and number of dependants by creating a variable as the product of these two. The zero-order correlations and the partial correlations (controlling marital status, number of dependants, and the interaction between these two) are given in table 5.14.
<table>
<thead>
<tr>
<th>Factor</th>
<th>Category of absenteeism (zero-order correlations)</th>
<th>Category of absenteeism (partial correlations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Pearson correlation</td>
<td>.125</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.297</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>B</td>
<td>Pearson correlation</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.996</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>C</td>
<td>Pearson correlation</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.904</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>E</td>
<td>Pearson correlation</td>
<td>.079</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.507</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>F</td>
<td>Pearson correlation</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.995</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>G</td>
<td>Pearson correlation</td>
<td>.059</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.623</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>H</td>
<td>Pearson correlation</td>
<td>.131</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.272</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>I</td>
<td>Pearson correlation</td>
<td>-.031</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.795</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>L</td>
<td>Pearson correlation</td>
<td>-.025</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.837</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>72</td>
</tr>
<tr>
<td>M</td>
<td>Pearson correlation</td>
<td>-.069</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>N</td>
</tr>
<tr>
<td>----</td>
<td>----------------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>.563</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>.269</td>
<td>65</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td>.257(*)</td>
<td>72</td>
</tr>
<tr>
<td>Q2</td>
<td>-.214</td>
<td>72</td>
</tr>
<tr>
<td>Q3</td>
<td>.127</td>
<td>72</td>
</tr>
<tr>
<td>Q4</td>
<td>-.126</td>
<td>72</td>
</tr>
<tr>
<td>MD</td>
<td>.131</td>
<td>72</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

The fourth column in the table contains the partial correlations between the category of absenteeism and the 16PF factors with the variables controlled are marital status, number of dependants and the interaction between them.

The zero-order correlations highlighted in table 5.14 are noteworthy, although small. The correlation between Q1 (openness to change) and the category of absenteeism is positive, which means that the more open to change a security officer is (as
opposed to traditional --- less open), the more that security officer tends towards absenteeism. The reverse relationship was found between Q2 and category of absenteeism. Those security officers who score low on this scale (self-sufficiency [group dependant]), tend towards higher absenteeism. The negative correlation between Q2 and absenteeism indicates that the less self-reliant the security officer is, the more inclined towards absenteeism that security officer tends to be. When the partial correlations are considered, the results remain essentially the same, namely, that the correlation between the 16 PF factors does not influence the absenteeism results in a significant manner.

5.5 CONCLUSION

In this chapter, the results of the statistical procedure were outlined and discussed. The aim of the empirical study was to investigate those factors that impact on employees and their reasons for being absent from work. Furthermore, the aim of the empirical study was to determine if there are specific personality traits that are present with those employees that are frequently absent from work.

The biographical information indicates that those employees who are dependant and who are married tend to be absent from work more frequently than their fellow employees. In terms of personality traits, it was found that there is a correlation between factors Q1 and Q 2.

From the analyses above it appears that absenteeism is associated only with marital status and number of dependants. It would be interesting to explore whether the number of dependants has an effect on degree (category) of absenteeism irrespective of whether the person is married (or living together) or single. The categories of absenteeism are separately correlated to the number of dependants for married (as well as those living together) and single groups. For the single group, the correlation was found to be small and insignificant \((r = 0,008; p = .967)\), but significant and positive for those living together (which included the marital group) \((r = 0,332; p = 0,039)\). The relationship between number of dependants and the degree of absenteeism thus depends on the marital status of a person. A variable to represent
the effect of this interaction between marital status and number of dependants was created as the product between the latter two.

The model “degree of absenteeism = marital status + number of dependants + interaction effect” was tested and it was found that a stepwise regression procedure selected only the “marital status” variable.

The gender groups were equally represented in the sample. The largest ethnic group represented in the sample was blacks followed by whites. In general, only marital status (whether the employee is single or married) and number of dependants was related to the degree (category) of absenteeism. It appeared that married employees (and those living together) tended towards more absenteeism than single employees. It was also found that those employees with higher levels of absenteeism, tended to have more dependants. A possible interaction effect between marital status and the number of dependants was explored by correlating the degree of absenteeism to the number of dependants for the marital group separately. A significant correlation was found for the marital group (which included the group “living together”), but not for the single group --- indicating that the relationship between absenteeism and number of dependants depends on marital status.

The findings will be investigated in the next chapter and compared with the literature. The chapter will conclude with suggestions about possible future research.
CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter gives a summary of the findings of this research. It also includes a summary of the literature survey and the empirical study. The chapter will underline the objectives of the research, summarise the conclusions reached in terms of the analysis of the concept "absenteeism", and conduct an analysis of absenteeism and the job profile of an Aviation Security Officer. The chapter will conclude with a summary of the results of the empirical investigation and give possible limitations and recommendations for further research.

6.2 OBJECTIVE OF THE RESEARCH

The research objective was undertaken to investigate if personality traits and biographical factors are predictors of absenteeism. The study was conducted with 72 Aviation Security Officer at the Airports Company of South Africa. In chapter 1, the following four specific aims were set:

(1) Can the concept "absenteeism" and its causes be analysed, conceptualised and the impact of biographical factors understood within the work context of the Aviation Security Officer?

(2) Can the construct "personality" be analysed and described within the context of the Aviation Security Officer?

(3) Can the relationship between personality and biographical factors in absenteeism be studied empirically?

(4) Can recommendations be made regarding personality and biographical factors in absenteeism with regards to the selection criteria of employees?
Based on the research objectives, the following conclusions can be made regarding the study.

6.3 SUMMARY AND DISCUSSION OF CONCLUSIONS

This discussion is structured in terms of the above-mentioned aims. The conclusions based on the literature study will be discussed first, followed by a discussion of the empirical study.

6.3.1 Conclusion on the analysis and conceptualisation of absenteeism

Knowledge of the factors causing absenteeism is critical so that one can develop a strategy to manage the problem both from an organisational and individual perspective.

Two broad categories of absenteeism can be defined from the literature, namely, microclimate factors and macroclimate factors. Microclimate factors focus on personality, career and organisational factors, while macroclimate factors focus on economic, socio-cultural, ethnic and medical conditions.

If the study of Steers and Rhodes is used as a basis, the following factors can be seen to impact on levels of absenteeism within the sample group: the ability to attend will be positively related to the frequency of absenteeism that is attributed to family issues. In terms of the sample group, some individuals have dependants to support (e.g., aged parents or extended members of the family who are unemployed). The study shows quite clearly that those Aviation Security Officers who are married and who have dependants are more inclined to be absent from work.

The ability to attend will be positively related to the frequency of absenteeism that is attributed to transportation problems. Aviation Security Officers within the sample group travel long distances to work due to the geographical location of the airport. This factor did not, however, have any significant impact on absenteeism and is thus disregarded.
An employee’s age, however, acts as an indicator of motivation to attend. The ages of the respondents in the sample group were between 21 and 53; the largest number (58%) falling into the age category of 28 to 36 years. The age group, 24 to 36, has the highest percentage of absenteeism.

During the research, an attempt was made to examine the long-term, dismal origins. Most of the theories that were studied had a mix of these types as no single cause was identified. The author argues that the problem absentee gives rise to an absence problem that then leads to poor services delivery and to financial implications for the company. Personality traits may also play a role in employees being absent from work. The problem of absenteeism amongst Aviation Security Officers was further analysed further by investigating biographical aspects related to age, marital status, distance from work and number of dependants supported.

The above only highlights the fact that care must be taken during a selection process. Those individuals that are more informed are more inclined to experiment when looking for solutions to problems; they are also more inclined to enjoy work involving critical analysis. Those individuals who are more happy working alone tend to be absent from work more frequently.

6.3.2 A critical analysis of absenteeism and the job profile of an Aviation Security Officer

The definition of personality has different meanings for different researchers, but the essence of the construct “personality”, according to Cattell, is that which makes it possible to predict what a person will do in a given situation.

It is also important to define traits and to determine what the possible sources or causes of behaviour are. Traits can be defined as a description of characteristics and consistent behaviours that explain the structure of personality. It is clear from the research that Cattell’s 16PF can be used to predict personality traits for prospective employees so as to ensure that they match the requirements of the job. The focus of this research was the identification of personality traits that would predict the traits necessary for working under difficult conditions (coping/burnout and stressful working
conditions). The research shows that a high C score (ego strength), a low I score (tough minded) and a low O (self-assured) score are essential if the Aviation Security Officers are to cope with the pressures of their jobs.

Based on the research and an understanding of the challenges faced by these Aviation Security Officers, this researcher believes that the following personality traits are essential in they are to cope with the challenges of their job. These personality traits will result in a reduction in the level of absenteeism experienced by the company. The following six personality traits have been selected based on an analysis of the literature:

1. **High factor C**: Emotionally stable --- an individual that has the personal ability to withstand verbal abuse by passengers will cope better with their work on a daily basis.

2. **High factor E**: Dominant --- an individual who is self-assertive and who has self-confidence will not easily allow the work environment to upset him or her.

3. **Low factor F**: Sober --- the individual who is serious and precise about the work that has to be done, might experience feelings of anxiety and shyness at times.

4. **High factor G**: Conscientious --- the individual who has perseverance, determination, responsibility and who is emotionally mature, will cope with the daily challenges of the work environment.

5. **Low factor I**: Tough minded --- this individual is self-reliant, accepts responsibility and acts on the basis of practical and logical evidence.

6. **Low factor O**: Self-assured --- the individual who is resilient, tough, calm and robust will deal with the challenges of the work environment.
6.3.3 Conclusion on the result of the empirical investigation

The focus during the empirical study was first to describe the empirical objectives of the study and then the personality traits that lead to high levels of absenteeism amongst Aviation Security Officers. As a starting point, the sample group was described in terms of age, number of dependants, distance travelled to work, marital status, gender and ethnic origin.

The measuring instruments, the 16PF and the biographical questionnaire, were described. The 16PF was described in terms of its development, rationale, and description of the test, the scales of the test instrument, administration, reliability and validity of the instrument. The chapter was concluded with a description of the statistical methods that were used during the study. The ages of those in the sample group varied from 21 to 53 years of age. The largest number of respondents, namely, 42 (58%) fell into the age category 28 to 36 years. The age group, 24 and 36 years of age, seems to have the highest percentage of absenteeism (8.3% and 9.7%).

In terms of the number of dependants being supported by the sample group, it was clear from the results that at least 85 percent have dependants who one or another form of support. The majority of the sample group have between two and four dependants; the largest percentage has four dependants. The research shows that both married and single respondents have dependants who need care.

Based on the analysis, it is clear that the sample group is evenly split in terms of being married or single. Once the “living together” group result was added to the “married group”, this group represents a huge percentage of the sample group, namely, 54 percent. The distance traveled to work was between 2 and 65 kilometers, with an average distance of 22 to 23 kilometers. The group was evenly split as far as gender was concerned; 34 percent were male and 38 percent were female.

The aim of the empirical study was firstly to investigate the factors that have an impact on employees and their reasons for being absent from work. Secondly, the study aimed to determine if there are specific personality traits that are present in those employees who are frequently absent from work. The biographical information
indicated that those employees with dependants and those who are married tend to be more absent from work more frequently than their fellow employees. In terms of personality traits, it was found there is a correlation with factors Q1 and Q2. The correlation between Q1 (openness to change) and the category of absenteeism is positive, which means that the more open to change a security officer is (as opposed to traditional --- less open), the more that security officer tends towards absenteeism. The reverse relationship was found between Q2 and category of absenteeism. Those security officers who score low on this scale (self-sufficiency [group dependant]), tend towards higher absenteeism. The negative correlation between Q2 and absenteeism indicates that the less self-reliant the security officer is, the more inclined towards absenteeism that security officer tends to be.

From the analysis of the sample group, it appears that the degree (category) of absenteeism was associated only with marital status and number of dependants. And one may clearly expect these two variables to be correlated. There is a correlation between the categories of absenteeism and the number of dependants for both married (and living together) and single people. The relationship between number of dependants and the degree of absenteeism thus depends on the marital status of a person. A variable to represent this interaction between marital status and number of dependants was created as the product between the latter two. The results in the study is supported by Burton, Chen, Conti, Pransky & Edington in their study indicating that as the demand for care giving time increases, caregivers reported a significant increase in work limitations.

It is clear that gender (male and female) did not have any significance in terms of absenteeism for the sample group. One would have expected females to be absent more frequently from work due to the dual role they play in society (i.e. mother/spouse and financial supporter of the family). But this seems not to be the case. The literature has two views, in the study conducted Thomas & Thomas gender had no significant effect on absenteeism, the study conducted by Ichono & Morett indicated higher absenteeism among female workers.
In terms of the result, those individuals who are married (inclusive of those living together) are more inclined to be absent than individuals who are single. This could be because of pressure within the relationship or because of the need to care and support the family financially. These additional responsibilities could add to the anxiety experienced by the employee --- noncoping behaviour may thus manifest within the work environment. This result is supported by the work conducted by Barmby, Orme & Tremble that indicated that the incidence of absenteeism appears to be determined by gender and marital status.

In general, only marital status (whether the employee is single or married) and number of dependants relates to the degree (category) of absenteeism. It appears that married employees (and those living together) tend more towards absenteeism than those employees who are single. It was also found that those employees with higher levels of absenteeism tend to have more dependants. A possible interaction effect between marital status and the number of dependants was explored by correlating the level of absenteeism to the number of dependants for the marital groups. A significant correlation was found for the married group (which included the group “living together”), but not for the single group --- indicating that the relationship between absenteeism and number of dependants depends on marital status. The number of dependants thus has a direct impact on absenteeism.

Age does not have any significant impact. It is interesting to note that the percentage of absenteeism was higher for the age group 24 to 36. If it is linked to the previous point, number of dependants, one could argue that this age group’s level of absenteeism may be linked to the number of dependants supported. Alternatively, these individuals are unable to keep up with the demands of the workplace, which results in absent behaviour. This result is supported by the work conducted by Martocchio that indicated that age did not play a significant part in absent behaviour.
The model “degree of absenteeism = marital status + number of dependents + interaction effect” was tested and it was found that a stepwise regression procedure selected only the variable “marital status”. In terms of gender, groups were equally represented in the sample; the largest ethnic groups were blacks followed by whites.

The result is supported by the study conducted by Lambert, Camp, Edward & Saylor which indicated no statistically significant difference in level of absenteeism between White staff members and staff members who were another race than Black or White.

6.4 LIMITATIONS

The following limitations of the research have been identified:

The research was conducted with 72 Aviation Security Officers situated at Johannesburg International Airport. The sample group could have been increased to include other International Airports in South Africa, thereby ensuring a bigger sample population. By increasing the sample group, the results could have highlighted other personality factors that might have an impact on absenteeism.

The measuring instrument that was used was one of many that could be used to predict personality. Based on the constant debate regarding the cultural fairness of the 16PF (SA92), it may be argued that this instrument is not culturally fair, and that another instrument should have been used.

6.5 RECOMMENDATIONS FOR FURTHER RESEARCH

Based on the result of the research, the following recommendations are made regarding further research into the causes of absenteeism:

By using a different personality profile instrument, researchers may be able to determine any correlations between the outcomes found in this study and the outcomes of using another personality instrument.
Additional research might be able to determine if individual motivation influences absenteeism within the work context.

Additional research might be able to determine if organisational stressors, such as the work environment, relationship with peers and challenges of the job have an impact on absenteeism.

Additional research might be able to determine if the role played by the immediate supervisor has any significant impact on absenteeism. If the supervisor were to follow a more participative approach, would absenteeism decrease? This should be compared to a more militaristic approach.

Finally it would be interesting to explore whether the number of dependants has an effect on degree (category) of absenteeism, irrespective of whether a person is married (or are living together) or single.
### Appendix 1

**Scoring key for the 16PF, SA92**

*Human Sciences Research Council, 1992*

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<table>
<thead>
<tr>
<th>Factor</th>
<th>High scoring response</th>
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<tbody>
<tr>
<td></td>
<td>a</td>
</tr>
<tr>
<td>A</td>
<td>33 65 97 129</td>
</tr>
<tr>
<td>B</td>
<td>3 68 98 132</td>
</tr>
<tr>
<td>C</td>
<td>5 37 70 102</td>
</tr>
<tr>
<td>E</td>
<td>8 40 71 103 134 136</td>
</tr>
<tr>
<td>F</td>
<td>41 42 105 137</td>
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<tr>
<td>G</td>
<td>12 43 76 107 139</td>
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<tr>
<td>H</td>
<td>13 45 108 140</td>
</tr>
<tr>
<td>I</td>
<td>15 47 78 110 142 143</td>
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<tr>
<td>L</td>
<td>18 49 80 81 113 114</td>
</tr>
<tr>
<td>M</td>
<td>20 21 52 84 115 146</td>
</tr>
<tr>
<td>N</td>
<td>53 54 86 117 118 149</td>
</tr>
<tr>
<td>O</td>
<td>25 56 57 120 151</td>
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<tr>
<td>Q1</td>
<td>26 58 90 153 154</td>
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<tr>
<td>Q2</td>
<td>60 61 91 123 155</td>
</tr>
<tr>
<td>Q3</td>
<td>62 94 125 158</td>
</tr>
<tr>
<td>Q4</td>
<td>32 64 96 160</td>
</tr>
<tr>
<td>MD</td>
<td>12 31 62 125 139</td>
</tr>
</tbody>
</table>

Factors A, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3 and Q4 as items scored A = 2 B = 1 C = 0; c items scored A = 0 B = 1 C = 2

Factor B

All items scored A = 1 B = 0 C = 0; b items scored A = 0 B = 1 C = 0; c items scored A = 0 B = 0 C = 1

MD Scale

a items scored A = 1 B = 0 C = 0; c items scored A = 0 B = 0 C = 1
REFERENCES


