A QUALITATIVE INVESTIGATION INTO THE RELATIONSHIP BETWEEN THE EARLY CAREER EXPECTATIONS, AND EXPERIENCES, OF GRADUATE ENGINEERS IN A SOUTH AFRICAN UTILITY ORGANISATION

Submitted in compliance with the requirements for:
Masters degree in Organisational Psychology,
University of Cape Town, South Africa

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2001

The financial assistance of the National Research Foundation (NRF) Technikon program is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and are not necessarily to be attributed to the NRF.

ABSTRACT

This research examines the relationship between the work expectations, and experiences, of graduate engineers during their early career period. The theories of organisational socialisation, reality shock and work adjustment define the context in which this research is located. Qualitative data were obtained through in-depth interviews with sixteen subjects with less than five years work experience, employed in a utility organisation in the Western Cape. Results indicate that subjects experience significant incongruence between their expectations of work and work experiences. Through a process of qualitative data analysis three major themes were identified where incongruence was experienced, namely, content of work, context of work and general career issues. The results are interpreted and discussed in light of existing research in the field of Organisational Psychology.

ACKNOWLEDGEMENTS

Sincere thanks are offered to:

The management of Koeberg Nuclear Power Plant who granted permission for this study to be conducted amongst their staff.

The sixteen subjects who agreed to form the sample for this study and responded willingly during the interviews.

Suki, my supervisor, for patient guidance and moral support.

Hilary, for painstaking retyping of this document and friendship.

Tom, my husband, for constant support, encouragement and numerous hot dinners!

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INTRODUCTION

This research investigates the relationship between work expectations and experiences of engineers during their early career stage. Attention is given to the identification of those aspects of work life where incongruence between expectations and experiences is encountered, together with individual work adjustment responses. The research adopts a qualitative investigation into the topic, which reveals a holistic, coherent representation of the work life-world of young engineers from their personal perspectives.

Structure of Thesis

This document is structured in five distinct chapters. Chapter One offers a review of the literature and research available surrounding the stages of organisational socialisation which include organisational entry, reality shock and work adjustment.

Chapter Two details the qualitative research methodology employed in the current research. Chapter Three presents the results obtained in this research whereas Chapter Four offers analysis, interpretation and discussion of the findings in light of acknowledged theory and research.

Finally, Chapter Five offers recommendations to organisations, training institutions such as universities, and young graduating engineers themselves. It is hoped that these recommendations will facilitate the transition of individuals into their early work environment. This chapter also includes limitations of this study and suggestions for further research.

Context of Research

The current research is located within the field of Career Psychology, a sub-field of Organisational Psychology. The concept 'career' has evolved from the belief that an individual pursues vertical promotion along a well defined career path to a current understanding that a career consists of a lifelong sequence of work experiences (Schreuder & Theron, 1997). The implication of this shift in understanding of the concept 'career' for individuals is that careers have to become more protean and demand increased individual responsibility for their development (Hall & Mirvis, 1995, as cited in Schreuder & Theron, 1997).

This research investigates the relationship between the early career expectations and experiences of young engineers in a large utility organisation. Work is considered a vital part of adult life and in order to create a sense of personal well being, work experiences should be satisfying to the individual (Dubin, 1992, as cited in Schreuder & Theron, 1997).

Research into this area is therefore important to establish if the individual expectations of subjects in this study are congruent with their experiences.

South Africa is a developing country with a limited pool of professionally qualified individuals. The Human Sciences Research Council estimated that the demand for engineers will increase by 40% in the years 1998-2003 (Ludski, 2001). Over the past decade the number of students registering for engineering degrees at South African universities has declined from 2420 students in 1990 to 2161 in 1998. The number of students achieving engineering degrees in recent years has decreased from 1570 in 1994 to 1345 in 1998 (Engineering Council of SA). This, despite a dramatic increase in the number of matriculants during the same period. In 1997, 95 immigrants in the category 'engineers and related technologists' arrived in South Africa and 372 left. In 1998, 77 immigrated into the country and 337 left (Institute of Race Relations Yearbook, 1999/2000).

These statistics suggest that significant pressure is being placed on organisations to attract and retain engineers who are a valuable human resource in this country. Yet organisations in South Africa report unacceptably high turnover figures amongst young engineers. In the organisation where the present study was conducted, concerted attempts have been made to attract and retain graduate engineers, particularly those who are from previously disadvantaged backgrounds. However, even this organisation reports turnover figures for this particular group in excess of thirty percent per annum during their first five years of employment.

In order to address this problem, it is critical that the early career stage during which experiences are absorbed, is understood and carefully managed both by the individual and the organisation. The quality of the management of this process can ultimately affect the levels of productivity of staff, commitment, level of job satisfaction, absenteeism and turnover rates as well as psychological well being.

Emery (1963, as cited in Savery, 1987) suggests that there are six psychological requirements that individuals require in their jobs. These include a need for variety, the opportunity to learn, some autonomous decision making, social support and recognition, a link between work and social life as well as the opportunity for the job to lead to a desired future (Emery, 1963 as cited in Savery, 1987). Satisfaction of these psychological requirements in the individual has positive outcomes for the organisation in the form of higher productivity, higher organisational commitment and lower turnover (Savery, 1987). This research explores the experience of work and consequent psychological well-being of

individuals by establishing the extent to which their early work expectations are met in reality in a South African organisation.

The early career stage, which typically encompasses the first few years of permanent employment, is a critical phase for both the individual and the organisation as first impressions are often lasting ones (Schein, 1978). Perceptions formed by both parties contribute to attitude formation which manifests itself in work behaviours. Research has shown that early job challenge can have positive long term results (Schreuder & Theron, 1997). The belief on the part of the individual that they are making a meaningful contribution to the organisation early in their career leads to feelings of self worth and self respect which manifest in motivation and organisational commitment (Cohen, 1991).

The issues of individual expectations, organisational socialisation, reality shock and work adjustment provide the basis for the current research. Research has already been conducted in these fields specifically amongst engineers in America, the United Kingdom and South Africa (Keenan & Newton, 1986; Breakell, 1991; Le Roux, Scheepers & Lessing, 1997). However, most of the research recorded has been quantitative in nature. That is, one or two particular constructs were selected and their relationship to career entry issues investigated (Breakell, 1991; Le Roux et al., 1997). The very foundations of work adjustment theory are grounded in the fact that individual work personalities within a specific work environment result in unique work adjustments (Dawis & Lofquist, 1984). For this reason, the current research project employs a qualitative approach in which the relationship between individual expectations and experiences of work life are explored in order to establish the nature of these two constructs and how the individual copes with any incongruence between them.

The following chapter reviews salient literature and research in the field.

CHAPTER ONE – LITERATURE REVIEW

This chapter reviews the literature and research outcomes within which the current research is located. It identifies the theory currently in use and sets the theoretical context for this study.

Section 1.1 details various theories of *organisational socialisation* and the outcomes of this process. Section 1.2 reviews one of the salient features of organisational socialisation, *reality shock*, which is the overall experience of the individual when they encounter the unexpected in the workplace (Dean, 1982). Section 1.3 records the research and findings in the field of *work adjustment* which suggest that individuals vary in their behavioural responses to reality shock (Dawis & Lofquist, 1984). A summary of the chapter is offered in Section 1.4.

1.1 ORGANISATIONAL SOCIALISATION

Organisational socialisation takes place during the immediate post-entry period of newcomers to organisations. It is described as the fusion process of matching the person to the organisation and includes both the organisation's socialisation of the newcomer and the newcomer's personalising of the organisation (Bakke, 1953 as cited in Wanous, 1980). A variety of organisational socialisation strategies exist but they all aim to precipitate internal changes within the individual which result in internal commitment to the organisation rather than just compliance with organisational practices (Wanous, 1980). The process of organisational socialisation is well documented and a number of theorists have offered models to explain sequential stages of the process, some of which are based on the passage of time, others on the occurrence of certain events.

In this section five theories of socialisation are reviewed (1.1.1). Thereafter the outcomes of socialisation are discussed (1.1.2).

1.1.1 Theories of Organisational Socialisation

The first four theories reviewed below, Feldman (1976); Buchanan (1974, as cited in Wanous, 1980); Porter-Lawler-Hackman (1975, as cited in Wanous, 1980) and Schein (1978) all offer three stage models of the socialisation process. Wanous (1980) combines their collective contributions and offers a fourth stage to identify whether socialisation has been achieved.

Feldman

Feldman (1976) proposed a three stage model of socialisation. Stage one, *Anticipating Socialisation* (getting in), is characterised by the degree to which the expectations of both

individuals and organisations are realistic. It also concerns the congruence (matching) of the individual and the organisation. Feldman (1976) postulates that the more realistic the expectations and the higher the congruence, the easier the transition from outsider to insider will be.

Stage two, *Accommodation* (breaking in), is composed of four events. Firstly, being initiated onto the job. The individual's ability to perform will have a strong influence on self esteem. Secondly, being initiated into a group of fellow employees and their level of acceptance. Thirdly, the full definition of the newcomer's role in the organisation, and finally, the congruence between self evaluation of worth and the evaluation of the organisation (Feldman, 1976).

The third stage is labelled *Role Management* (settling in) and is typified by the resolution of two conflicts. The resolution of work demands with private demands beyond the workplace and the resolution of various conflicts within the workplace (Feldman, 1976).

Buchanan

Buchanan (1974, as cited in Wanous, 1980) also identified three stages of socialisation. Stage one, which he labelled *Basic Training and Initiation,* focuses on the establishment of role clarity for the individual and cohesion with a peer group (similar to Feldman, 1976). The first stage also encompasses concerns with how one's peer group relates to the rest of the organisation, the degree to which expectations are met and the challenge provided by the job. Buchanan (1974, as cited in Wanous, 1980) also includes the resolution of loyalty conflicts in this stage, unlike Feldman (1976) who classifies these in a later stage.

In stage two, Buchanan (1974, as cited in Wanous, 1980) includes years two to four of the early career. Important events for the individual in this stage include the degree to which one feels important to the organisation, the extent to which the organisation reinforces one's self-image, the resolution of conflict between the need for achievement and fear of failure, and finally the development of sensitivity to the organisational norms of commitment and loyalty. Buchanan's (1974, as cited in Wanous, 1980) third stage is very broad, including all experiences from the fifth year onwards.

Porter-Lawler-Hackman

A further three stage model of socialisation is offered by Porter-Lawler-Hackman (1975, as cited in Wanous, 1980). Stage one (*arrival*) centres around the newcomer's personal values and expectations. Stage two (*encounter*) focuses on the emergence of discrepancies between values and expectations and reality. These authors suggest that the organisation responds to the newcomer in one of three ways depending on the congruence of

expectations and reality. Either the organisation offers positive reinforcement to the newcomer in terms of those expectations which are met, or non-reinforcement is offered by ignoring certain expectations, or punishment is meted out to newcomers who engage in unacceptable behaviours.

Stage three of this model is labelled *change and acquisition* wherein four changes occur for newcomers. The individual's self image alters, new relationships are formed, new values are adopted and new behaviours are acquired (Porter-Lawler-Hackman, 1975 as cited in Wanous,1980). Schein (1978) also contributed a three stage model of entry-socialisation-mutual acceptance to describe the sequence of events that typically confront a newcomer to the organisation.

Schein

Schein's (1978) approach is somewhat different from the aforementioned theorists in that he distinguishes between the events and tasks from an individual viewpoint as well as an organisational viewpoint. The first stage, *entry*, is characterised by four problems that require resolution, including obtaining accurate information in a climate of mutual selling and the creation of unrealistic expectations on both the part of the individual and the organisation. The creation of incorrect images of the organisation during recruitment and the incorrect organisational choices made by individuals based upon that information are two further problems during this stage (Schein, 1978).

During the second stage of Schein's model, *socialisation,* the individual has to face various tasks from accepting the reality of human organisations, coping with co-workers and learning how to cope with unanticipated structure. The organisation has to consider whether the individual will fit in and make a valuable contribution (Schein, 1978).

The third stage, *mutual acceptance*, is actually a post socialisation stage where the transition from outsider to insider is recognised by the organisation in the form of a performance appraisal, salary increase or even a promotion. The individual also signifies acceptance of the organisation by remaining, being enthusiastic, doing extra tasks and similar indications (Schein, 1978).

Wanous

Wanous (1980) expands these four theories to provide a four stage framework for understanding socialisation in order to include a stage which indicates the completion of the process. Without repeating all the individual tasks listed above, he identifies the four stages as sequential as the individual moves from confronting and accepting organisational reality,

to achieving role clarity, to locating oneself in the organisational context and finally to detecting signposts of successful socialisation (Wanous, 1980).

Comparison of Organisational Socialisation Theories

All of the five theories explained thus far (Feldman, 1976; Buchanan, 1974 as cited in Wanous, 1980; Porter-Lawler-Hackman, 1975,as cited in Wanous, 1980; Schein, 1978; Wanous, 1980), identify common challenges faced by newcomers to organisations. These challenges include locating one's role in the organisation with respect to the tasks assigned and other individuals in the organisation; and reconciling one's personal expectations of the workplace with the reality of work experiences. The theories suggest that the process of organisational socialisation is comprised of sequential stages through which the individual passes.

The theories differ around the order in which challenges are faced and the time frame attached to the various stages in the process. Furthermore, Schein (1978) includes expectations from the organisational viewpoint, unlike the other theorists (Feldman, 1976; Buchanan, 1974 as cited in Wanous, 1980; Porter-Lawler-Hackman, 1975 as cited in Wanous, 1980; Wanous, 1980).

All these theories describe the phases and activities of the socialisation process. However, there have been few empirical studies which identify the critical variables of the socialisation process or specify how they operate. Likewise, the outcomes of socialisation and which variables determine whether individuals attain these outcomes have not been explored fully.

1.1.2 Outcomes of Organisational Socialisation

Successful socialisation implies that the work experiences of the individual are congruent with their expectations. This section describes some of the issues which impact upon achieving successful socialisation.

Process variables

Feldman (1976) went beyond his three stage descriptive model of the socialisation process to offer some insight into which variables influence whether individuals proceed through socialisation smoothly and attain positive outcomes from the process. In his *anticipatory stage* of socialisation, Feldman (1976) identifies two process variables that indicate progress during this stage, namely realism and congruence. *Realism* is the extent to which individuals have a full and accurate picture of what life in the organisation is really like. *Congruence* is the extent to which the organisation's resources and individual needs and skills are mutually satisfying (Feldman, 1976).

During the second, *accommodation stage,* he identifies four process variables that indicate progress, namely, initiation to the task, initiation to the group, role definition and congruence of evaluation. His third stage notes two important process variables, namely, the resolution of outside life conflicts and the resolution of conflicting demands on the job (Feldman, 1976).

Four variables are identified as possible outcomes of socialisation by Feldman (1976). These include general satisfaction, mutual influence, internal work motivation and job involvement. In his research amongst employees at a community hospital, interviews and questionnaires were used to obtain ratings on the eight process variables and four outcome variables.

The results indicated that socialisation programs often do not achieve the outcomes expected from them. However they do influence general satisfaction of workers and feelings of autonomy which consistently relate to decreased turnover and absenteeism. None of the variables commonly associated with the socialisation process had any influence on either internal work motivation or job involvement. These findings correlate strongly with the theory of motivation posited by Herzberg (1959, as cited in Feldman, 1976). That is, socialisation processes function like hygiene variables in that they correlate highly with the quality of the work environment and not with the work itself. The intrinsic nature of work correlates with motivation (Feldman, 1976).

Uncertainty Reduction Theory

Further research on socialisation outcomes was conducted with respect to the role that communication plays in the process. Mignerey and Rubin (1995) suggest that Uncertainty Reduction Theory (URT) offers a theoretical framework for understanding *assimilation* into the organisation This interactionist approach to the assimilation process considers the reciprocal impact of the newcomer's psychological orientation and the organisation's influence. Particular attention was paid to the role of communication and feedback during the socialisation phase as influencers of outcomes.

The study contained three main groups of outcomes or outcome variables, namely organisation, communication and uncertainty. Organisational outcomes were measured by assessing employee role orientation and organisational commitment. Communication outcomes were measured by assessing employee levels of communication satisfaction. Outcomes related to uncertainty were tapped through measures of attributional confidence and role ambiguity (Mignerey & Rubin,1995).

The results supported past research in one aspect particularly, namely, that the availability and helpfulness of socialisation practices influence job satisfaction and commitment and

lower role ambiguity. Organisational commitment, communication satisfaction and role orientation are influenced by organisational and individual antecedents, which then affect information seeking behaviour. Newcomers who actively sought information and became critically involved during early employment were more likely to assume an innovative role profile within the organisation (Mignerey & Rubin, 1995). One of the individual antecedents to socialisation that has been explored is that of *anticipation* on behalf of the newcomer (Holton & Russell, 1997).

Anticipation

Holton and Russell (1997) explored the construct of new employee anticipation within a model of newcomer socialisation as applied to recent graduates from an American university. They define anticipation as a global cognitive and affective orientation toward a job caused by individual differences and environmental circumstances (Holton & Russell, 1997). Anticipation is expected to influence newcomer enthusiasm to participate in socialisation processes and subsequent socialisation outcomes. Socialisation was conceived in terms of three newcomer perceptions of their new environment, namely, the job; employer; and, the organisational entry process. The emphasis in exploring anticipation was not on what graduates had wanted or hoped for but rather on what they had anticipated receiving (Holton & Russell, 1997).

The results revealed that anticipating one's job accurately prior to employment had a strong relationship with socialisation processes and outcomes. Specifically, it was found that low-anticipation newcomers report lower job satisfaction, commitment, work motivation, job involvement and psychological success. Graduates who anticipated their jobs, perceived organisations as being more receptive to them, jobs as more challenging, having greater control over their work, more influence on the organisation and understood the culture better. Also, graduates who had not anticipated their current jobs reported lower levels of satisfaction with the transition, greater stress and more difficulty with the transition (Holton & Russell, 1997).

Individual differences

Salary and career expectations were investigated from another angle amongst students at an American Mid-Western university (Heckert & Wallis 1998). The research explored the possibility that first year students had higher expectations than senior students and different expectations could be identified between male and female students.

Results revealed that senior students do have moderated, more realistic expectations of salaries than first years. However they did not differ on anticipated job satisfaction, the utility

of their education or the criteria they would use in considering future job offers. Women expected significantly lower starting salaries than men, but this difference disappeared amongst those considering higher degrees. However the men and women did not differ on anticipated job satisfaction, the utility of their education or the criteria for selecting jobs (Heckert & Wallis, 1998).

The organisational socialisation process has varying degrees of impact on individuals. It takes place each time an employee enters a new working environment but tends to have its greatest impact upon young adults entering their first 'real' job. If the experience is shocking, that is to say, the reality of working life compared with the expectations held by the individual comes as a complete surprise it is labelled 'reality shock' (Hughes, 1958 as cited in Schein, 1978). The next section explores literature around reality shock.

1.2 REALITY SHOCK

Reality shock occurs when a new employee's expectations, established prior to joining an organisation, differ significantly from what is expected (Dean, 1982). Hughes (1958, as cited in Schein, 1978) believes that this reality shock experience is the most salient feature of entry into one's first major job. This section reviews research into reality shock during socialisation (1.2.1), antecedents to reality shock (1.2.2); coping with reality shock (1.2.3) and the outcomes of coping with this issue (1.2.4).

1.2.1 Reality Shock during Organisational Socialisation

Once the individual has joined the organisation, Dean (1982) maintains that he/she is essentially faced with two decisions: the decision to participate and the decision to produce. These decisions are based on the net value to members for their continued participation and contribution to the organisation. That is, the individual continues to participate and produce so long as the inducements or outcomes received are greater than what the individual contributes to the organisation. Dean (1982) further suggests that the extent of reality shock experienced during the organisational socialisation process acts as an antecedent to organisational commitment.

Organisational socialisation, in this context, is viewed as consisting of two phases: pre-entry socialisation when perceptions are formed; and, post-entry socialisation when the employee actually experiences the job and the employing organisation. Prior to joining the organisation, the individual has formed an impression of what the organisation expects from its members and has some idea of what the members can expect from the organisation (Dean, 1982).

These expectations are classified according to job content, job context, and career issues (Dean, 1982). When expectations have been set at levels consistent with later work experience, reality shock will be diminished. The socialisation process is recognised as the major cause of reality shock (Dean,1982).

Steers (1977, as cited in Dean, 1982) proposes that the antecedents of organisational commitment are the personal characteristics of the individual as well as the job experiences. Dean (1982) argues that whilst personal characteristics such as age, education and need for achievement may influence expectations, they are assumed to be stable and unaffected by the organisation. Thus, such characteristics may influence the organisation's selection decision but are not influenced by the organisation during entry (Dean, 1982).

Evidence of reality shock emerged from the research conducted amongst young graduates in the accounting and engineering professions (Carvello, Copeland, Hermanson & Turner, 1991; Keenan & Newton, 1986).

Research amongst young professionals

Research concerning the gap between student expectations and accounting staff experiences in the accounting profession revealed evidence of reality shock (Carvello et al., 1991).

Carvello et al. (1991) investigated the differences between expectations and experiences in three distinct categories: job duties and responsibilities; advancement, training and supervision and personal concerns. In the category, job duties and responsibilities, expectations and experiences were found to be highly congruent in terms of the technical, computer and interpersonal skills required for the job. However, as far as benefits and attributes of the accounting profession were concerned, expectations consistently exceeded experiences. Student expectations of adequacy of time to complete assignments were higher than realistic and budgetary pressures, a major source of dissatisfaction amongst employees were not anticipated by students (Carvello et al., 1991).

Expectations were significantly higher than experiences in the category advancement, training and supervision. Furthermore, notable differences occurred again in the last category, personal concerns. In particular, expectations regarding the observation of ethical practices were unmet. The results go on to suggest that these differences in perceptions would cause dissatisfaction amongst staff accountants (Carvello et al., 1991).

The current research is loosely based on this study by Carvello et al. (1991). The qualitative research interviews used in the present research focused questions in the three categories

used by Carvello et al. (1991), namely the nature of duties and responsibilities, the nature of supervision and training received and personal concerns. Comparable outcomes of research conducted within the engineering profession were found in the United Kingdom (Keenan & Newton, 1986).

Research was conducted around the attitudes and early experiences of young engineers in the United Kingdom with the emphasis on their work aspirations as they enter their first full time job after graduation (Keenan & Newton, 1986). In particular, issues pertaining to the work itself rather than the work context were explored.

It was found that the majority of individuals gave high priority to being able to exert influence over others, to work on their own initiative and to obtain esteem from others in their first job. Little interest was expressed in the management aspects of engineering work. The results indicated that aspirations were largely unmet. Notable discrepancies existed between the desire to apply their knowledge and the opportunity to do so as well as the opportunity to make friends and to have a prestigious job (Keenan & Newton, 1986). Similar results were reported in a recent internet survey.

Engineers in the United States of America were asked in a survey run by the Electronic Engineering Times (1994) whether their careers had gone as expected. Seventy-eight percent responded 'no'. In particular the aspects which had created the greatest 'surprises' for engineers were, in order from most to least, job security, respect (the lack of) and salary.

A year later a survey was conducted again by the Electronic Engineering Times (1995) to establish what engineers want from their careers. In summary, the responses included a desire for professional development, higher salaries, flexibility of work hours and to be treated with respect. The issue of job security was important for older individuals. Younger respondents expressed the view that their marketability remained their own responsibility (Electronic Engineering Times, 1995).

A later electronic survey investigating graduate engineer expectations revealed that expectations are still high (Costlow, 1999). Students report expecting high salaries, challenging work and the employers' attitude towards personal time will be a determining factor in accepting employment offers (Costlow, 1999).

In order to meet employee expectations with respect to rewards, Wah (1998) maintains that traditional compensation packages and concepts such as 'a job for life' are no longer acceptable. Employees view themselves as partners in business improvement and expect

rewards in the form of incentive compensation, stock ownership, creative development opportunities and lateral career movement (Wah, 1998).

The following section reviews research conducted into the sources or antecedents of reality shock.

1.2.2 Antecedents to Reality Shock

The research reviewed thus far indicates that individual expectations of work serve as antecedents to reality shock. This section reviews literature which offers sources for the formation of expectations (Dean, 1982). It also considers the suggestion that values, rather than expectations, provide antecedents to reality shock (Greenhaus, Seidel & Marinus, 1983; Dose, 1997).

Expectations

Job expectations can be described as individual beliefs about job outcomes which Dean (1982) separates into three categories: job content expectations, job context expectations and career expectations. The first two relate to the actual work performed and the climate within which it is performed whilst the third relates to further career mobility (Dean, 1982).

At least four major sources of expectations during pre-entry socialisation have been identified (Dean, 1982). These include societal stereotypes, childhood experiences, professional training and organisational entry experiences during recruitment and selection. An organisation has little or no influence over the first two sources and only occasionally over the third. However, job candidates have been found to actively form expectations during organisational entry which influence their decision to participate in the organisation (Dean, 1982).

Individual and organisational expectations

It is important to recognise that expectations do not only stem from the individual but also the organisation. Furthermore, expectations do not only concern what one party expects to receive but also what they expect to give. Thus four sets of expectations need to be matched: what the individual expects to receive, what the individual expects to give, what the organisation expects to receive and what the organisation expects to give (Kotter, 1973). This is significant because it suggests that individuals take responsibility for their expectations and recognise that the onus does not rest exclusively upon the organisation for the satisfaction of their needs.

Surveys by Schein (1964, as cited in Schreuder & Theron, 1997) revealed that early career needs that require satisfaction include task orientation, ego orientation, autonomy and

competence. These are thought to be satisfied if the new employee perceives opportunities for advancement, status and prestige, responsibility, challenge, opportunities to be creative and to use special aptitudes as well as high salaries in their jobs.

Schein (1964, as cited in Schreuder & Theron, 1997) also notes *organisational expectations* of new employees including competence, acceptance of organisational realities, possession of a range of skills, loyalty and commitment, high personal integrity and the capacity to grow.

It is beyond the scope of this research project to investigate organisational expectations of individuals. However, they can, to some extent, be inferred from the tasks set for employees and the work environment created for the performance of tasks. Whilst it is evident that both individuals and organisations can generate lists of expectations of each other, the process is of little use unless they are mutually communicated.

Psychological Contract

Schein (1978) posits that a psychological contract needs to be established for the purposes of exchanging expectations. He suggests that this is an implicit contract enacted through various symbolic and actual events (Schein, 1978). Kotter (1973) suggests that this contract be more explicit and found that where contracts were established with matches in individual and organisational expectations, new employees had a more satisfying and productive first year and remained longer with organisations than those whose contracts had fewer matches (Kotter, 1973). Implied contracts offer a general notion of the other party's expectations but are insufficient according to Knapp (1980).

Knapp (1980) warns that organisations desirous of attracting top candidates are often less than truthful about prospective job obligations. Furthermore, employers are in more powerful positions than interviewees and the onus rests with the organisation to provide a climate where the individual can discuss freely their personal expectations of the job role (Knapp, 1980). Knapp's (1980) research was conducted within the accounting profession. It resulted from personally observing symptoms of poor assimilation into organisations as first noted by Kotter (1974). Typical amongst these symptoms were a gradual decrease in creativity and energy exhibited by new employees, complaints from managers concerning new employee naivete and abnormally high turnover rates up to fifty per cent (Kotter, 1974 as cited in Knapp, 1980).

Values

A job expectation usually refers to a person's belief that he or she will obtain an outcome (or a specific level of an outcome) on a particular job (Greenhaus et al., 1983). Job expectations are realistic to the extent that they are subsequently confirmed or met on the job. It is assumed that if expectations are met, job experiences are perceived as satisfying and vice versa (Greenhaus et al., 1983).

However, Locke (1976, as cited in Greenhaus et al., 1983) distinguishes between expectations (beliefs) and values (what a person wants or desires in a job) and suggests that it is the attainment of an employee's values, not necessarily the confirmation of expectations, that produces job satisfaction (Locke, 1976 as cited in Greenhaus et al., 1983).

Values are described as outward expressions of individual needs as preferred qualities sought by people in work and other activities (Super, 1970 as cited in Yates, 1990). Work values are noteworthy because they involve the relationship between internal needs and the resulting motivation to act upon the environment to satisfy those needs (Super, 1957 as cited in Yates, 1990).

Values rather than expectations

Greenhaus et al., (1983) investigated the possibility that values are greater influencers in the attainment of job satisfaction than expectations and found support for the argument. They assumed that a person brings a relatively stable set of values to a job situation. A realistic forewarning that job values will not be attained may enable a person to prepare for the disappointment and engage in coping behaviour (Ilgen & Seely, 1974; Locke, 1976; Wanous, 1980 as cited in Greenhaus et al., 1983). In other words, realistic expectations may activate effective coping behaviour and produce greater satisfaction than if the lack of value attainment had come as a surprise. To this end, Greenhaus et al. (1983), propose that realistic job previews provide a valuable tool for deflating initial job expectations to more realistic levels.

Realistic job previews in themselves may impact upon the individual's perception of the organisation. If the individual is given some honest negative information about the proposed job, the organisation may be viewed as open and an attitude of trust towards the organisation is engendered. Realistic expectations regarding the task appear to have an effect on task satisfaction for individuals whose subsequent tasks are relatively inconsistent with their values. However, realistic expectations have relatively little impact on task satisfaction when individual's task related values are ultimately attained on the job (Greenhaus et al., 1983).

It appears that realistic expectations can promote satisfaction only when a subsequent job situation is sufficiently aversive to demand some form of preparation and coping (Greenhaus et al., 1983). Expectations develop from needs which in turn emerge from values.

Value dimensions

A variety of needs or expectations that an individual may have of their work environment such as recognition, achievement, security or creativity can be classified into six value dimensions based upon importance (Dawis & Lofquist, 1984).

These value dimensions include achievement, comfort, status, altruism, safety and autonomy and can be grouped according to the source of reinforcement for them (Dawis & Lofquist, 1984). The values of safety and comfort are reinforced by the environment, the values of status and altruism are reinforced by social factors and the values of achievement and autonomy are reinforced by the self. Together with abilities, values are seen as a major element of the work personality structure discussed earlier (Dawis & Lofquist, 1984). Conceptually similar, is the contribution of Super (1970, as cited in Dose, 1997) who identified work goals to produce a Work Values Inventory and Pryor (1979, as cited in Dose, 1997) who identified work preferences resulting in the Work Aspect Preference Scale.

Although labelled differently, as goals, needs or preferences, all appear to measure similar constructs. Dose (1997) expanded upon the subject of work values by incorporating the concept of ethics.

Values framework

Dose (1997) postulates that values can be assessed within a framework along two dimensions: moral versus preference and social versus personal. In summary, preference values are simply subjective choices with no moral component of right or wrong. Social values are those held collectively by a certain culture and personal values are individualistic in nature. Thus values may be held personally or socially and may or may not have a moral element (Dose, 1997). She further proposes that by understanding which work values are important to individuals and how they are classified within the framework, will inform how and in what circumstances, newcomers will adopt the values of their organisation or work groups during the socialisation process (Dose, 1997).

Specifically Dose (1997) contests, that work values classified as social values will be more susceptible to influence during the socialisation process than those classified as personal preference values. Socialisation efforts on the part of the organisation are also unlikely to be effective if the moral values of the organisation and the individual are in conflict (Dose, 1997). Furthermore, the question is raised whether it is necessarily in the interests of the

organisation that individuals do adopt and conform with every aspect of the organisation's values as this could negate creativity on the part of the individual (Dose, 1997).

One aspect ignored thus far is the consideration that values, like needs and expectations may shift with age. Moral values are likely to remain stable but personal values, subject to social pressure, may manifest different needs over time.

Values Scale

Yates (1990) applied the Values Scale (Super & Nevill, 1982, as cited in Yates, 1990) to different occupational and career stage age groups. He found that amongst 18-25 year olds, greater emphasis was placed upon values such as physical activity, advancement and social interaction and less emphasis on autonomy and working conditions (Yates, 1990). This suggests that individuals in the early career stage will display expectations from their work environment which provide satisfaction for these values.

Whether one labels the antecedents to reality shock, expectations or values, the consequence for the newcomer to the organisation, of incongruence between their anticipated work experiences and reality, is that they have to learn to *cope* with reality shock.

1.2.3 Coping with Reality Shock

By definition, the concept reality shock, suggests that individuals are surprised by a variety of entry work experiences. Louis (1980, as cited in Breakell, 1991) developed a model which describes the processes by which individuals detect and interpret surprises (sense making). The model suggests that sense making can be seen as a recurring cycle made up of a sequence of events over time. The cycle begins as individuals form unconscious and conscious anticipations or assumptions. Subsequently, individuals experience events which differ from predictions. Such events, or surprises, trigger a process through which they are interpreted and given meaning. Attributed meanings give rise to the selection of behavioural responses and the revision of predictions about future experiences (Breakell, 1991).

Meaning is assigned to surprise as an output of the sense making process. The inputs which individuals rely on when attributing meaning to surprise include their past experiences with similar situations and personal characteristics such as a predisposition to attribute causality to self as well as information from others (Breakell, 1991). Dean (1982) upheld the view that individual factors are not influenced by the organisation, however Breakell (1991) suggests that they do contribute to coping behaviour.

On the assumption that all individuals experience surprises upon entry into organisational life, that the formal characteristics of coping behaviour are the same for all individuals and

that coping behaviours are learned, Breakell (1991) postulated that past similar work experiences help individuals to cope with new situations and that individuals are guided in their coping behaviour by personal predispositions.

Breakell (1991) concluded, from his research amongst early career individuals in management positions, that individuals with a high score on hardiness and an attributional style which is described as internal, stable and global, displayed satisfactory coping responses. However, Breakell (1991) went on to acknowledge that the organisational climate within which the individual is expected to cope, plays a significant role in adjustment.

The theories of coping or adjustment proposed by Schein (1978) and Dawis and Lofquist (1984) are supported by Breakell (1991) in that coping behaviour is a function of both individual and situational variables.

Career maturity as a variable contributing to coping with reality shock was explored amongst South African engineering bursars (Le Roux et al., 1997).

Career Maturity

Career maturity is explained as an individual's readiness to cope effectively with the developmental tasks of his/her life stage and readiness to make good choices (Hall, 1979, Sharf, 1992 as cited in Le Roux et al., 1997). Le Roux et al. (1997) investigated the link between career maturity and career expectations, perceptions of job and organisational knowledge.

Findings reveal that students who have high job and organisational knowledge also have higher career maturity. These students know what their future job entails and what their future employing organisations are like (Le Roux et al., 1997). It may be assumed then, that such individuals will probably experience less reality shock upon entering the workplace than those who do not possess organisational and job knowledge and who score low on career maturity.

Ethnic differences were also noted, in particular, black engineering students had higher expectations than whites (Le Roux et al., 1997). Generally speaking engineering students in this research amongst bursars were found to have fairly comprehensive organisational knowledge.

In receiving a bursary to further their studies, these students would have undergone a series of interviews with the sponsoring organisation and have been exposed to a limited extent to the future working environment. Contact with the sponsoring organisation during the study

years is typical of such bursaries and it is highly likely that this contact would have influenced student's perceptions of their future working environment (Le Roux et al., 1997).

The outcomes of coping behaviour manifest themselves in a variety of ways. Of particular value to organisations would be the issues that impact upon organisational performance.

1.2.4 Outcomes of coping with Reality Shock

Breakell (1991) suggests that his findings (as discussed above) are relevant to current problems faced by organisations at present. He maintains that high turnover rates during the first year of employment, employees feeling stifled or complaining about expectations are incidents symptomatic of problems in the organisational assimilation process (Breakell, 1991). In particular the issue of commitment on the part of individuals towards organisations has been explored further (Buchanan, 1974; Cohen, 1991).

Commitment

Buchanan (1974) identified three main issues for researching the immediate task environment which are likely to influence commitment. These include the opportunity to create an initial reference group which offers guidance and reassurance, the quality of the initial work assignment which should be challenging and stimulating and a satisfactory resolution of loyalty conflicts between adhering to one's own values and conforming to those of the organisation (Buchanan, 1974). These findings led to the identification of tasks faced by individuals during stages of the socialisation process which were discussed earlier.

Cohen (1991) postulates that the interest in organisational commitment stems from the belief that it manifests itself in important organisational outcomes, namely turnover, performance and absenteeism. He further argues that the career stage of an individual is a moderator of the relationships between organisational commitment and its outcomes (Cohen, 1991). His research focused on all the career stages and their relationship to commitment. Only his findings with respect to the early career stage are relevant in this review and therefore only these are recorded.

Turnover

With respect to turnover, Cohen (1991) argues that during the early career stage, levels of organisational commitment vary dependent on an individual's opportunities and the availability of attractive alternatives. Thus those in the early career stage face the contradictory tasks of making commitments whilst keeping their options open. He further states that individuals in the early career stage attempt to establish themselves in an interesting job but should the job prove inappropriate they have little hesitation in leaving (Cohen, 1991).

Of all the career stages investigated, the early period of membership proved to be most susceptible to employee's attitudes and consequent intentions to remain or leave. Reichers (1986, as cited in Cohen, 1991) maintains that the antecedents of commitment can be roughly classified into three categories: psychological (expectations, challenge, conflict); behavioural (volitional, irrevocable acts); and structural (tenure in the organisation, accumulated investments/sunk costs). During the early career stage, psychological attachments to the organisation carry the most weight as antecedents to commitments (Reichers, 1986, as cited in Cohen, 1991).

Performance

As far as performance is concerned, a rather weak link exists between this variable and commitment during the early career stage (Cohen, 1991). This is explained by the fact that new employees lack experience and even if committed, their performance is low relative to other career stages containing more experienced individuals. The variables that did impact upon performance during the early career stage were found to be task-environment specific, namely, job satisfaction; role ambiguity; and, intersender role conflict (Stumpf & Rabinowitz, 1981, as cited in Cohen, 1991).

Absenteeism

Task environment variables were also found to impact upon absenteeism during the early career stage as opposed to more general attitudes during later stages. Commitment is viewed as a general attitude and was therefore not found to influence absenteeism during the early career stage (Cohen, 1991). Simply put, the relevance of this research is that enhancing commitment in the early career stage is a valuable way of reducing turnover. However, desirable work outcomes, such as high performance and low absenteeism during the early career stage, would be better addressed in terms of task-environment variables.

In the event that an individual experiences reality shock during organisational socialisation, work adjustment needs to be effected. Each individual's adjustment to work becomes a unique behavioural response reflecting personal factors and environmental factors. The interdependence of these two categories of factors is explored further in the theory and research of work adjustment (Dawis & Lofquist, 1984).

1.3 WORK ADJUSTMENT

This section reviews two main theories of work adjustment (1.3.1). The theory of Dawis and Lofquist (1984) is reviewed in three parts, namely the individual work personality, the work environment and the required work adjustment. Secondly the theory of Hershenson (1996) is reviewed. Complementing the theories of work adjustment is the theory of role adjustment

(1.3.2). Thereafter the relevance of these theories to coping with adjustment is addressed (1.3.3).

1.3.1 Theories of Work Adjustment

Dawis and Lofquist

The theory of work adjustment as advanced by Dawis and Lofquist (1984) is underpinned by the conceptualisation that work is an interaction between an individual and the work environment. The work environment requires that certain tasks be performed and the individual brings to that environment the skills to perform the tasks. In exchange, the individual requires compensation for work performance and certain preferred conditions such as a safe or comfortable workplace. The two fundamental aspects, namely the work personality of the individual and the work environment, deserve expanded explanation.

Work personality

An individual's work personality comprises two elements, personality structure and personality style. *Personality structure* develops over time and remains relatively stable. It includes individual abilities known as skills and individual values known as needs. Personality structure, however does not explain personality in action. When the individual utilises their abilities in the context of their values one can observe *personality style*.

The basic dimensions of personality style derive from the characteristics of responding to the environment. Dawis and Lofquist (1984) label these personality style dimensions celerity (speed of response); pace (energy expended); rhythm (pattern of pace, e.g. stable, cyclical, erratic); and, endurance (length of time of response). Thus work personality comprises the personality structure plus the personality style of the individual (Dawis & Lofquist, 1984).

Work environment

The work environment is that set of stimulus conditions in which work behaviour takes place and has to be considered together with the work personality in order to understand individual adjustment to work. The work environment is typically described from the employee's viewpoint and includes the tasks to be performed, tools used, title, compensation and other similar factors (Dawis & Lofquist, 1984).

To understand adjustment to work, the task requirements must be translated into work personality terms. This includes not only the abilities required to perform tasks but also information about the impact employees can have on modifying their work environment. Also of relevance in this regard, are the stimulus conditions within the work environment which prompt employees to respond. Such stimulus conditions may offer reinforcement for behaviour in the form of incentives or pay to employees. Describing the work environment in

terms of ability requirements and reinforcer patterns offers insight into the *work environment structure* (paralleled to the work personality structure discussed earlier) (Dawis & Lofquist, 1984).

Work environment style is described in terms of the demands for celerity, pace, rhythm and endurance made upon the individual employee (paralleled to the work personality style). Once these four elements, namely work personality structure; work personality style; work environment structure; and, work environment style are established, an assessment can be made in order to understand an individual's adjustment to work (Dawis & Lofquist, 1984).

Work adjustment

Work adjustment is the process of achieving and maintaining correspondence between the individual and the environment in that they interact to the mutual satisfaction of both (Dawis & Lofquist, 1984). This mutual satisfaction manifests itself in tenure whereby the individual continues to work in the environment. Tenure is an outcome of work adjustment and can be predicted from the correspondence of an individual's work personality with the work environment (Dawis & Lofquist, 1984). The outcomes of work adjustment will be discussed more fully later in this chapter.

The current research project is grounded in the work adjustment theory of Dawis and Lofquist (1984). Specifically, attention is given to responses to work adjustment with respect to individual work personality and subjective perceptions of the work environment.

Hershenson

A second important contribution to the theory of work adjustment is proposed by Hershenson (1996), who improved upon his original theory developed in 1981. He posits that there are three interacting domains within the person and their work environment which affect work adjustment (Hershenson, 1996).

Work personality

Hershenson (1996) postulates that there are three subsystems which develop sequentially within the person. First the *work personality* emerges during pre-school years, consisting of the individual's self concept as a worker, their system of work motivation and related needs and values. This is followed, during the school years, by the subsystem of work competencies including physical and mental skills, work habits and interpersonal work skills. Work habits such as neatness, reliability and promptness develop during this phase and interpersonal skills such as responding to supervision are also cultivated. The third subsystem which develops when the individual enters the world of work includes work goals which are partially subject to peer influence. Developed work goals should be clear, realistic

and consistent with the individual's work personality and work competencies (Hershenson 1996). Work adjustment involves the interaction between the subsystems in the individual and the work setting.

Work setting

The *work setting* itself includes three elements: the organisational culture and behavioural expectations; the job demands and skill requirements; and, the rewards and opportunities available to the worker (Hershenson, 1996).

Work adjustment

Work adjustment consists of three components: work role behaviour (involving acting appropriately to one's position in the work setting, which is primarily related to work personality in the person and the behavioural expectation of the work setting); task performance (involving the quality and quantity of one's work output, which is primarily related to work competencies in the individual and the skill requirements of the work setting); and, worker satisfaction (involving gratification from one's work which is primarily related to the work goals of the individual and the rewards or opportunities in the work setting) (Hershenson, 1996).

Any of the three subsystems of the individual could interact with any of the three elements of the work setting thus impacting upon any of the three components of work adjustment. A variety of factors impact upon the individual and the work setting during the development and interaction of the various elements discussed above including the family, school, peer groups as well as cultural, sub-cultural and economic contexts. A number of coping alternatives for dealing with work adjustment are offered by Hershenson (1996) which are discussed later. Suffice at this stage to highlight commonalities and differences between the theories of Dawis and Lofquist (1984) and Hershenson (1996).

Comparing the Theories of Dawis and Lofquist and Hershenson

The primary relationships between work competencies and skill requirements and between work goals and rewards and opportunities of Hershenson (1996) resemble the linkages between abilities and ability requirements and between the needs and reinforcers of Dawis and Lofquist (1984). However differences do exist. Hershenson (1996) does not postulate a definite, exclusive linkage to account for task performance or worker satisfaction as do Dawis and Lofquist (1984). Rather he suggests that any individual subsystem could interact with any element of the work setting to influence any component of work adjustment. Furthermore Hershenson (1996) offers three model components to Dawis and Lofquist's (1984) two.

1.3.2 Role Adjustment

Central to the concept of work adjustment is the adaptability of the individual to new role demands (Schein, 1978; Super, 1980; Ashworth & Saks, 1995).

Multiple Roles

Schein (1978) postulates that a young adult is expected to adjust to multiple new roles relating to work, family and community life, often simultaneously. He suggests that psychological well being is informed by individual coping responses to multi-role adjustment (Schein, 1978)

The early adult period consists of a number of new career tasks to be confronted by the individual including dealing with reality shock, adjusting to work routines, becoming effective quickly, achieving acceptance at work, accepting responsibility, developing special skills, balancing individual needs with organisational demands and deciding whether or not to stay in the organisation (Schein, 1978).

Super (1942, 1992) supports Schein's (1978) concept of multiple roles within life stages. However, he suggests that the successful integration of multiple roles and tasks is a function of the integration of self concepts in occupational contexts (Super, 1942, 1992). Self concepts are the individual's own views of their personal characteristics. They develop through interaction with the environment as the individual fulfils multiple roles. Role-playing is functional and contributes to career adjustment which manifests itself in outcomes which could, in turn, modify self concepts. Both Schein (1978) and Super (1992) suggest that role adjustment is a function of personal determinants such as biological and psychological factors. However, Super (1992) further posits that situational influences, such as the organisation, also impact upon role adjustment in a work context. The concept of roles specifically as an element of work adjustment is explained more fully by Nicholson (1984, as cited in Ashworth & Saks, 1995) and Ashworth and Saks (1995).

Work Role Transition

Careers are often viewed as a sequence of work roles (Morrison & Holzbock, 1980 as cited in Ashforth & Saks, 1995). The concept of sequence implies that a transition takes place as an individual disengages from prior roles and engages in new ones. Work role transitions often require a reorientation of goals, attitudes, identity, behavioural routines, informal networks and sundry other changes. The transition process impacts upon role effectiveness, and the competencies, aspirations and well being of the person (Ashforth & Saks, 1995). Nicholson (1984, as cited in Ashforth & Saks, 1995) argues that work role transitions involve two independent adjustment processes: personal development and role development.

Personal development involves reactive changes in the individual ranging from minor changes in habits to major developments in relationships and self image. *Role development* involves moulding the new role to suit the new role incumbent, ranging from minor changes such as work schedules to major changes in organisational goals. Thus personal development entails adapting oneself to fit the role and role development, the inverse of this (Ashforth & Saks, 1995).

Personal development and role development are combined to create four modes of work adjustment: *replication* (low personal development; low role development) where the individual performs in the same manner in previous jobs or as previous incumbents; *absorption* (high personal development, low role development) where the individual bears all the adjustment; *determination* (low personal development, high role development) where the role bears all the adjustment; and *exploration* (high personal development, high role development) where there is simultaneous change in personal and role attributes (Nicholson, 1984 as cited in Ashforth & Saks, 1995).

Work role transitions theory maintains that role transitions prompt changes in the individual (personal development) and/or changes in the way the individual fulfils the role (role development). Personal development is considered to be a function of the novelty of the role and the individual's desire for feedback, while role development is considered to be a function of role discretion and the individual's desire for control. The theory does not anticipate interactions between these four predictions (Ashforth & Saks, 1995). Research conducted on business school graduates entering their early career phase offered mixed support for this theory (Ashforth & Saks, 1995).

Ashforth and Saks (1995) argue that Nicholson's (1984) model can be enriched by considering newcomer desires that are directly aroused by situational-specific cues and by considering personal and role development as interacting rather than independent processes. They go on to suggest that consideration should be given to the valence of certain personal and role developments and by considering the influence of social referents on role transitions (Ashforth & Saks, 1995). Once again support is given to the theories of Dawis and Lofquist (1984) as well as Hershenson (1996) where work adjustment becomes a function as much of the work environment as of the individual performing the job.

1.3.3 Coping with Adjustment

Central to the current research project is the uniqueness of work adjustment for each individual within a specific work context during the early career period. To summarise the demands of the early career stage, the individual must establish a balance between being

assertive, showing initiative, and being willing to make a contribution on the one hand and being 'junior' or subordinate on the other (Schein, 1978). Finding this balance requires a measure of coping behaviour.

In order to understand how an individual copes with adjusting to a situation so that they experience an acceptable level of congruence between themselves and their environment, individual adjustment style dimensions (flexibility, activeness, reactiveness and perseverance) must be explored (Dawis & Lofquist, 1984).

According to Dawis and Lofquist (1984), tolerance of discorrespondence is described as *flexibility*. If there is a need to increase correspondence with the environment, the individual has two options. Either they change the environment itself, known as *activeness* or they change themselves, known as *reactiveness*. The tolerance of discorrespondence with the environment as evidenced by the length of stay before leaving the environment is termed *perseverance*. These four dimensions apply not only to the individual but also to the organisation. Therefore, both individuals and the organisation need to be assessed in terms of their flexibility (tolerance of discorrespondence) and of their perseverance (how long they can tolerate discorrespondence). Then one can predict whether activeness or reactiveness by either party will result in achieving correspondence (Dawis & Lofquist, 1984).

Assuming that work adjustment is usually made by the individual, not the organisation, Hershenson (1996) offers suggestions for adjustment counselling. The first task of the counsellor and individual would be a thorough assessment to establish if the problem (discorrespondence) arises from work role behaviour, task performance, worker satisfaction or some combination of the three (Hershenson, 1996).

Depending on the nature of the problem, a variety of solutions may be found to increase correspondence. These include counselling to restructure inappropriate expectations, training to improve skills, removing physical or emotional barriers in the work setting that inhibit performance or reassessing the individual's goals in relation to the rewards on offer from the organisation. If correspondence through these measures cannot be achieved, then an alternative work setting that offers greater compatibility with the individual may be the only solution (Hershenson, 1996).

According to Dawis and Lofquist (1984), in order to forecast work adjustment, information is required on needs, reinforcers, task performance and task requirements. Information can be obtained on these components (except task performance) prior to entry into the organisation. A substitute measure, abilities, is used as a potential indicator of task performance when individuals are appointed (Dawis and Lofquist, 1984). It is only post entry into the

organisation that the individual actually encounters the work setting and the extent of correspondence can be gauged.

Individuals during this early career stage are the focus of this research project, those who have recently entered organisations with various expectations and who are now currently experiencing the reality of work. What adjustments, if any, they are having to make, is the research area explored. This post entry period demands of the individual, a process known as organisational socialisation (Schein, 1978).

The link between Organisational Socialisation, Reality Shock and Work Adjustment

Clearly a link exists between the concepts organisational socialisation, reality shock and work adjustment. *Organisational socialisation* is a process through which individuals pass upon entering an organisation for the first time. During this process, the individual attempts to reconcile his/her various expectations with actual working experiences. If a significant difference is encountered and particularly if this difference proves to be a negative one for the individual, then *reality shock* is experienced.

In order to cope with reality shock, *work adjustment* needs to take place on the part of the individual (as the organisation is unlikely to adjust). Adjustments may be external to the individual, such as deciding to leave the organisation, or they may be internal, thus demanding an alteration of initial expectations in order for the individual to establish a measure of congruence between themselves and their work environment.

These three central constructs, namely: organisational socialisation, reality shock and work adjustment provide the core issues addressed in the current research project. They are specifically addressed during the early career stage of the individual.

1.4 SUMMARY

This chapter reviews the salient theoretical literature and research conducted in the field of organisational socialisation during the early career period.

Organisational socialisation is a process consisting of at least three stages during which the individual confronts multiple tasks including locating their place in the organisation and responding to the work and interpersonal demands placed upon them (Wanous, 1980).

Prior to entering the organisation an individual establishes a set of expectations around the world of work, the source of which may include their early life experiences, formal education and the recruitment and organisational entry process (Dean, 1982).

Upon entry into the workplace, the individual often discovers incongruence between their expectations and work experiences and consequently they encounter reality shock (Dean, 1984). Research both in South Africa and abroad suggests that, although well documented, reality shock is still a common phenomenon amongst early career individuals, particularly professionals, who feel that their skills are under-utilised (Keenan & Newton, 1986; Breakell, 1991).

In order to cope with reality shock, work adjustment on the part of the individual is demanded (Dawis & Lofquist, 1984). This adjustment is an internal process which may require a realignment of perceptions and expectations. An inability to adjust may result in feelings of frustration or disappointment which may manifest in unsatisfactory work behaviours or even disengagement from the organisation (Schein, 1978; Dawis & Lofquist, 1984).

The concepts of organisational socialisation, including the establishment of expectations, reality shock and work adjustment, provide the basis for the current research project. The following chapter details the qualitative methodology employed in this study amongst engineers, where their early career expectations compared with work experiences are explored.

CHAPTER TWO – METHODOLOGY

The purpose of this study is to examine the relationship between the work expectations of engineers upon graduation and their work experiences during their early career phase. This chapter details the methodology employed in this research and its application to the present study.

This chapter is divided into six sections, including: 2.1 the philosophy underlying the methodology, 2.2 the unit of analysis, 2.3 data collection methods, 2.4 the data analysis and interpretation techniques employed, 2.5 the quality of the process and results obtained and 2.6 a summary of this chapter.

2.1 PHILOSOPHY UNDERLYING THE METHODOLOGY

The methodology employed in this study is broadly described as *qualitative* research. The goal of qualitative research is to discover patterns which emerge after close observation, careful documentation and thoughtful analysis of the research topic (Maykut & Morehouse, 1994). Qualitative analysis research produces contextual findings rather than sweeping generalisations. The process of discovery is basic to all the philosophic underpinnings of the qualitative approach (Maykut & Morehouse, 1994).

In recent times, intense debate has surrounded the value of qualitative research as opposed to the more dominant approach, that of quantitative research which is grounded in the ontological view that reality is one and can be viewed objectively (Burrell & Morgan,1979). Most of the research reviewed in this study emerged from quantitative research in the field where particular variables were selected for study and their direct causal links to outcomes were measured and analysed.

The present study adopts an alternative approach, because the nature of the information sought is believed, by the writer, to be more suited to the application of qualitative research. Specifically this study focuses on exploring responses to the relationship between personal work expectations and experiences within a specific work context. Therefore in terms of ontology, the nominalist position is assumed which advocates multiple realities where the knower and the known are interdependent (Maykut & Morehouse, 1994; Burrell & Morgan, 1979).

The epistemology of anti-positivism is whole-heartedly supported in this research as it regards the social world as essentially relativistic and assumes it can only be understood from the viewpoint of the individuals who are directly involved in the activities to be studied (Burrell & Morgan, 1979).

By adopting the paradigm of anti-positivism, known as the phenomenological approach, the researcher accepts that values mediate and shape what is understood. Events shape each other and only tentative explanations for one time and place are possible (Maykut & Morehouse, 1994).

In terms of methodology, the ideographic approach is employed which is based on the view that one can only understand the social world of participants by obtaining first hand knowledge of the subject(s) under investigation (Burrell & Morgan, 1979).

The nature of the information sought in this study revolves around personal expectations and experiences. Such information is gleaned directly from subjects who describe their individual perceptions of the work environment and their responses and behaviours within that environment. Thus the nature of information sought in this study justifies the use of a qualitative methodology which is characterised by local groundedness, as data is collected in close proximity to a specific situation (Miles & Huberman, 1994). Furthermore the qualitative approach provides rich, holistic material and is fundamentally suited to eliciting the experiences, attitudes and expectations of individuals as well as their personal responses to the work environment in which they operate.

The underlying philosophy and application of data collection methods, analysis and interpretation are discussed later in this chapter. However it is pertinent at this point to mention that, in order to avoid research bias and fallacies such as aggregation or misspecification, care is taken in this study to ensure that the levels of theory, measurement and analysis remain congruent (Klein, Dansereau & Hall, 1994). This issue is discussed more fully in the next section.

2.2. UNIT OF ANALYSIS

In this study, the unit of analysis is the individuals within the case. Abstractly, a case is defined as a phenomenon occurring within a bounded context (Miles & Huberman, 1994).

The bounded context in the current research a large utility plant situated just outside Cape Town. More specifically, the case can be defined as consisting of graduate engineers under the age of 30 with less than 5 years post graduate work experience, currently employed at the plant.

The level of analysis in this study is that of the individual within the case. That is to say, individuals are researched with respect to their own work expectations and experiences. Van Maanen (1979) suggests that the prime analytic task in qualitative research, is to

uncover and explicate the way in which people in particular settings come to understand and respond to their personal situation.

The present research is located within one organisation which in itself could be classified as a case. Subjects within the organisation constitute cases within this case. Yin (1984) explains this concept, as cases having subcases embedded within them. Single cases are considered to offer vivid and illuminating information and are common in qualitative research (Yin, 1984).

Consistent patterns of responses from subjects are sought, but not aggregated in this study. By considering a range of similar and contrasting cases, a single case finding is better understood and the validity of findings is strengthened (Yin, 1991).

Analysis and interpretation in this research takes place at the individual level, with a view to drawing conclusions which may assist future subjects experiencing similar issues within a similar work environment. As Yin (1991) explains, a theory is a predicted pattern of events which is placed alongside research results to see whether the pattern matches. The theories employed thus in this research are those postulated around organisational socialisation (Feldman, 1976; Schein,1978; Wanous,1980); reality shock (Dean, 1982) and work adjustment (Dawis & Lofquist, 1984).

2.2.1 Sampling Strategy

Various sampling strategies are possible within qualitative research, each with its own purpose (Miles & Huberman, 1994). The present study made use of 'typical cases' which highlight what is normal or average in the research field. Typical cases serve to increase confidence in findings (Miles & Huberman, 1994). During the interviews, mention was made by one of the subjects of two further individuals who would be able to confirm insights. These subjects were then also contacted and included in the sample. Thus snowball sampling was employed to a certain degree. This strategy benefits theory-building analysis (Miles & Huberman, 1994).

The selection of typical cases was informed by the fact that the information sought in this study is the responses and experiences of a sample of young engineers who typically represent a larger population. It is hoped that by documenting their experiences, learning gleaned from the study may be of assistance to other individuals in the future. Thousands of young engineers graduate from South African universities annually and are employed by large organisations. Thus the adjustment to early career issues is a fairly common experience for this segment of the graduate population.

It is intended that the recommendations which emerge from this study (included in Chapter Five of this thesis) be of value to the three parties involved in the transition of individuals into the workplace. Recommendations are offered to organisations employing young graduates, to educational institutions preparing students for future employment and finally to the individuals themselves. It is hoped that by increasing the awareness of all three parties around the issues encountered during the transition phase, the challenge of smoothing the organisational entry of graduates will be met. Not only will this benefit organisations in terms of lowering turnover and increasing organisational commitment on the part of new employees, it is likely to benefit the psychological well being of new employees themselves.

Within case sampling is nested (Miles & Huberman, 1994). That is to say, subjects are narrowly defined within contextual limits. In this study subjects have been selected within the defined age and work experience range, within the field of engineering within one organisation. Furthermore the sampling is theoretically driven. The choice of informants is driven by a conceptual question which, in this case, is individual responses to work adjustment issues (Miles & Huberman, 1994).

To summarise the sampling method, the sampling parameters suggested by Miles and Huberman (1994) are employed. They identify four distinct parameters for sampling definition, namely, the actors, the setting, the event and the process (Miles & Huberman, 1994). These four elements are discussed further with respect to the present study.

Actors

Miles and Huberman (1994) refer to actors as one sampling parameter. These are the individuals or subjects included in the sample. In the present study, the sample consists of fifteen individuals employed at the plant and one who left within three weeks of data being collected for this research.

All the subjects are under the age of 30 and all have less than five years post graduation work experience. All have university engineering degrees, fifteen from UCT and three from other South African universities. A variety of disciplines within engineering is represented including electrical engineers (both light and heavy current), electro-mechanical engineers, chemical engineers and mechanical engineers (half the sample).

The sample consists of fifteen males and one female. The demographic breakdown is ten coloured males, one coloured female, two black males, two Indian males and one white male. A range of religious beliefs is represented. Four individuals are married, two are engaged and the remainder are single. All except two, are Cape Town born and bred.

The researcher contacted each potential subject telephonically. She explained who she was, how she obtained their number (from the Human Resources department), and briefly explained the focus of the study. They were kindly invited to be included as subjects in the study.

Upon acceptance for inclusion, all subjects received written confirmation of the time, date and venue for a personal interview together with a promise of confidentiality. They were also asked in writing to give thought prior to the interview to the topic as explained in the memo (see Appendix A).

Setting

The setting for the present study is the workplace of individuals in the sample. All subjects were chosen from one large organisation in order to ensure that their work environment was consistent. The study is intended to reveal responses to incongruence in the work environment and it was felt that to research subjects from differing environments would lead to contamination of findings which would be unexplainable within the bounds of this study.

Few organisations in Cape Town employ sufficiently large numbers of young graduate engineers to provide a reliable sample worthy of research. The utility plant in this study is one such organisation and agreed to grant access to the researcher.

Situated approximately 20km outside central Cape Town, the organisation is the only nuclear power station in Africa and operates as an independent plant within the national electricity supplier of South Africa, Eskom. The plant produces nuclear power which is fed into the national power grid serving South Africa. Eskom also includes eight other power stations, all coal-fired, in other regions of South Africa.

The plant employs 1100 permanent employees plus 200 full-time contractors. A further 500 – 600 additional contract workers are employed annually for around one month during outage time. This is a period of intensive maintenance work when the plant operations are shut down. Of the 1100 employees, about 100 are engineers, employed in various departments.

Event

The event investigated in the current study is the transition of subjects from the role of student to the role of new employee. This includes exploring the relationship between their expectations of the work environment upon graduation with the reality of their work experiences.

Processes

The focus of enquiry, with respect to process in the current research, is the individual responses made by graduate engineers to their new work environment with the emphasis on their work adjustment behaviours. This includes personal perceptions of the immediate setting which is the workplace, and behavioural responses to the setting.

2.2.2 Sample Ethics

Accepted ethical procedures were adopted throughout this study. Upon obtaining verbal permission to contact employees within the plant with a view to asking them to form part of the study, the researcher gave a written undertaking to the organisation. This undertaking confirmed that confidential information, such as salary scales, would not be sought, and outlined the areas of enquiry of the study. A report of the findings from the study was also promised and delivered to the organisation.

2.3. DATA COLLECTION

This section explains how data for the present study was collected. It includes detailed information on the instrumentation employed, together with justification for the instrument with respect to the underlying philosophy of qualitative research.

2.3.1 Prior Instrumentation

Qualitative research grants the researcher wide latitude with respect to the amount of prior instrumentation demanded (Miles & Huberman, 1994). Prior instrumentation refers to the extent to which the questions used to elicit information from subjects are detailed before engaging with the subject (Miles & Huberman, 1994). A single case study calls for less front-end preparation than a multiple case study, however too little prior instrumentation often results in unfocused interaction with subjects where little valuable data is obtained (Miles & Huberman, 1994).

Miles and Huberman (1994) state that less prior instrumentation is required if the study meets certain validity criteria. These include construct validity (are the concepts well grounded?); descriptive/contextual validity (is the account complete and thorough?); interpretive (does the account connect with the "lived experience" of the people in the case?) and natural (is the setting mostly undisturbed by the researchers presence?) (Miles & Huberman, 1994). In the present study, all four criteria are fully fulfilled. Thus the use of little prior instrumentation is supported.

The interview schedule used, which is discussed fully later in this chapter, was loosely based on a previous, quantitative study (Carvello et al., 1991). This technique of data collection is

referred to as 'the qualitative research interview' (Kvale, 1983, as cited in Hummelvoll & da Silva, 1998).

2.3.2 The Qualitative Research Interview

The task of the qualitative research interview is to gather descriptions of the life-world of the subjects for the interpretation of the deeper meaning of the described phenomena (Hummelvoll & da Silva, 1998).

Life-world is generally understood as the experiential world in which a person lives his or her everyday life. It is shaped by one's earlier and present experiences and makes it possible to interpret one's life as a whole (Bengtsson, 1988, as cited in Hummelvoll & da Silva, 1998). The subject matter of the qualitative research interview is something in the life world of the interviewee and his or her relation to it (Kvale, 1983). In this study, it is not the total life-world that is explored, but rather the part of the life-world that is work related.

The use of the qualitative interview presupposes that the interviewer has empathetic capacity and knowledge of the theme under study. It presupposes that the basis for an authentic dialogue has been established (da Silva, 1995, as cited in Hummelvoll & da Silva, 1998).

Technically, the qualitative research interview is semi-structured, it is neither a free conversation nor a highly structured questionnaire. It is carried through by means of an interview guide that, rather than containing exact questions, focuses on certain themes. The tape recording of interviews and subsequent transcripts constitute the material for further interpretation of meaning (Hummelvoll & da Silva, 1998).

Methodological philosophy of the Qualitative Research Interview

The qualitative research interview is an instrumentation technique grounded in hermeneutic-phenomenology (Hummelvoll & da Silva, 1998).

Hermeneutics is basically the art of interpretation and understanding and is specifically used in the social sciences and humanities. Its aim is to understand everyday skills, practices and experiences in order to find commonalities in meaning (Leonard, 1989, as cited in Hummelvoll & da Silva, 1998).

The use of hermeneutics is a reaction against the tendency of the natural sciences to an ontological-reductionistic view of individuals. Whereas natural sciences are concerned with causal explanations of mankind as an integral part of nature, hermeneutics seeks to

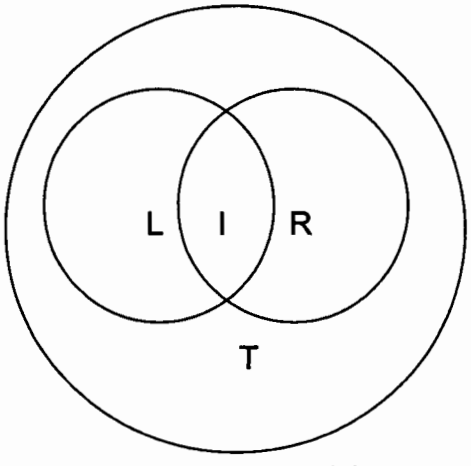
understand individuals as cultural beings comprising body, soul and spirit in interaction with their environment (Hummelvoll & da Silva, 1998).

Phenomenology is concerned with the concept and process of knowledge that is grounded in the subject's viewpoint. Thus an authentic interaction with the subject in order to ascertain how they really perceive and experience their own situation, demands sympathetic understanding by participation on the part of the interviewer (Hummelvoll & da Silva, 1998).

The present study whole-heartedly embraces the hermeneutic-phenomenological approach as a meaningful way to gather information about the early career experiences of young engineers and their personal responses to work adjustment. This is because in-depth interviews with each subject elicited personal, subjective perceptions and behavioural responses from each individual. Each subject had their own story to relate which was richly informed by their family background, cultural beliefs, education and personality. Furthermore, the unique work experiences of each subject with respect to their immediate supervisors, co-workers and department within the organisation added to individual perceptions of the work environment.

Dynamic structures of the Qualitative Research Interview

The qualitative research interview has to be understood within the context in which it takes place. To classify the structural relationships involved in this method, Chaiklin (1993, as cited in Hummelvoll & da Silva, 1998) offers a useful model for the present study. These structural relationships represent the dynamics of the interview and contribute to understanding its deep structure. Chaiklin's model (1993, as cited in Hummelvoll & da Silva, 1998) is applied below to the present study.



Chaiklin's model

The interview takes place in a particular context, namely, at the interviewee's workplace. The inner circle I (interview) represents the relationship and interaction between the

interviewer and the interviewee in the interview situation. This is the near communication context of the interview, which is affected by the circles L (life-world) and R (research). L marks the relationship between what the interviewee expresses in the interview and the many spheres of interaction and activities that exist in her or his life-world. The interviewee is a mediating link between her or his own life-world and the content of the interview. The interview should not be person-oriented but theme-oriented.

In the present study, R represents the relationship between the information collected by the researcher and the specific research topic under study. The information consists of the data that the researcher obtains as an answer to the research question. It is the interviewer who acts as a mediator and uses the content of the interview to illuminate the research problem. R also contains the researcher's own pre-understanding of the research problem, which is a part of her professional life-world.

As a whole, the qualitative research interview is framed by the circle T (theory). The interpretation of the relations between I (interview), L (life-world) and R (research problem) is made in terms of a hermeneutic-phenomenological approach and the knowledge of work adjustment. During the interpretation of this phenomenon, the researcher's professional life-world was used as a horizon of comprehension. Compared to the several descriptions and interpretations of other interviewees, a general understanding of early career work adjustment emerges as it is experienced by the sixteen subjects.

2.3.3 The Interviews

Data for this study was collected through the use of lengthy individual interviews with each of sixteen subjects.

Context

The qualitative research interviews were all conducted by the researcher herself and all but three were held in a small boardroom at the organisation. The remaining three were held in offices at the University of Cape Town campus for the sake of convenience to the interviewees who were pursuing academic interests at the university at the time. The interviews were structured around a broad interview schedule.

Each interview was held in private and permission was obtained from each subject to tape record the conversation and integrate their responses into the findings of the study. This is known as informed consent (Schein, 1987). Interviewees were thanked before and after each interview. They were reminded of the purpose of the study and reassured that they were at liberty to refuse to answer any questions if they wished. (This never occurred.)

Content

The content of the interviews revolved around responses to the core questions explored in the interview schedule (Appendix B). The opening question in each interview was "Why did you decide to become an engineer?" This opening was intended to set the tone for a non-threatening conversation about the individual's career. It was followed by enquiry into where the subject studied, which discipline within engineering was pursued and whether the studies were financed by a bursary or independent funding.

Once the reasons for vocational selection were clear, the interviewer asked a question typically phrased as follows: "You say that you wanted to become an engineer because (summary of interviewee's response) – is that intention being realised now?" or "– is that what you are now doing?" This technique of summarising the interviewer's understanding of responses in order to lead to the following question was used frequently during the interviews to seek confirmation of responses. The response received to this open general question set the route for subsequent questions.

The interview guide focused on three distinct areas of exploration regarding the subjects expectations upon graduation compared with their experiences. These three areas were loosely based on a similar quantitative study conducted in America amongst accountants (Carvello et al., 1991).

The three areas included expectations and experiences with respect to a) the actual nature of the work performed, b) supervision, training and advancement, and c) personal issues including how they feel about their work life.

Depending upon the response received to questions posed earlier, the order in which these issues was explored varied from subject to subject. Interviewees were asked: "Try and think about the time when you graduated and were about to start work full-time for the first time, would you say that your expectations have been met up till now?"

Based on the response received (for example – "definitely not") the interviewer would probe for specific examples or clarification. She asked "In what ways were they not met?" Through a two way conversation with most of the verbalisation coming from the interviewee, all three areas of expectations versus experiences were explored. In addition, issues raised by interviewees were incorporated into the interaction and probed. Gradually the interviewer obtained a rich, holistic picture of the working world from the perspective of each subject.

Clarification and confirmation were obtained periodically through the interview by the use of reflective summaries (Schamberger, 1997). This technique is employed by the interviewer saying: "If I understand you correctly, you are saying ..." or "What I think I'm hearing is ..."

Reflective summaries also gave the interviewer the opportunity to steer the discussion around desired themes. The interviewer also tolerated silences as these pauses for thought give the subject time to add information.

Frequently a word or two in the interviewee's response would offer an opportunity for the phrasing of subsequent questions. For example, if the subject referred to his/her mentor having done or said something, the interviewer would ask: "What do you think of mentoring?" Mentoring was an issue connected to supervision that the interviewer had intended exploring anyway.

This latitude allowed in the ordering of questions produced a free flowing conversation between subject and researcher which engendered trust and resulted in frank revelations on the part of subjects.

Once the three broad areas of expectations and experiences had been covered, the interviewer posed questions intended to elicit information concerning the adjustment of subjects to their work environment.

These questions were loosely based on the theory of work adjustment of Dawis and Lofquist (1984) which was recorded in the literature review. Briefly, the theory advocates that individuals differ with respect to how they cope with work adjustment. These differences manifest themselves in terms of individual flexibility (degree of tolerance of discorrespondence between expectations and experiences) and perseverance (length of time that discorrespondence is tolerated before leaving the environment). The theory also suggests that individuals experiencing discorrespondence will either try to change the environment (activeness) or change themselves (reactiveness).

In order to obtain a sense of the adjustment style of the subjects in this study, questions were posed when responses to prior questions revealed that discorrespondence did in fact exist. Examples of such questions include: "So how did this situation make you feel? or "What happened after that?" or "What helped you deal with this situation?" Responses from subjects revealed whether they took actions themselves to try to alter an unsatisfactory situation (activeness) or whether they learnt to live with it and modify their feelings (reactiveness). Inevitably, deviations from the interview schedule occurred. When it was

apparent that discorrespondence was experienced, perseverance was explored in order to establish the period of time that individuals will tolerate discorrespondence.

The interviews did not all follow two distinct parts with expectations and experiences explored first, followed by work adjustment issues. Often a described discorrespondence would lead the interviewer to ask questions around adjustment straight away before moving onto another area of expectations.

Finally the interviewer asked the subjects what they thought organisations could do to ease the transition from university to work for young engineers. Also what universities could do. They were asked what advice they would give young graduating engineers to help prepare themselves for the reality of work life.

Each taped interview was transcribed to produce a hard copy transcript recording each word during the interview. These transcripts provided the basis for analysis of the data.

2.4 DATA ANALYSIS AND INTERPRETATION

The raw data collected during qualitative research interviews was displayed, analysed and given meaning within a theoretical framework.

The process of qualitative data analysis is fundamentally a non-mathematical analytical procedure that involves examining the meaning of people's words and actions. Qualitative research findings are inductively derived from this data (Maykut & Morehouse, 1994). To analyse means to separate something into parts or elements (Kvale, 1996).

The approach to data analysis followed in the present study is aptly described by Strauss and Corbin (1990, as cited in Maykut & Morehouse, 1994). They offer a view of the researcher who is primarily concerned with accurately describing what she or he has understood and reconstructs the data into a recognisable reality for the people who have participated in the study. This approach is referred to as 'interpretive-descriptive' (Belenky, 1992, as cited in Maykut & Morehouse, 1994).

The interpretive-descriptive approach is relevant for the present study because findings are described and interpreted in terms of existing theory with a view to offering learnings for organisations and individuals in future.

2.4.1 Preparing the Data for Analysis

In order to make sense of all the raw data obtained during the lengthy interviews, typed transcripts, each about 22 pages in length, were compiled and analysed using the following pattern coding steps.

Coding

First level coding is a device for summarising segments of data. Pattern coding is a way of grouping these summaries into smaller sets of themes or constructs (Miles & Huberman, 1994). In the present study as each transcript was read and reread, a short code was written in the margin next to data that could be potentially classified with similar data from other respondents, into a pattern or theme. For example, a response to a question about the expectations of the nature of work performed was labelled EXNW. Subsequent transcripts with similar responses were similarly labelled. To achieve a coherent set of pattern codes, sequential analysis was employed. Repeated readings of transcripts enabled successive waves of condensing data into coherent clusters (Miles & Huberman, 1994).

Data display

A data display is a visual format that presents information systematically, to enable valid conclusions to be drawn (Miles & Huberman, 1994). Data displays rely on various principles of organisation depending on the nature of data collected or the end purpose of the analysis. The organising principle may be time or role or concept (Miles & Huberman, 1994). The present study employs a conceptually ordered display which orders the data according to concept or variable (Miles & Huberman, 1994). Specifically, a conceptually clustered matrix is employed.

A conceptually clustered matrix has its rows and columns arranged to bring together items that 'belong together' (Miles & Huberman, 1994). This matrix is selected because the outcome, that is, the display, is conceptual. It requires that the researcher has some prior ideas about items that derive from theory or relate to the same overarching theme (Miles & Huberman, 1994). This is the case in the present study. The interview guide was compiled with the intention of exploring themes grounded in established theory.

Setting and entering the display

In the present study, the matrix consists of columns which reflect the patterns emerging from the subjects. In establishing how to label each column, the constant comparative method of analysing qualitative data is employed (Glaser & Strauss, 1967, as cited in Maykut & Morehouse, 1994). In this method, as each new unit of meaning is selected for analysis, it is compared to all the other units of meaning and subsequently grouped (categorised). If there are no similar units of meaning, a new category is formed, thus allowing constant refinement or the relabelling of categories (Goetz & Le Compte, 1981, as cited in Maykut & Morehouse, 1994). The rows, numbered 1-16 represent the subjects interviewed in the study. Each cell

entry reflects a summary phrase or quote from the subject which reflects its relation to the central theme or pattern column.

Drawing conclusions

Reading across the rows gives the researcher a brief profile of each subject and provides an initial test of the relationship between responses to different questions (Miles & Huberman, 1994). Reading down the columns enables the researcher to make comparisons between subjects responses. By analysing the information in the matrix, conceptual or theoretical coherence is established (Miles & Huberman, 1994). This is discussed in the next section where the interpretation of data is explained.

2.4.2 Generating Meaning

Once the raw data has been displayed, the primary objective of conducting research demands attention. That is, the data must be analysed and interpreted by the researcher to establish coherent meaning. This section details the approach used in the present study to achieve this objective.

Miles and Huberman (1994) offer a variety of methods or tactics available to the qualitative researcher that may be employed to interpret data. They range from the descriptive to the explanatory and from concrete to more conceptual and abstract tactics (Miles & Huberman, 1994). A selection of these tactics are used in the present study and are detailed here starting with the concrete analysis of noting patterns in the data and culminating at the conceptual level of making theoretical coherence of the data.

Noting patterns or themes

In the present study, during the data display phase, clear patterns began to emerge from the data, in respect of both variables amongst categories of responses as well as processes within a certain context (Miles & Huberman, 1994). Distinct patterns emerged for example, with respect to some of the expectations held by subjects upon graduation. Further patterns could easily be detected in terms of their personal response to an issue within their work environment.

With respect to establishing patterns, the researcher sought added evidence of the same theme from different subjects whilst remaining open to disconfirming evidence, advice offered by Miles and Huberman (1994). In order to generate meaning from results, a researcher uses notions or concepts in order to explain facts that emerge from a study (van Maanen, 1979). It is in this application of theory to data that meaning of results is generated (van Maanen, 1979).

Clustering

Clustering is a general name given to the process of inductively forming categories and the sorting into categories of events, actors, processes or settings (Miles & Huberman, 1994). It is used to better understand a phenomenon by grouping and then conceptualising objects that have similar patterns (Miles & Huberman, 1996). It is the activity of conceptualising the grouped data that takes clustering one step further in analysis than simply noting patterns. In the present study, clusters were employed around events such as common expectations of actors (subjects). Clustering was further employed to illustrate associations amongst processes such as responses to work adjustment.

Counting

Counting, as a term, tends to be associated with quantitative research rather than qualitative. However "a lot of counting goes on in the background when judgements of qualities are being made" (Miles & Huberman, 1994, p253). In the present study, when themes or patterns are identified, they are based on the fact that a number of responses or behaviours occurred consistently. Therefore, in this sense, counting is employed in order to report clear patterns of response from subjects. Whilst actual numbers are not always used, words such as 'most' or 'all' imply that counting as a verifying tactic is used.

Contrasts/comparisons

Drawing contrasts or comparisons between two sets of variables such as persons or events is a classic way of testing a conclusion (Miles & Huberman, 1994). On more than one occasion, contrasts are employed in the present study to offer reasons for differing responses from subjects. Examples of consistent contrasts include different responses from married or single subjects as well as those employed in the nuclear or conventional departments of the plant.

Subsuming particulars into the general

After clustering was employed to group variables together logically, analysis in the present study was taken one step further. Subsuming particulars into more general classes is a conceptual and theoretical activity (Miles & Huberman, 1994). By employing this technique, fewer classes of variables are obtained as a precursor to attaining theoretical coherence. However, it should be noted that in the present study, definitive evidence was obtained in a minority of cases which disconfirmed general patterns of response. Such outlying evidence obviously could not be ignored and required independent analysis.

Making conceptual/theoretical coherence

Finally, the process of analysing and interpreting data in the present study progressed to interpreting the results in light of existing theory in the field. In addition to verifying much of the existing theory in the field, further insights are also offered by the research in the form of recommendations to parties engaged in early work adjustment.

This section has detailed how the data collected in the present study was displayed for analysis and then subjected to specific tactics in order to elicit coherent meaning. In this regard, the logical steps as offered by Miles and Huberman (1994) were followed. These steps included establishing the discrete findings, relating findings to each other, naming the patterns and identifying a corresponding construct (Miles & Huberman, 1994). The following section explains how the concepts of validity and reliability were addressed in the present study and which quality standards were employed.

2.5 QUALITY

The quality of qualitative research is frequently questioned by those who subscribe to the positivist paradigm of research. Qualitatively derived findings are often in doubt (Miles & Huberman, 1994).

As already stated, qualitative research emphasises description, analysis and interpretation. Qualitative analysis attempts to be non-reductionistic and seeks to preserve wholeness and continuity in the phenomenon analysed (Burrell & Morgan, 1979). The researcher has to exceed the description to have a rational understanding of what is studied and thereby give the analysed phenomenon a theoretical basis (Hummelvoll & da Silva, 1998).

2.5.1 Quality of the Research Process

The research process itself must be as free as possible from interviewer bias in order to retain validity (Maykut & Morehouse, 1994).

Interviewer bias

One issue central to the quality of gathering data during the research process is the sensitivity that the researchers must retain to themselves as an instrument of the research (Maykut & Morehouse, 1994). This is critical as the gathering of data through qualitative research interviews is a subjective experience. To aid this sensitivity, the process of 'epoche' is offered as a method by which the researcher suspends personal judgement of the data obtained during the phenomenological investigation in order to retain objectivity (Katz, 1987, as cited in Maykut & Morehouse, 1994).

Validity

Validity means soundness, weight, legitimacy and legally right. It designates that something is credible and reliable and that what is stated really is the case (Hummelvoll & da Silva, 1998). Fundamental to this issue is the concept of inter-subjective validation, that is, a common understanding exists between researcher and subject of what is being investigated. During the data collection phase of the current study, this was achieved by the interviewer constantly presenting her understanding back to the interviewee for confirmation. Thus, validation is part of the research process in the qualitative research interview (Hummelvoll & da Silva, 1998).

Validity of the research process is important in order for reliable conclusions to be drawn. To this end, the researcher in the present study was mindful of employing techniques during the data collection and analysis phases in order to increase confidence in findings.

Primarily these techniques included: checking for representativeness by interviewing a sample of typical cases, checking for researcher effects through awareness of 'epoche' (discussed earlier) and checking the meaning of outliers in the form of periodic exceptional responses to questions. Primary amongst the techniques employed to check if data obtained was valid, was the process of getting feedback from informants (van Maanen, 1979; Miles & Huberman, 1994).

If validity is accepted, as stated earlier, to be the granting of credibility and legitimacy to the existence of a phenomena then the reaffirmation of data content by subjects lends validity to the data. In the present study, summarised findings from information obtained during the interviews was emailed back to respondents for comment. By acknowledging that the summary offered a true reflection of the life-world of a young engineer, validity is granted to the study.

2.5.2 Quality of the Results

Accepting that the process of collecting and recording data is sound does not necessarily lend credibility to the interpretation of data. Miles and Huberman (1994) offer five overlapping issues around the quality of results, all of which have been considered in the present study, including objectivity, reliability, internal validity, external validity and application. Each of these is briefly explained further in respect of the present study.

Objectivity

Essentially, objectivity refers to the question of whether the research process and its results can be assumed to be relatively neutral and free from researcher biases (Miles & Huberman, 1994). The present study addresses this issue by ensuring that the methods and

procedures followed are explicitly described, that conclusions are directly linked with displayed data and the researcher has remained sensitive to any possible contamination of data through researcher biases or assumptions.

Reliability

The underlying issue here is whether the research process is consistent and reasonably stable over time and whether replicated studies would yield comparable results (Miles & Huberman, 1994). Although no two qualitative studies are likely to produce identical results, the researcher took care to ensure reliability by clearly specifying basic paradigms and analytic constructs because reliability depends in part, on its connectedness to theory (Miles & Huberman, 1994). Furthermore data was collected and analysed by the researcher only, which eliminates multiple observer distortion.

Internal validity

Internal validity refers to truth value (Miles & Huberman, 1994). In other words, an assessment of the credibility of the findings. Apart from the fact that context rich descriptions that appear convincing were obtained, two main areas of reassurance in this regard can be noted with respect to the present study. Firstly, the findings are well linked to prior theory and secondly, the conclusions are considered accurate by the original subjects. Both these issues offer strong support for the internal validity of the current research.

External validity

It is necessary to consider whether the conclusions of a study are transferable to other contexts (Miles & Huberman, 1994). In the present study, certain of the unique work environment issues may limit the transferability of the study. For example, the overwhelming 'safety culture' that pervades every decision due to the nature of dealing with nuclear energy.

However, despite this possible limitation, it should be possible to replicate the study in other large parastatal organisations because the processes and outcomes reported, concern work adjustment responses to multiple work environment issues beyond the nuclear one. Furthermore, external validity is enhanced by the fact that a number of findings are consistent with prior theory based on research in different settings.

Application

Finally, studies are considered to have pragmatic validity if their findings lead to intelligent action (Miles & Huberman, 1994). It is hoped that the recommendations offered by the present study will be of value to the three parties indicated, namely organisations, educational institutions and individuals alike. Certainly the recommendations are

intellectually and physically accessible to potential users and do offer suggestions to guide action or at the very least, raise awareness of issues.

2.6 SUMMARY

The methodology employed in this research is qualitative in nature. Although often criticised by supporters of quantitative research, qualitative investigation and reporting has gained in popularity particularly within the social sciences. This is because qualitative research analysis produces contextual findings rather than sweeping generalisations (Maykut & Morehouse, 1994).

The current research investigates the relationship between individual work expectations and experiences. The responses obtained are a function of individual work personalities within a specific work environment. Therefore, qualitative research is ideally positioned to be employed in the current study.

This chapter details the philosophy underlying the choice of this methodology known as the hermeneutic-phenomenological approach, and in particular, the qualitative research interview as a data collection method.

Furthermore, this chapter has recorded the parameters of the sample selected for study and how the sample was obtained. A detailed description is offered of the instrumentation employed, both in terms of content and method of application.

Once the raw data was collected it was displayed, analysed and interpreted. This chapter records in detail the techniques and methods employed from preparing the data for analysis through the use of pattern coding to drawing conclusions, evidenced by patterns and themes which led to theoretical coherence.

Finally, the chapter explains how issues pertaining to the quality of the research have been addressed in the present study. The following chapter records the findings of the study.

CHAPTER THREE – RESULTS

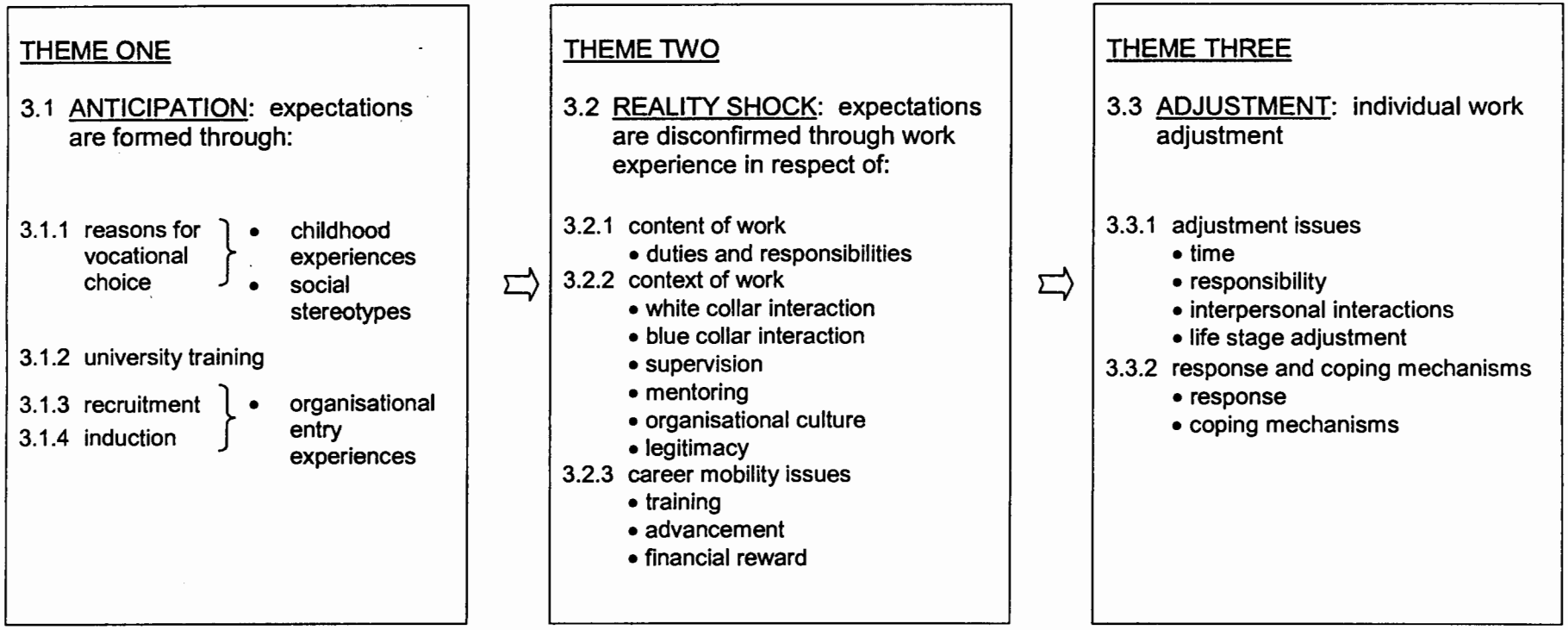
This chapter reflects the results obtained from this research. It is a thematic analysis of the responses given by sixteen subjects during the in-depth interviews. The chapter is structured according to the patterns or themes of responses obtained. Each theme is identified and briefly explained, followed by a summary of the collective responses of the subjects. Direct quotations from individuals are offered in italics in order to illustrate results. Selective quotations are provided, many of which reflect the views of more than one subject.

Three primary themes emerge in this research, each with a number of sub-themes. The first primary theme, 3.1 *Anticipation,* records the various factors which contributed to the formation of individual expectations of work life. These factors or sub-themes include the reasons why subjects decided to become engineers, the university training they received and their organisational entry experiences, such as recruitment and induction.

The second primary theme, 3.2 *Reality Shock*, addresses the period of organisational socialisation when subjects encounter the work place. Their expectations are often not confirmed by work-related experiences. Specifically, the areas or sub-themes in which reality shock is confronted, include, the content of work, the context of work and career mobility issues.

The third primary theme that emerged in this research is that of 3.3 *Adjustment.* Within this theme, two sub-themes are present. These include the various adjustment issues faced by individuals, followed by their coping responses to adjustment. The results of this research are depicted diagrammatically in Figure 3.1.

Figure 3.1 DIAGRAMMATIC REPRESENTATION OF THE RESULTS OBTAINED IN THIS RESEARCH



3.1. ANTICIPATION

The first primary theme to emerge in this study is labelled, *anticipation*. It reflects comment from the respondents around the factors which combined to create their expectations of work life as an engineer. Specifically four significant factors contributing to their anticipation emerged including 1.1.1 their reasons for vocational choice, 1.1.2 university training, 1.1.3 recruitment and 1.1.4 induction.

3.1.1 Reasons for Vocational Choice

Without exception, respondents indicated that their primary motivation to become engineers was a desire to work in a technical field. Most report a childhood interest in mechanical or technical matters and they perceived the nature of their work in future to offer similar opportunities. A desire to understand *"how things work"* and *"to put things together in a different way to make life easier"* reflect a curiosity to explore technical detail. The field is perceived as dynamic and, as one subject said, *"I don't like dealing with stagnant things"*.

Secondary motives for this choice of career include the need for a career that is considered 'professional' and likely to result in good financial reward. One individual expressed his motivation as follows, *"I wanted a more spiritual feeling. I wanted to leave something behind when I'm not there anymore. So its more of a spiritual, emotional type of thing where I contribute to improving the daily life of mankind."*

These ambitions set the stage for subjects to enter university to obtain an engineering degree.

3.1.2 University Training

Whilst at university, the nature of the education received and the content of curriculae created expectations around what engineering as a profession would entail. However, these expectations were not confirmed later when subjects were actually employed in the organisation.

Every single subject felt that their university education had left them under-prepared for the world of work. All report that the theoretical components were more than adequate but *"its not the real job"*. Comments such as *"you use less than 5% of what you learn"* and *"you can write what you use from varsity on the back of a matchbox"* are common. Only one individual, employed directly in nuclear engineering, felt he was applying all his theoretical knowledge.

Two primary areas were cited by all subjects as lacking in university training, namely, practical skills and interpersonal skills. Subjects report feeling inadequate and embarrassed

at their lack of practical knowledge and their inability to apply the theory that they understand, *"I think they should have a course on practical things like how things really work. I think it would be over booked"*. Others felt that it would help *"if we just knew the names of the tools"*.

One subject felt that too much emphasis is placed on the design and appearance of projects and insufficient emphasis on whether the design was feasible, *"Students should be made to test their projects for functionality because that's what counts in the real world"*.

Six subjects commented on their difficulties with interpersonal interactions, particularly when faced with intercultural communication. At university they report *"sticking to their own crowd"* which is not possible in a work situation.

Upon graduation, subjects typically seek employment. The recruitment process provides another opportunity for the establishment of work expectations.

3.1.3 Recruitment

A further factor which emerged as contributing to work expectation formation was the recruitment experience of subjects. It appears that certain expectations are created in the minds of applicants when they read recruitment advertisements, *"You know they advertise the jobs as nuclear, that's what caught my eye – we're to be working at the only nuclear power station in South Africa – that should be cutting edge. Then it slowly sank in – you don't actually work as a nuclear engineer, you're just an engineer at a nuclear power station. So that's misleading 'cos you know, ... nuclear – that's fascinating technology."*

This type of advertising creates expectations in the mind of the young applicant and sets them up for disappointment.

In some cases the recruitment interviews did not take place at the organisation itself. *"I had no idea how different it would be. The first interviews were in Bellville, then here, but not inside so you weren't searched and all that."*

Most of the subjects recalled the recruitment process as one that stimulated excitement towards their new role of employee. However this anticipation was not shared by all subjects. One subject mentioned *"being warned"* during the interview about the slow pace of events in the organisation. He is one of the few individuals happily employed in the nuclear section and only joined the organisation this year. He therefore anticipated slow processes and decided before he joined that he would be able to cope with such a system.

3.1.4 Induction

Within the first primary theme, anticipation, which includes those factors which contributed to the formation of work expectations, a final contributor was identified, namely, induction.

Induction is the period which covers the first few days or weeks after the individual actually joins the organisation. It is intended to ease the new employee into the work environment by orienting and reassuring the individual who may be feeling apprehensive. In the present study, it was found that typically, newcomers attend the General Employee Training (G.E.T.) course for the first two days at work. This course orientates them to the layout of the plant, indicates the 'no-go' areas and outlines the importance of safety. One subject only attended this course after two months at work. Thereafter, new employees are assigned to one or other engineering department.

Seven of the subjects reported high levels of anxiety upon reaching their departments. Not all of these experiences were at the present plant as three started work in other locations. Nonetheless, all felt insecure and inexperienced, *"I was lost, completely lost, I thought, 'how am I going to manage?'"* Another said, *"I didn't have a clue what was going on around me, I was still a dummy."* Four subjects were assigned to departments that did not anticipate their arrival, *"No one knew what I was supposed to be doing, they actually asked me what I was doing there and how long I was supposed to be there."*

This reception served to heighten feelings of alienation amongst individuals. However, once placed within a particular department in the organisation, the subjects settled down to *"work"*. It is at this stage that the second core theme in this research emerges. Labelled *reality shock*, this theme addresses the multiple areas in which subjects' expectations were tested against reality and in many cases, disconfirmed.

3.2. REALITY SHOCK

The second primary theme that emerged in this study reflects the perceptions of subjects in key areas of daily working life. In many cases, expectations are highly incongruent with experiences and *reality shock* ensues. However, a few individuals are satisfied with their early career experiences and thus diverse responses were obtained.

The specific sub-themes addressed in this section include three groups of issues related to 3.2.1 the content of work, 3.2.2 the context of work and 3.2.3 issues pertaining to career mobility. The context of work experienced by subjects in this study encompasses a number of issues, including interpersonal interactions, legitimacy, supervision received and organisational culture. Career mobility issues are addressed through the areas of training, advancement and financial reward.

3.2.1 Content of Work

This sub-theme of reality shock addresses the actual daily tasks expected of young engineers, that is, *the content of work*. Of the sixteen subjects interviewed, ten report major dissatisfaction with the nature of the duties they perform.

Repetitious maintenance work is the order of the day. Many subjects report being bored with trivial, uninteresting tasks assigned to them that require *"very little brain work". "What I expected was to interface with the plant more so I could speed up my process of learning power station work. But I didn't. Valves, valves, every day. That was a bit offensive."*

One subject said: *"You know you have these fanciful expectations that you will be designing these amazing structures or being involved in something substantial, you know, that will stand for a long time but that expectation is shattered quickly because you end up doing maintenance work."*

"Its just fire fighting in a sense." Four subjects report frustration because if a problem arises, they want to analyse it and identify the cause in order to prevent it recurring but instead, they simply replace a malfunctioning component. This frustrates their desire to know 'why' something is not working as opposed to 'what' the problem is.

Further dissatisfaction is experienced by eleven of the subjects with the volume of paperwork required before any action takes place. *"You go on a lot of paper chases. Its like red tape upon red tape upon red tape."*

Three of the subjects also reported being surprised by the presence of outdated technology. A nuclear power station is perceived to be a stimulating environment offering exposure to cutting edge technology, but many engineers work in routine plant maintenance functions.

Of the six subjects who reported satisfaction with the nature of their duties, one has been with the organisation less than four months, one has just had a temporary promotion, two are directly employed in the nuclear engineering environment, and one likes the work but *"does not feel fully utilised"*. The sixth individual describes himself *"in a unique position"*, because he is a software engineer who was employed specifically to contribute to a project dealing with the 2000 rollover changes.

Most subjects report being stimulated and challenged at work only when they are assigned to a specific, meaningful project. However they find that such opportunities are few and far between. Three subjects expressed the view that creative opportunities in engineering are

only possible outside South Africa and they may have to emigrate to find the stimulation they seek.

One of the subjects views himself as fortunate because he is in the nuclear reactor building, *"I already had an expectation about the excitement of working at (the plant). I was the supervisor that handled the crane for taking the head vessel off and changing the fuel. There's only a few people in the world that do these things."*

The general feeling of most of the subjects with respect to the nature of the work that they perform is one of disillusionment, frustration and a lack of opportunity to show what they can offer. In the words of one subject, *"engineers are creative people but when you get here all you do is maintain someone else's creation"*. This sentiment was endorsed by most of those interviewed.

3.2.2 Context of Work

The second sub-theme that emerged in this research with respect to reality shock encountered by respondents is the *context* or work environment within which work is performed. It is created by other individuals in the organisation within the framework of organisational policies and practices.

Specifically, the 'other individuals' in this organisation with whom subjects interact regularly include their peers, professional engineers, administrative staff, artisans, their supervisors and mentors. The context of work is, furthermore, informed by the organisational culture and, in the case of most of the subjects, the organisational policy of deliberately employing engineers of colour. Collectively these factors contributed to reality shock for the subjects around their work environment.

White collar interaction

Almost all of the subjects perceive that they are treated with respect by management and the administrative staff in the organisation. Only one responded to this inquiry with the words, *"not at all"*.

Generally they report polite, helpful interaction from these strata of the organisation. However at least five subjects felt that this respect had to be earned through job performance and was not granted automatically. Some felt that respect was only given once you *"had paid your dues"* or *"done your time"*, implying that they received respect based upon their own input even though *"young engineers are low on the food chain"*.

In the main, interviewees are comfortable with this status quo. Two recalled very negative experiences when working for previous organisations where offensive language was used freely and they appreciate that this is not the case in their present organisation.

Respect and credibility are clearly important values to these individuals as a group. As one put it, *"I want to be known as an engineer who knows his stuff"*. Often it is felt that to gain this credibility, it is important to be noticed by the *"right people"* and the onus for this rests upon the individual.

Subjects who, by their own definition, describe themselves as quiet-natured, encounter difficulty with this aspect of getting noticed. On three occasions, subjects reported observing managers *"just talking a lot"* in meetings as a way of attracting attention without offering constructive input. This is regarded contemptuously by those doing the observing, *"if you can blow your own horn, you go up the ladder"*.

Two individuals said they felt lonely at work. Their experience has been one of only interacting with their immediate work group which is an isolating experience for them. Another, a Muslim subject, said he sometimes felt left out because *"the guys would go to a pub for a beer after work"* where he could not join in.

Whilst respect and professional conduct are welcomed and given by white collar employees in the organisation, the situation at plant level is very different.

Blue collar interaction

The interaction between most of the young graduate engineers and the artisans is fraught with tension and conflict. This arena presents great difficulty for assimilation into the organisation for the newcomers.

As a group, the artisans are older, very experienced individuals with less formal education that the engineers, and in this context, are usually white. The engineers in this study are almost all young, inexperienced, not white and many hold two university degrees. They all express a genuine desire to learn from the artisans and readily acknowledge their lack of practical skill. *"You're completely new, you're young, you're going to earn more than them and they know it."*

Perceptions on the part of the engineers include that the artisans *"are threatened by us"*, *"try to put us down"* and use *"any opportunity to torment us"*. *"I suppose the guys see it that they want to put you down because they know some day you will probably be their boss so this is their only chance for them to get at you."*

It appears that a common method employed by artisans to reveal the ignorance of young engineers concerns the issue of tools. Most of the graduates are the first to admit that they are often very ignorant of the names of tools and their uses, as this is never taught at university. So artisans send engineers to fetch non-existent tools from other locations on the plant. *"For them it's a game to have an engineer in the department". "I might be getting paranoid, but maybe they take bets on us."*

Eight subjects report feeling embarrassed and humiliated by this treatment as well as inadequate. *"I thought gee whiz, I studied for seven years at university and I get here and I count for nothing."* They feel they want to be given a chance to learn and they are paying for the arrogance of their predecessors.

At least six subjects report coping with this conflict by behaving in a humble fashion. Evidently this approach succeeds in gaining co-operation from artisans. One subject ascribed playing soccer for the work social club team as an effective method of breaking down barriers and enhancing work-related interaction.

Perceptions of racism were also noted by three subjects. *"Racism is alive and kicking. Ja, on both sides. I mean its not just the white guys."* One of the subjects said that he felt more comfortable with the open declarations of racism in his previous organisation than the subtle covert racism he perceived now with *"everyone trying to be politically correct."*

Supervision

A further sub-theme, related to the context of work, that produces surprises for subjects, is that of *supervision.*

A clear division exists in the perceptions of subjects with respect to the nature of the supervision they receive. Eight are satisfied and eight are dissatisfied. All subjects report that their supervision is more distant than they expected. The difference of opinion lies in their personal response to this approach. *"I'd say the atmosphere here is more you're responsible for your own development. You don't basically have a supervisor sitting on your head every day asking you what you're doing. You want to learn, you learn. If you want to sit there and do nothing all day, people will allow you to do that."*

Those subjects that embrace autonomy respond positively to this type of supervision. *"The people are very open to help you but they leave a lot up to you. I appreciate that because they don't treat you like a school kid any more and its really what you make of it."*

Half of the subjects viewed their supervisors as helpful, informed and supportive. One subject felt that his supervisor could have *"done things differently but he has a lot of pressure on him and nobody's perfect".*

However the other eight subjects report inadequate supervision in their view. Comments included, *"Supervision? Oh wow. Non-existent"* and *"One thing is for sure. They see me as a threat. They don't want you to learn. Their philosophy is to throw you in the deep end and whilst you're swimming, they're not throwing you a lifeline, they're laughing."*

One subject felt that the supervisor was too keen to get the job completed without granting the opportunity for her to explore the underlying causes of problems, *"He would tell me, 'listen you don't have to go into such depth all the time, just leave it'".*

This approach causes much frustration for those subjects keen to learn as much as possible. As one put it, *"I was on my own. Everything that I've learnt so far, I taught myself."*

Closely aligned to the issue of supervision is the concept of mentoring which the organisation employs to assist young engineers' transition into the workplace.

Mentoring

Mentors are senior engineers who are assigned to be available to newcomers to talk about problems they may be experiencing or give advice regarding training available. Here again opinion is divided on how well this system is working.

All subjects agree that the concept of mentoring is a good one. Not all expected a mentor system to be in place and are positive about the concept in theory. *"I'd say it's a good idea. And it is really something that is necessary."*

Most subjects report positive experiences with their mentors when they feel they have experienced learning or growth from the interaction. *"Well, I found it very helpful."*

The subjects are satisfied with their mentors but feel they don't see them often enough. All subjects report being the one who initiates contact with their mentor, on average about once every two months. They are comfortable with this arrangement and prepared to take responsibility for establishing and maintaining the relationship. However four of the subjects felt that the selection of mentors needed improvement: *"I think they should look at how they choose their mentors and give them some training."* Another said, *"I honestly believe that not everyone is cut out for it."* Generally it appears that the system is good, but individual

personalities of both newcomers and the mentors themselves, inform the success of the process.

Organisational culture

The organisational culture of a work environment often determines behaviour amongst employees. *Organisational culture* provides the new employee with a *context* in which work is performed in a manner deemed appropriate by the organisation.

The overriding 'culture' (a term used by subjects) of the organisation is one described as 'a safety culture'. In the words of one individual, *"It hangs like a blanket over (the organisation)"*. This safety culture refers to the stringent checks and double checks that precede every action on the plant, due to the nature of its activities, namely, the production of nuclear power.

All of the subjects acknowledge having a vague expectation and a very real understanding of the need for stringent security and safety measures. What they were not prepared for, is the pervasiveness of this culture throughout the organisation. Those activities unrelated directly to the production of nuclear energy are also subject to numerous checks. These young energetic engineers find work processes very slow and frustrating, *"I mean a pump is a pump"*.

The process of raising a work order, *"Its not a technical instruction, just a request, you know, from my department to another department to do a specific task"*, is a long one. The activities of at least four different individuals have to be co-ordinated and the subjects report spending sometimes weeks gathering signatures and approval before the activity is performed. *"There's lots of procedures and rules and a culture of doing business here, so you need to be a particular kind of person to suit this place."*

Every single subject reports extreme frustration at the pace at which work related activities occur. Many use the term *"restricted"* when describing daily work life: *"I hate it. My world shrinks"*. Reports of between 4000 and 5500 procedures are offered as sources of frustration, *"I mean, there's a manual for everything"*.

Another issue related to this culture is security which manifests itself in the access control system operating at the plant. Visitors are body searched and walk through an x-ray machine before being personally escorted to restricted areas of the plant only. Employees are required to produce electronic access cards in order to enter the premises. No cellphones are permitted on the premises, *"to tell you the truth, when I started here it felt*

very limited, almost like you're in prison or something". However, most subjects report adjusting to this aspect quite quickly and it no longer bothers them.

Legitimacy

A final factor with which most subjects encounter difficulty in their work context concerns their perception around their legitimate place in the organisation. This factor should be viewed within the broader context of affirmative action policies currently present in South African organisations.

Nine subjects agreed that affirmative action was necessary to redress the imbalances of South Africa's ideological past, but for those subjects who are not white, affirmative action is not always to their advantage. *"It puts us in a tight spot because you always have to prove you got there legitimately, not because of your colour. So if you're good, affirmative action backfires on you."* Clearly individuals feel a need to establish their credibility based on performance and not on colour.

Three subjects expressed the belief that they were employed solely because of their colour. *"I know that the sole reason I'm here is to make up the numbers. That's all."* and *"I was a bit naïve at that stage and I couldn't put two and two together, then I realised I was only recruited to make the affirmative action target".* Although these two subjects dislike this perceived reason for their employment, another maintains: *"They're using colour to get their ratios right, I don't mind so long as I get something out of it as well".*

In general, affirmative action is seen as a positive action but there is an underlying wish by subjects that this is temporary and a time will come when colour is no longer a consideration for employment opportunities. One subject feels that engineers of colour are employed so that *"the numbers look good on paper"* but *"they are quite cute"* because the engineers of colour are largely employed in maintenance and not in nuclear engineering which is a more desirable department.

The only white subject has recently been promoted, but without a permanent appointment because of affirmative action, *"I'm only standing in".* He is not resentful of this situation but feels if he left the organisation, *"I will not be missed"* because he is white.

3.2.3 Career Mobility

The remaining three areas explored in this study which comprise the early work experiences of subjects, training, advancement and financial reward, also contributed to reality shock for some subjects. These *career mobility* issues produced both positive and negative responses from subjects.

Training

All the subjects indicate that upon graduating they *"still had much to learn"* and expected significant learning to take place upon entering the workplace. Many cite learning as important to them for their *"growth"* and *"development"* as well as enjoying learning *"for the sake of learning"*. One of the attractions of working at a nuclear plant was the perception that it would offer an exceptional training ground.

The training period at the organisation ranges from 9–18 months and consists of rotation between various engineering departments, interspersed with specific training courses. All the subjects report high satisfaction with the training courses themselves. *"It was a brilliant course"*. *"The courses are great, you're not wasting your time."*

However, most of the subjects report that the onus rests on them to initiate attendance on these courses and that they have to *"motivate to your supervisor to let you go."* This has created obstacles for some and two report categorically being refused permission to attend courses for reasons they find *"selfish"* and unacceptable. Two subjects were unable to find courses they felt they needed within the organisation and were very positive that they were able to attend external training courses that they had sourced themselves.

On the whole the interviewees do not mind taking responsibility for identifying their own training needs. However many feel that they would prefer more structure to their training initially, *"I'd say in the first year, they shouldn't really expect you to choose. They should send you on the necessary courses to get productive."*

The rotation between departments is viewed positively as it offers a flexible way to identify a niche for themselves in the future. Opinions differ around the time frame of this rotation. For many, 18 months is perceived as too long, because working in one department for three months is too long to gain an overview of what the department does and too short to make a significant contribution. *"You just sit in an office for three months doing menial work and before people get used to you, you move to another department."*

Those interviewees with work experience in other organisations or other power stations within the organisation, compare the training received elsewhere. Other power stations are described as *"a shambles"* whereas the training received in mining environments was good as it was more structured than the present organisation during the first year. Training is perceived by graduate engineers as highly desirable and essential to obtaining professional registration and their advancement.

Advancement

Another factor that emerged in this research concerns the career mobility issue of advancement. As a group, the subjects display ambition and have already given thought to promotion and the advancement of their careers. All but two have clear time frames which range from one to five years in order to achieve self-stated objectives. It was a clear expectation amongst these fourteen subjects that this time frame was realistic in order to achieve significant promotion and advancement of their careers. However the reality of slow progression through the organisations' ranks has caused many to adjust their expectations.

Apart from extrinsic motives for increasing their knowledge, a number report wanting to *"learn new things"*, to compensate for feeling *"let down"* or *"stuck"* in their current position. Concern is expressed that *"my brain is regressing"*. In order to address this issue of stagnation, half of the sample are engaged in further studies. These include post graduate degrees in finance, business administration (MBA) or Masters in engineering. Others report developing their skills in work related projects outside of the organisation in order to *"get the upper hand"*.

Advancement within the organisation is possible along one of two parallel streams. The subjects are divided as to their choice. Within the organisation, engineers can elect whether to pursue their career into a managerial route or advance as specialist engineers. This option has not been formally offered, it has been *"picked up from the other guys"*.

The subjects interviewed reflect clear preferences for one career path or the other. Five individuals expressly reject the idea of becoming managers as opposed to remaining in pure engineering. Their reasons include *"too much paperwork"*, *"you need to please everyone"*, *"I'd rather work with machinery than people"* and *"I dislike conflict"*. One dislikes the idea of being a manager but knows he would be good at it because *"I am good with people"*. Of those that are keen to manage people, most would still like to retain some technical responsibilities.

Clearly the perception is that the managerial route is more financially rewarding, *"Managers, honestly, they get a lot of money but they don't enjoy it"*. Managerial responsibilities are perceived to aid obtaining professional registration and some are willing to shoulder them for that reason only.

Financial reward

Finally a factor identified in this study related to career mobility, is the perception of subjects around *financial reward.*

Eleven of the sixteen interviewees report being satisfied with the financial rewards they currently receive. However one stated, *"Well, money is definitely good here, but the young single guy who is ambitious, that's not going to keep him. He doesn't care about money. He's after other stuff."*

One subject admitted that his financial expectations were unrealistic as a student and has since modified them, *"You know you expect to be able to buy a good German car when you graduate, but that doesn't quite work"*. Increased financial reward for overtime during annual 'outage' is welcomed as worthy compensation for shift work and inconvenience experienced.

The third primary theme that emerged from this research is labelled *adjustment* because it is the activity demanded of subjects upon encountering reality shock.

3.3. ADJUSTMENT

Due to the fact that reality shock was experienced by subjects in this study, those interviewed were asked how they responded to their experiences and how they cope with the adjustment demanded of them. This section details two sub-themes or patterns of responses that emerged during the current research.

The first sub-theme that is addressed identifies the various adjustment issues (3.3.1), both internal and external to the organisation, that place pressure on the individual to adapt. The second sub-theme reflects the adjustment coping mechanisms (3.3.2) employed by subjects. Critical to the concept of adjustment are the concepts of activeness versus reactiveness and the perception of time, both of which are addressed here.

3.3.1 Adjustment Issues

All the subjects admit that they have had to learn to deal with the realities of working life. Most are still engaging with this process. Adjustments take place with respect to issues directly related to work such as time, responsibility and interpersonal interaction, as well as personal life adjustments external to the workplace. As one subject stated, *"it's a bit of a juggle actually."*

Time

The most critical adjustment that all these young engineers have to make is their perception of time. For a group of ambitious individuals this places great demands upon their ability to exercise patience. This perception of time pervades many different areas including pace of daily work, rate of advancement, ability to earn respect and chronological age.

The pace of daily activities has already been addressed in this chapter. Suffice to say that all subjects are very frustrated by the volume of paperwork involved and time lapses before work actions can be executed, *"everything too slow"*. Despite understanding the need for repeated safety checks, subjects find it difficult to contain their impatience.

Ambition and a keenness to advance their careers and learning fuel an impatience with the rate of promotion. Two years is perceived by many interviewees as a long time, *"They've all been here a long time, the one has been here two years"*. Another subject, who only worked for two months before deciding to pursue further studies said, *"I realised that it will take me two years to get anywhere so I decided to get my Masters degree"*. A further comment was: *"Now my question to these managers is, 'how much time do you think I need before you'll listen to me?'"*

A common perception is that time is the primary factor in gaining respect, an important value to these subjects. *"Do your time"* and *"pay your dues"* are frequently cited as the only way to gain credibility within the organisation.

Finally, an interesting perception of chronological age emerged from the comments of four subjects. *"I look at all the people here and they're so old, I think 'jeepers'"*. Three subjects felt that the organisation was better suited to old people. 'Old' was established to be 35 years of age.

Responsibility

A further area that requires adjustment on the part of young engineers is the shift in responsibility from being a student to an employee.

Subjects report having difficulty adjusting to the routines and restriction of daily working life. At university they recall having far greater freedom to decide when to work and even whether or not to attend on a particular day, *"There was no set time I had to do certain things, I could do my research any time of the day, I could do whatever I pleased. Now work is work"*. Realisation that one's individual contribution impacts upon others also requires an adjustment, *"Here its not just yourself anymore. What you do affects a broad spectrum of other people so you've got to meet deadlines"*.

Meeting deadlines demands further adjustment. Five subjects report difficulty in adjusting to production pressures and even the routines of getting up in the morning at a regular time because *"at university it was a joke, you could always get an extension on a project"*. However, two subjects report experiencing more freedom at work than at university because

when they leave work, their time is their own. At university they always had *"some assignment hanging over your head"*.

Interviewees also have to take responsibility for initiating attendance on training courses and learning how to conduct themselves professionally, especially in meetings, *"You know, no one teaches you how to be a professional"*.

One subject still finds difficulty in accepting that working in a large organisation imposes a collective routine on individuals, *"It just doesn't feel natural, all being there at 7.45 in the morning, swiping yourself in like a herd of sheep or something"*.

Interpersonal interaction

The third major area of adjustment highlighted by respondents is that of communicating and interacting with people from a diverse range of backgrounds.

At university, most subjects report *"sticking to your own crowd"* referring to self-imposed racial segregation. They are also used to interacting with others of a similar age and academic status, *"Once you get to work with somebody else with a different background, its not a friction, but an uneasiness you have to get over"*.

With regard to dealing with artisans particularly, subjects realise that humility on their part facilitates communication. Most report adjusting their attitudes and even their language style to accommodate others.

Life stage adjustment

All the subjects are in their twenties and concurrent with the adjustment to early career demands, they are adjusting to personal issues beyond the workplace. Personal circumstances differ from subject to subject, however, for some a number of issues external to work place pressure upon them.

Half of the subjects are single and live at home with their parents. Thus their home circumstances have remained relatively stable during the transition from university to work. Amongst the other half, personal circumstances have changed considerably since university. Four have married, two will marry in 2000 and a number of those single, are in established relationships. The commitment involved in forming a significant relationship, whilst usually rewarding, demands further adjustment on the part of the individual. Priorities and perspectives around responsibilities, finance, children and many other issues shift at this time.

One determinedly single subject offered the opinion that *"the key to developing your career seems to be to remain single"*. Those not entirely satisfied that they were earning enough money, were all married or establishing homes of their own.

Two subjects not living with their parents, recount transport and accommodation difficulties which place pressure on them at work.

Two others whose extended families do not live in Cape Town express loneliness as an adjustment issue to be handled. A further subject financially supports his entire extended family who live in another centre.

All these circumstances suggest that adjustment during the early career phase is not only a matter of adjusting to the work environment. The next section reveals how these individuals respond to and cope with adjustment issues.

3.3.2 Response and Coping Mechanisms

The second sub-theme to emerge in this research with respect to adjustment is how the subjects respond to adjustment issues and which coping mechanisms they employ. Adjusting to incongruence is not always a conscious process on the part of individuals. This section reveals not only the individual responses to incongruence but the mechanisms employed by the various subjects in coping with the frustration manifested by incongruence.

Response

Individual responses to incongruence can be labelled 'active', that is, they try to change the environment, or 'reactive', that is they change themselves. Actions taken by subjects include initiating contact with mentors, finding their own mentors, pushing to attend training courses and even sourcing external training courses they felt they needed, *"and believe you me, I went to look for courses"*.

Further actions included asking for work if they felt under-utilised, demanding transfers even if it required bypassing conventional channels of communication and enrolling for further studies with or without financial support from the organisation. Three report being aware that their actions are not always welcomed within the organisational culture but they persevere nonetheless.

Despite these active responses, many of which are still practised, five subjects report shifting their response to one of 'reactiveness' after a period of time. One subject reasoned that *"I have to adapt or find a place where I can live out what I expected but I've got lots of bills to pay and a family so ..."*

Two others report feeling that a change has been subtly wrought in their attitude, *"It's a terrible thing because one day you realise 'wait a minute, there's something wrong, I never used to be like this'"*. Another recognises having become *"complacent"* after *"banging his head against the wall"*. Of those who experience frustration at work, most employ one or other coping mechanism to deal with their feelings.

Coping mechanisms

Subjects employ distinctly different mechanisms in order to cope with work adjustment. Some relieve frustration external to the organisation through activities or family contact. Others rely on peer support within the organisation. A further group consciously decide not to adjust themselves but bide their time whilst seeking opportunities to disengage from the organisation.

External mechanisms

Outside of the work environment, eleven subjects rechannel energy for which they find no outlet at work, into other projects. This energy goes into playing football, studying formally for advanced degrees, increasing their learning by engaging in projects at home and seeking sources of mental stimulation, *"You've got to keep the momentum going"*.

One subject who describes himself as a loner, indulges in introspection. Two further methods of coping include contact with family and spiritual matters.

All subjects revealed strong ties either with nuclear or extended families. Those married or in stable relationships display distinctly greater acceptance of work related disappointment than those who are single. Possibly these relationships compensate for unachieved work goals. Certainly, subjects report being able to talk and share their feelings with their partners, *"My wife really helps me cope"*.

Five subjects volunteered a deep spiritual commitment to religion ranging from mainstream to peripheral faiths. Prayer and meditation offer, not only comfort, but the worship of a higher power appears to offer a broad perspective of life. This enables individuals to contextualise work related frustration, *"I think about God and ask will I go to hell if I don't meet this deadline and if the answer is 'no' then I don't get worked up over it"*.

Peer support

By far the most utilised method of coping at work is the employment of peer support. Twelve of the subjects frequently refer to *"learning the ropes"* from other young engineers within the organisation, *"I picked it up from the guys as they spoke"*. Another said, *"Luckily I had someone next to me who knew what the set up was"*.

Evidently contact with others who understand what the individual is experiencing helps significantly, *"There was another guy in my office, I think he was my link to sanity."* These interactions with colleagues develop into friendships and relieve the pressure felt by newcomers. Peers provide a support network which is a positive method of coping.

Biding time

A couple of subjects expressed the view that they cope by having decided that they will never fit into the organisation and have adjusted their thinking accordingly. They intend biding their time until their bursary obligations are fulfilled and then leaving the organisation, *"There's not much else I can do. I mean there's no point in fighting with reality".*

Five subjects indicate clear intentions to leave the organisation in future, particularly if their career ambitions are not met within what they perceive as an acceptable time frame, *"I mean, I'm not going to stay here forever"* and *"I don't' imagine myself working in any company for longer than five years".*

Some of those studying further are doing so to *"remain marketable".* Clearly, contact with individuals in other organisations has created the perception that better opportunities for advancement exist outside the organisation, *"It will take five years here. That's too long for me. I'm young, I want to do things quickly and the experience you get here in one year is probably the same as half a year in the outside world."*

One of the subjects interviewed had just left the organisation when data was collected for this study, *"I just could not take it any more".* He has since taken up an academic position which will allow him the freedom to explore his research interests. Five others speak of just *"doing their time"* which refers to their bursary obligations before seeking alternative employment.

Another subject tells of friends working under pressure in smaller organisations, which he perceives as stimulating, *"Its not like here where you come to work and relax".* A further motivation to leave the organisation would be *"more money"* although by far the majority of the individuals interviewed display a strong desire to remain living in Cape Town.

Thus it would appear that those individuals who experience frustration arising from incongruence between their work expectations and experiences deal with it in a variety of ways.

3.4 SUMMARY

This chapter records the results obtained in this research as derived from qualitative interviews conducted with individuals. Attention is given to the personal work expectations and experiences of subjects together with their individual work adjustment responses. This qualitative approach reveals a holistic, coherent picture of the life world of individuals with respect to their experiences at work.

The chapter is a thematic representation of results, grouped into three primary themes. The first theme, anticipation, includes the factors which contributed to the formation of work expectations amongst subjects, namely, their childhood experiences, university training and organisational entry experiences.

The second core theme records the areas within their work life where subjects experienced reality shock. These include the content of work performed, the context in which it is performed and, to a lesser extent, career mobility issues.

The third core theme reflects the adjustment issues that individuals confront and their coping responses to adjustment. The following chapter relates the results obtained, to prior literature and research conducted in the field.

CHAPTER FOUR – DISCUSSION

This chapter offers a discussion of the results obtained in this study as interpreted in light of prior research in the field. The analysis and contextualisation of results is critical to their understanding in order to extract meaning from this research. To this end, the results of this study require location within the context of organisational socialisation, a field of study within organisational psychology. Organisational socialisation is a process that all individuals undergo upon entering an enterprise for the first time and involves learning and adjusting to the demands and routines of a particular organisation (Schein, 1978; Wanous, 1980; Schreuder & Theron, 1997).

This chapter is structured according to the three core themes that emerged from the results of this study. The first theme, 4.1 *Anticipation*, addresses the formation of expectations by individuals prior to entering the workplace. The second theme, 4.2 *Reality Shock*, focuses on the emergence of discrepancies between the expectations of individuals and their actual work experiences. Finally, 4.3 *Adjustment*, the third core theme, considers the responses and coping mechanisms employed by subjects in order to realign their expectations with reality.

Each section of this chapter contains a brief summary of the results obtained, followed by a discussion thereof as supported by various similar findings in the field, many of which are recorded in the literature review (Chapter One) of this document.

The process of organisational socialisation, which encompasses all three of the themes identified in this research is well documented and many of the findings can be understood in terms of the stages of organisational socialisation identified by various authors (Feldman, 1976; Buchanan, 1974, as cited in Wanous, 1980; Porter-Lawler-Hackman, 1975 as cited in Wanous, 1980; Schein, 1978; Wanous, 1980). Schreuder and Theron (1997) summarise the process as one of adaptation that involves learning and development in order to achieve congruence between individual and organisational goals. The following discussion offers a theoretical context in which the results of the present study can be understood.

4.1. ANTICIPATION

The first core theme, anticipation, reflected the variables which, collectively created expectations of the world of work in the minds of the subjects in this study. The findings clearly show that childhood experiences and societal stereotypes (4.1.1), university training (4.1.2) and organisational entry experiences (4.1.3 and 4.1.4) established perceptions amongst subjects that working as an engineer would provide an exciting, creative outlet for their desire to produce artefacts. These factors contributed significantly to the formation of

expectations on the part of subjects around their careers. They believed that they would be well rewarded for their innovative contributions to a dynamic, developing field which held desirable opportunities for their personal growth and career advancement. According to Feldman (1976), the first stage of the socialisation process is characterised by the degree to which expectations of both organisations and individuals are realistic.

4.1.1 Reasons for Vocational Choice

Childhood experiences of tinkering with mechanical and technical objects led subjects to decide to become engineers in adulthood. They expected to be involved in the design and redesign of artefacts which would improve their functionality. The societal stereotypes of an engineer as a respected professional who is financially well-rewarded, contributed to the expectation that they too would be accorded this status, and prompted the choice of engineering as a future career.

The expectations of the subjects in this study are underpinned by their work values. Greenhaus et al. (1983) assume that an individual brings a relatively stable set of values to a job situation. The values underlying the expectations of the subjects in this study include primarily, heuristics and creativity followed by achievement, prestige and material success. All of these have been identified as of importance to employees (Super, 1970, as cited in Dose, 1997; Dawis & Lofquist, 1984). These particular values are personal as opposed to social and therefore less likely to be altered by socialisation experiences (Dose, 1997). Work values are important because they involve the relationship between internal needs and the resulting motivation to act upon the environment to satisfy those needs (Super, 1957, as cited in Yates, 1990).

4.1.2 University Training

A second variable that contributed to subjects' work expectations was the nature of their university training. This finding strongly suggests that subjects expected the nature of their work to be highly congruent with the principles learnt and projects completed when they were university students. The university training typically offered for engineering degrees focuses almost exclusively on technical design aspects and tends to ignore practical and interpersonal skills. The subjects in this study expected the nature of their duties at work to include far more creative design elements than they are expected to perform. University courses comprise projects that have to be designed and students see the finished product for which they receive feedback. At work, the subjects maintain existing machinery on an ongoing basis. Thus their university training, whilst teaching them the principles of engineering, in no way prepared them for the reality of working as an engineer.

This incongruence can be understood if one considers earlier research into the degree of preparedness of university students for work which produced similar findings. Schein (1978) claims that it is the responsibility of educational institutions to provide realistic simulation exercises for students to develop their diagnostic skills. Purvis and Panich (1986) identify this same problem of under-preparedness in other professional training programmes such as accounting. Students must be made to realise that they will not necessarily receive anticipated assignments for some time (Purvis & Panich, 1986). Even when students receive a good technical grounding, they lack an understanding of career requirements (Purvis & Panich, 1986).

It appears as if a number of subjects in this study did not give sufficient thought to the nature of their work expectations upon entering university. Many report accepting a bursary from the organisation in order to finance their studies. Thus they only focused on the interim period of formal education and not on the nature of the work demanded in return for obtaining financial assistance to attend university: *"I needed money to pay for my studies"*. This short term focus contributed to a lack of accurate anticipation of the reality of working for the organisation offering the bursary.

The lack of readiness on the part of the individual to make good choices and cope effectively with life stage developmental tasks is cited as an indicator of career immaturity (Hall, 1979, Scharf, 1992 as cited in Le Roux et al., 1997). Research by Le Roux et al. (1997) into the link between career maturity and accurate career expectations supports the finding in this study with respect to those subjects who did not receive education bursaries from the organisation. However Le Roux et al (1997) concluded that engineering students who were bursars did accurately anticipate their jobs because of repeated contact with the sponsoring organisation during their study years. This does not appear to be the case in the present study. Even those subjects who had worked during their university vacations at the present organisation expected their full time responsibilities to be more challenging once they had graduated.

By not clearly perceiving the consequences of accepting a bursary from an organisation, where the nature of work offered post graduation, was very different from their university training, subjects unconsciously established unrealistic expectations for themselves. This led to disappointment once in the organisation, with the type of tasks assigned to them, so much so, that the subjects report feeling dissatisfied and some are considering leaving the organisation once their bursary obligations are fulfilled. Research by Holton and Russell (1997) supports this finding.

Holton and Russell (1997) found that low anticipation newcomers report lower job satisfaction, commitment, work motivation and psychological well-being than those who accurately anticipate their job. These four variables are evident, to a greater or lesser extent, in at least half of the subjects in this study. This is an unfortunate situation for both the organisation which is desirous of retaining staff in whom a significant financial investment has been made, and for the individuals themselves who feel under utilised and disillusioned about their daily tasks.

4.1.3 Recruitment

The recruitment process experienced by subjects in this study served to reinforce their inaccurate work expectations. Recruitment advertisements highlight the nuclear aspect of engineering in this organisation. There is no evidence that the organisation intentionally misled subjects. Rather, subjects projected their work expectations onto the organisation. They inferred from the term 'nuclear' that their jobs would be exciting. This contributed to their anticipation of a dynamic work environment and heightened their expectations in this regard. This finding can be understood in light of previous research which clearly indicates that the discrepancy between expectations and reality as experienced by the subjects in this study is not unique and has been documented by researchers for years (Schein, 1978; Wanous, 1980; Dean, 1982; Breakell, 1991).

Schein (1978) suggests that organisations often unwittingly create unrealistic expectations during the recruitment process. He cites one of the problems of the first socialisation stage as that of obtaining accurate information in a climate of mutual selling by both the organisation and the individual (Schein, 1978). Knapp (1980) warns that organisations are sometimes less than truthful about job obligations in a desire to secure the services of applicants. A possible modifying influence upon the formation of expectations is the use of realistic job previews.

Realistic job previews are offered by Wanous (1980) as a method by which organisations can contribute to the formation of accurate expectations. Miceli (1986) goes further and suggests that training in coping behaviour should also be offered in support of realistic job previews. Organisations that offered specific programmes intended to aid newcomer adjustment through self-regulatory training, report higher levels of job satisfaction amongst staff than those which do not (Waung, 1995). The one subject who appeared to have received realistic information during his interview is one of the few who accurately anticipated the pace of activities in the organisation and reports job satisfaction.

4.1.4 Induction

The finding in this study with regard to induction is that the first two days at work for newcomers is adequately handled by the organisation through the General Employee Training orientation programme. However, thereafter, in some cases, inadequate provision has been made for newcomers who may report to specific engineering departments where their arrival is unanticipated.

The induction period into an organisation typically covers anything from week one to week three of the newcomers' entry period. It is critical that this first introduction to the organisation is handled sensitively in order to reduce inevitable feelings of anxiety on the part of the individual. It is also of benefit to the organisation to pay attention to induction as increased facilitation into the organisation results in speedier learning of the job and the organisation itself (Skeats, 1991).

Research suggests that successful induction programmes acknowledge the importance of addressing newcomers' needs at both the social and functional levels (van der Merwe, 1987). Ideally an induction hand, who is another employee at the same organisational level should be formally assigned to show the newcomer 'the ropes' and introduce him/her to other individuals in the organisation. Furthermore, the immediate supervisor should be prepared for the arrival of the newcomer and direct them to a designated work space. The most important aspect of induction is that the new employee is assigned a meaningful task upon their first day on the job (van der Merwe, 1987; Skeats, 1991). Unfortunately this did not occur in a number of cases which led to feelings of insecurity and alienation on the part of some subjects.

This first core theme, *anticipation*, reflects how the subjects in this study established expectations for themselves regarding their future work life as engineers. They were influenced by exploring the functioning of mechanical objects as children, expanding their technical knowledge at university, observing the status accorded to engineers in our society and responding to recruitment advertisements in local newspapers.

Together, these factors created a mindset around the field of engineering for these subjects. The findings of this first theme of anticipation are strongly supported by Dean (1982) who identified four sources of expectations used by individuals during pre-entry socialisation, including societal stereotypes, childhood experiences, professional training and organisational entry experiences such as recruitment, selection and induction (Dean 1982).

Furthermore, the findings of this first theme are supported by much of the literature around organisational socialisation which identifies the first of three stages in the process as one of

the establishment of expectations by individuals (Porter-Lawler-Hackman, 1975, as cited in Wanous, 1980; Feldman, 1976; Schein, 1978; Wanous, 1980). Once they enter organisations, individuals test these expectations against reality.

4.2. REALITY SHOCK

The second core theme that emerged from this research was labelled *reality shock*, as it deals with the process of individuals testing their expectations against the reality of work experiences.

Collectively, these findings suggest that various expectations of the subjects were to a greater or lesser extent disconfirmed by their early career experiences. As Schein (1978) stated, the most salient feature of entry into one's first major job is reality shock. This disconfirmation of expectations by reality is greatest for an individual's first job rather than later jobs (Wanous, 1980). Reality shock was experienced with respect to 4.2.1 content of work, 4.2.2 context of work and 4.2.3 career mobility issues.

4.2.1 Content of Work

The finding in this research is mainly one of subjects discovering that their daily activities contain insufficient pure engineering tasks and an overabundance of routine paperwork. They experience high levels of reality shock with respect to the nature of their work and feel dissatisfied in that they perceive their talents to be under-utilised.

Research by Schein (1964, as cited in Schreuder & Theron, 1997) revealed that early career needs are satisfied by individuals who perceive opportunities inter alia, for responsibility, challenge, opportunities to be creative and to use special aptitudes in their jobs. The finding in the present study is confirmed by a similar study by Keenan and Newton (1986) within the engineering profession in the United Kingdom, where subjects reported a notable discrepancy between their desire to apply their knowledge and the opportunities to do so.

The nature of work experience has important implications for the development of an identity for early career individuals. As one subject in the present study said: *"An engineer is not what you do, it is who you are".* The development of an identity is considered a critical task to be faced during socialisation as it provides the employee with a legitimate place in the organisation (Schein, 1978; Wanous,1980; Super, 1992).

Identity not only legitimises the role the individual plays in the organisation, it also defines the work persona of the individual. As the person spends time in a work environment, they start

to identify for themselves which important issues anchor their careers and they develop a clear occupational self-concept (Schein, 1978).

In this study, subjects repeatedly expressed the need to create or design objects as central to their careers. This concept of identifying for themselves what is important to the subjects with regard to the content of their work can be understood by referring to Schein's (1978) theory of career anchors.

Schein (1978) stated that the individuals' occupational self-concept is made up of talents, abilities, motives, needs, attitudes and values which manifest in career anchors. Anchors are different from values in that an individual has to have some work experience before they are able to identify their personal career anchors (Schein, 1978). The individuals in this study have a strong need for creativity in their jobs.

With creativity as a key career anchor, individuals have an overarching need to build or create something that is an extension of themselves, the creation of a product or process that bears their name (Schein, 1978). These exact sentiments were frequently cited by subjects in this study: *"I want to leave something important behind that helps society"*.

This issue is particularly relevant to the current research as the engineering requirements of the employing organisation are incongruent with the creative career anchor identified in most subjects.

The reality shock experienced by subjects in this study with respect to the nature of the work they perform stems from their desire and expectation to be involved in 'pure' engineering activities (personal factor). This is in conflict with the routine maintenance tasks that are typically assigned to them (factor in the work environment). Individual work adjustment is a function of the interaction between personal factors and factors in the work environment (Schein, 1978; Super, 1992; Tiedeman & O'Hara, 1963 as cited in Schreuder & Theron, 1997).

The subjects in this study chose to become engineers primarily because of their expectations around the nature of work. It therefore came as a shock to them that daily responsibilities were significantly more routine than anticipated and they were forced to adapt accordingly. Nordvik (1996) explains that the establishment of an occupational identity through identifying career anchors is an acceptable predictor of person-environment fit at the level of broad vocational categories (Nordvik, 1996). However, as Nordvik (1996) notes, within any vocational category, an individual will encounter adaptive, coping and

developmental tasks in the work situation which are more likely to be steered by situational and environmental requirements that the choice of a vocational area (Nordvik, 1996).

When the subjects in this study experience frustration in being unable to free their creativity at work, they experience reality shock and they react by channelling their energy into activities beyond the work environment. This finding is supported by Schein (1978) who noted that individuals who hold creativity as a core career anchor experience great difficulty in coping with routine organisational processes and often get bored or leave. These sentiments were expressed by subjects in this study. Schein (1978) goes on to explain that creative individuals sometimes cope in rule-bound organisations by channelling their energy elsewhere.

4.2.2 Context of Work

A number of findings in this study reflect that reality shock was experienced by subjects with respect to the context in which they perform their duties. Context refers to the environment in which work is conducted. It includes the interpersonal interactions that subjects experienced with other employees and organisational culture, which in this case, is one of slow moving, considered action.

Interpersonal interaction

The finding in this study indicates that newcomers feel welcomed and comfortable in their interactions with the administrative and management employees in the organisation, but not at plant level with the artisans who deliberately attempt to humiliate young engineers. Evidently predecessors of this particular group of subjects who displayed arrogance are responsible for this general attitude of artisans towards any new engineer.

This antagonistic behaviour comes as a complete shock to the newcomers. It serves to undermine their confidence and inhibits their assimilation into the organisation.

Apart from orienting oneself to the nature of duties to be performed at work, newcomers have to integrate themselves into the social environment in an organisation. The task of becoming accepted by fellow employees is an important one and integral to the socialisation process (Feldman, 1976; Schein, 1978; Skeats, 1991).

Reichers (1987) offers a theory that the rate according to which newcomers become socialised into an organisation is dependent upon the amount of interaction between new and existing employees (insiders). He suggests that interaction frequency is the primary mechanism by which newcomers are transformed into insiders and that proaction on the part of both parties reduces the maximum time of assimilation (Reichers, 1987).

In this particular study, subjects report making concerted efforts to be proactive in their contact with insiders. It is not only the frequency of interaction that is relevant here but rather the nature of the interaction. Positive interaction indicating mutual acceptance is forthcoming from white collar insiders but not amongst artisans.

Reality shock is experienced with respect to interpersonal interactions at plant level. However it is not encountered significantly amongst interactions with administrative and managerial staff. Specific interactions with designated individuals within the organisation such as supervisors or mentors do serve to mediate reality shock in certain instances.

Supervision and Mentoring

The finding in this study with respect to supervision is that the subjects did not anticipate the large degree of autonomy granted them. Opinions are equally divided over whether this autonomy is welcomed or not. The task that faces subjects in this regard is how to become a good judge of one's own performance because unlike the university environment from which they have just emerged, regular feedback is not forthcoming.

It is possible that the subjects in this study who were comfortable with the degree of autonomy received have mastered this task of self judgement better than those who prefer more direct supervision. Add to this the individual work personalities of both subjects and their supervisors, and a plausible explanation may emerge for the differences in satisfaction expressed by subjects around the nature of supervision received.

The finding that half of the subjects in this study did not welcome the autonomy granted them by their supervisors is supported by research by Schein (1978) who revealed that graduates feel that they *should* learn something on their first jobs and that their supervisor *should* feel responsible for teaching them. Supervisors can compensate for the diminished knowledge differential between themselves and newcomers by attempting to create an environment in which mutual learning is encouraged (Kaiser, 1997; Mullen, Cox, Boettcher & Adoue, 1997).

The view that supervisors play an important role in the assimilation of newcomers has been postulated in the past, particularly with respect to task mastery. Supervisors may be the most potent source for facilitating newcomers' adjustment to and satisfaction with the organisation (Graen, 1976, as cited in Ostroff & Kozlowski, 1992). Ostroff and Kozlowski (1992) further suggest that other individuals within the organisation provide a greater source of information than formal information sources such as training and instruction manuals. Mentors in this study provide another interpersonal source of information.

The finding in this study indicates that the mentoring process in this organisation is functioning to some extent but needs improvement. As suggested by Whitely and Coetsier (1993), ambitious young individuals whose own career goals include upward mobility, strongly seek out opportunities for development from their mentors as they view them as a major reference group. This is exactly the situation with the subjects in this study who consciously select mentors themselves in some cases and all commit to the process. Commitment from the individual, the mentor and company management is critical to the success of the mentoring process (Maloney, 1999).

Whitely and Coetsier (1993) suggest that career mentoring is particularly related to early career promotion histories, to general work satisfaction and career satisfaction. They maintain that mentors act not only as coaches who seek to develop skills in their protégés, but also as protectors of newcomers from political forces within the organisation and fulfil a psychosocial function (Whitely & Coetsier, 1993; Schoenfeld & Magnan, 1994; Aryee & Wyatt, 1996). Furthermore, it is suggested that secondary mentoring, that is, more than one mentor, may facilitate assimilation by providing a number of mentoring sources to the newcomer, each fulfilling a different activity (Whitely & Coetsier, 1993; Mullen et al., 1997).

In this study, the mentors are mainly white, unlike the newcomers, and the mentors are significantly older. However in mitigation of these differences, both mentors and newcomers have engineering qualifications. Whitely and Coetsier (1993) suggest that demographic similarity between mentors and protégés enhances the positive nature of the working relationship. It is possible that the mentoring programme in this organisation could be enhanced through the introduction of secondary mentors (Mullen et al., 1997).

Whether supervisors or mentors, individuals in positions of influence over newcomers have an important role in inducting and socialising new entrants to the organisation and should be trained (Schein, 1978; Colwell, 1998). Careful attention needs to be paid to the selection of such individuals in order to ensure that they are capable of assigning meaningful tasks to newcomers, giving them adequate feedback and transmitting desirable norms and values to them. Furthermore, supervisors and mentors need to be individuals who are secure enough in their own roles that they do not allow personal needs and feelings to distort the relationship (Schein, 1978; Kaiser, 1997). The comment from one subject who felt that his supervisor felt *"threatened"* by him can be understood in the light of this.

The critical role played by supervisors and mentors in the organisation in this study, needs to be reconsidered in order to ensure that the issues discussed above are adequately addressed. In this manner, reality shock on the part of newcomers is likely to be reduced.

Organisational culture/climate

A further finding in this study, with respect to the work context where reality shock is experienced by newcomers, concerns the organisational culture or climate of the work environment. Subjects in this study frequently referred to the organisational culture of the organisation. However, upon investigation, it appears that they use the term 'culture' to include organisational climate.

Although the concepts are similar, it is necessary to distinguish between them (Reichers & Scheider, 1990, as cited in Shadur, 1999). Organisational culture refers to deeply embedded, unconsciously held assumptions that guide organisational members (Schein, 1985 as cited in Shadur, 1999). Organisational climate is a surface level indicator of culture which is an individual construct that reflects an orientation based on personal values (Vianen & Prins, 1997 as cited in Shadur, 1999).

The results of the present study can be best understood through the understanding of organisational climate as an employee's perception of his/her work environment (Altmann, 2000). These perceptions reflect the way in which an employee describes the workplace (Altmann, 2000) which in this study is reported by subjects to be rigid and slow moving.

The finding in this regard suggests that significant adaptation on the part of individuals is required in order to adjust to the bureaucratic structures that permeate the organisation. On a cognitive level, the subjects understand the need for the overriding 'safety culture' in the organisation which manifests itself in every single action being checked and rechecked before being executed. But the difficulty arises when ambitious, energetic individuals have to internalise this culture and adapt their work personalities to contain their impatience. Subjects in this study report feeling stifled by the environment in which they work and sometimes blame superiors for deliberately slowing their progress.

Schein (1978) identified specific tasks to be faced during socialisation to include adjusting to work routines and coping with unanticipated structure. This observation clearly supports the finding in this study as reality shock is experienced by the subjects who expected work life to be more dynamic and fast-paced. Breakell (1991) noted in his research around the ability of early career individuals to cope with reality shock, that the organisational climate within which individuals are expected to operate plays a significant role in their adjustment. This observation is relevant to the current research as organisational climate refers to the individual perception of their work environment (Hodgetts, 1991). Organisational climate informs the work process which is one element informing job satisfaction (Hodgetts, 1991) and organisational commitment (Kelley, 1992). It is specifically, slow work processes which

frustrate subjects in this study. The organisational climate reflects the organisational culture which values specific individual work behaviour (Hodgetts, 1991). In this study, subjects experience difficulty adjusting to the desired, slow work behaviour demanded of them by the organisation.

One explanation around the difficulty that subjects experience with respect to coping with the organisational climate or culture in their employing organisation may be offered by aspects of the work adjustment theory of Dawis and Lofquist (1984). Congruence needs to be attained between the work personality of the individual and the work environment for work adjustment to be effected (Dawis & Lofquist, 1984).

Of relevance to this study is the obvious incongruence between the dimensions of subjects' personality style and the work environment style. 'Style' in both contexts includes dimensions such as celerity (speed of response), pace (energy expended), rhythm (pattern of pace) and endurance (length of time of response) (Dawis & Lofquist, 1984). The demands for celerity, pace, rhythm and endurance made by the organisation upon individuals are significantly lower than their expectations of a nuclear engineering environment and significantly lower than what they need to feel stimulated. Consequently reality shock is experienced in this regard and frustration on the part of individuals ensues.

The subjects in this study who report having adjusted to the pace of activities dictated by the organisational climate reveal that they are disappointed in their own feelings of complacency which have replaced feelings of frustration. Schein (1978) warns of the danger of complacency for the organisation as it often remains undetectable until the employee is well embedded in the organisation. A gradual decrease in energy and creativity amongst young professionals was observed by Knapp (1980) as a result of unmet expectations. Simonsen (1997) describes individual behaviour in organisations that is reactive, risk-averse and uncreative as symptomatic of a non-adaptive bureaucratic organisational culture.

Furthermore, Schein (1978) warns that if the new employee learns norms and values such as complacency at the entry level of their career, they may never move to higher levels of the organisation where different values such as creativity and initiative may be required. In order to avoid the possibility that different values are operating at different hierarchical levels, it is essential that management diagnose and assess the culture/climate that is operating lower in the organisation and explicitly monitor the induction and early socialisation process (Schein, 1978; Hodgetts, 1991; Vecchia, 1995; Altmann, 2000).

Legitimacy

A further finding which contributes to the work context in which reality shock is experienced by the subjects in this study is that of their perception of their legitimacy in the organisation.

Specifically, in this study, some subjects feel that in addition to being a newcomer, they have to prove their worth as engineers *despite* their race. This adds an additional hurdle to be overcome. As various theorists (Feldman, 1976 ; Schein, 1978 ; Wanous, 1980) state, all newcomers have to face a number of tasks when they enter an organisation for the first time and one of these tasks is gaining acceptance from others. Subjects encountered difficulty with this task which they felt was exacerbated by the combination of their qualifications and race.

At least three subjects feel that they were only appointed *because* of their race in order to meet affirmative action quotas. These individuals are experiencing great difficulty in establishing their *rightful* place in the organisation which they feel should be based upon their task and interpersonal contributions, not their colour. This aspect of their work environment comes as a shock to these subjects who vigorously defend their qualifications as having been earned at a legitimate university. The issue of legitimacy was discussed earlier (Section 4.2.1) as it relates to the development of individual ego identity which is considered critical during the early career phase (Super,1992).

The importance of the issue of legitimacy in this study is how the individual subjects interpret the reasons for their appointment in the organisation. Louis (1980, as cited in Breakell, 1991) maintains that individuals who experience 'surprise' (reality shock), consciously ascribe meaning to the unexpected event and this influences their behavioural response. Some subjects in this study ascribe their appointments as being based on their racial classification in the belief that they simply inflate the organisation's affirmative action quotas. Their behavioural reaction to this ascribed meaning is resentment towards the organisation and this hampers their assimilation during the socialisation period.

Thus far, the findings in this study indicate that subjects encounter reality shock with respect to the content of their work and the context in which it is performed. The context is the work environment and is comprised of other people in the organisation and the organisational climate. Reality shock is also encountered with respect to career mobility issues.

4.2.3 Career Mobility

The third group of findings where reality shock has been experienced by subjects in this study, incorporates issues pertaining to their career mobility which is the movement, either vertically or horizontally to different jobs (Schreuder & Theron, 1997). These issues include

the training they receive, opportunities for advancement and the financial rewards on offer. These three areas differ with respect to the value placed upon them by subjects in this study.

Training

This finding reflects the very high value attached to personal development by the subjects in this study. A strong desire to learn more in their field motivated a number of subjects to join the organisation initially. This finding is supported by the expectations of engineering graduates in the United States who express a desire for professional development as an important work value (Electronic Engineering Times, 1995). In this study it is clear that the training courses themselves are well received and of a high standard. However the intervening periods of work are the source of dissatisfaction. According to Schein (1978), a satisfactory mix of training and meaningful work together with valid feedback, is ideal for both the individual and the organisation. Training is considered by subjects as a means to an end and the end that is valued is the improvement of their technical/functional competence as engineers. The value of training to the respondents in this study is explored later in this chapter.

Advancement

A further career mobility issue which resulted in reality shock for individuals in this study is that of their rate of advancement. As a group, they are ambitious and keen to advance their careers. This finding is supported by research in other countries, such as the United States and the United Kingdom, that young engineers hold a strong desire for professional development and are ambitious (Keenan & Newton, 1986; Electronic Engineering Times, 1995).

The choice between advancing into a management position or furthering their careers as functional specialists is available to subjects in this study. Their responses to this choice are classic examples of the findings by Schein (1978) with respect to the career anchor that he labels technical/functional competence and can be understood in light of his theory.

Schein (1978) noted that individuals who identify technical/functional competence as a career anchor for themselves make career choices and decisions based on the actual content of the work they do. The self image of such individuals is directly related to their feelings of competence in their chosen field. This means that they are not interested in management per se, but will accept management responsibilities within their technical or functional area of competence. Career growth for these individuals means continued advancement primarily within the area that they find exciting (Schein, 1978). In this study, that area is clearly the field of pure engineering. Further understanding of this finding is

offered by Simonson (1997) who suggests that some individuals do not seek the managerial route for advancement of their careers because of the higher commitment and broader responsibilities such positions demand.

Thus it is clear that the two core career anchors for subjects in this study include technical/functional competence and creativity (explained earlier in Section 4.2.1). In order to retain these individuals in this organisation, careful note should be taken of how to offer advancement opportunities founded on these two anchors.

Financial reward

The final finding with respect to career mobility issues concerns that of financial rewards. In Section 4.1.1 of this chapter, it is stated that subjects expected to be well rewarded for their efforts and this perception contributed to their decision to study engineering.

Financial rewards are valued by the subjects in this study but do not compare in importance with the value placed upon the content of work or opportunities for advancement. Generally the subjects are satisfied with their monthly pay cheques.

This finding can be explained by considering research by Wah (1998) and Jackson et al. (1992, as cited in Heckert & Wallis, 1998) which indicates that, of greater importance to young professionals than money, are creative development opportunities. Furthermore Leavitt (1996) suggests that high pay and low morale are not uncommon characteristics of large parastatal organisations such as the one in this study.

Career values

It is clear from the above three findings that individuals in this study place a high value on training and advancement and less importance on monetary reward. Their expectations upon joining the organisation were that they would receive extensive training which would improve their engineering knowledge and skills and would result in rapid career advancement and related rewards.

Expectations develop from needs which in turn emerge from values (Greenhaus et al., 1983). Research into career values by Dawis and Lofquist (1984) offers understanding around the findings in this study. Dawis and Lofquist (1984) suggest that value dimensions can be grouped according to their source of reinforcement. Of particular relevance to this study is their observation that the values of safety and comfort are reinforced by the work environment whereas those of achievement and autonomy are reinforced by the self (Dawis & Lofquist, 1984). The employing organisation in this study is a large parastatal which can

offer a secure work environment and market related remuneration. However, the subjects in this study, appear to value achievement through stimulating work duties and personal advancement, over security and comfort.

Dose (1997) postulates that social values, those held collectively by a culture, in this case, organisational culture, are more susceptible to influence during the socialisation process than personal values (Dose, 1997). Thus it appears as if there is little the organisation can offer during the socialisation process to modify personal values. Dose (1997) further suggests that organisations should identify which values are important to newcomers as this will impact upon the likelihood that they will adapt to the organisation during the socialisation process.

The finding around values amongst subjects in this study can be further understood in light of research into the relationship between high pay and low morale (Leavitt, 1996). Leavitt (1996) investigated this relationship within parastatal organisations and discovered that other factors than 'good pay' impacted upon job satisfaction. He notes that opportunities for advancement, promotion policies and supervisory support for quality work ranked higher amongst well paid public service employees than money (Leavitt, 1996).

Furthermore, Leavitt (1996) discovered that individuals in such organisations were particularly dissatisfied with inter alia, chances for advancement, promotions based upon 'who you know' and affirmative action policies. These same issues emerged as concerns by subjects in the present study.

Thus the position held by Greenhaus et al. (1983) that values are greater influencers in the attainment of job satisfaction than expectations, supports the findings in this study. Organisations would be well advised to identify the individual career values (which manifest as expectations) of newcomers, as realistic expectations may activate effective coping behaviour and produce greater satisfaction than if the lack of value attainment came as a shock to individuals (Greenhaus et al., 1983).

Reality shock is experienced by subjects in this study. Areas that produced incongruence between work expectations and experiences include the content of work, the context in which work is performed and career mobility issues with the exception of financial reward. The third core theme that emerged from this research is labelled *adjustment* as it focuses on how subjects respond to reality shock.

4.3. ADJUSTMENT

Various findings that emerged in this study indicate that, as a group, the subjects are still grappling with reality shock. These findings are grouped together in the third core theme, *adjustment*. Two sub-themes emerged from this study with respect to adjustment. They include the various adjustment issues (4.3.1) faced by new engineers and their coping responses to these issues (4.3.2).

4.3.1 Adjustment Issues

Within the work environment, subjects have to adjust their perceptions of time, responsibility and interpersonal interactions. Beyond the work place they have to adjust to changes in their personal lives which are typical of the life stage of early adulthood.

Time

This finding indicates that subjects have to cope with a major adjustment in their perception of time. They experience the pace of daily activities and their own advancement as too slow.

By the time these graduates reach the work environment they have spent at least the last 16 years of their lives in a school or university environment which is structured around short time horizons of a term or a semester (Webber, 1976). Feedback, in the form of examination or project marks, is awarded frequently in the education system. Thus it is understandable that they are unused to longer periods of time before concrete evidence of progress is received.

The subjects in this study have all, but one, identified career goals for themselves linked to specified time frames. Little research is available on the studies of time perception by individuals in a work setting. However, one contribution in this field comes from Seijts (1998) who explored the relationship between time perspective and personal motivation to achieve goals. Bandura (1983, as cited in Seijts, 1998) argued that self-motivation is best summoned and sustained by adopting proximate goals that lead to large future goals. People who are more oriented towards the future place a great value on doing future oriented tasks (Seijts, 1998).

The career goals for subjects in this study include registration as professional engineers (proximate) with a view to more distal outcomes in the profession, many as yet unclear. This perspective is confirmed by Fingerman and Perlmutter (1995) whose investigation into time perspectives across adulthood reveal that individuals of all ages tend to focus on the 'next few months' more often than any other period of time. Yet younger adults report thinking about the future more than older adults (Fingerman & Perlmutter, 1995).

It is also argued that having a future time perspective is tantamount to having a high achievement motivation and that goal oriented individuals are well adapted and psychologically healthy (Seijts, 1998). Given that one assumes an organisation is desirous of having such individuals in their employ, the subjects in this study are valuable employees. The challenge that faces the organisation is to provide opportunities for their goal attainment in order to retain their services.

A further finding in this study was that the subjects have achieved much by local societal standards, in a relatively short space of time. By age 25, many have two university degrees, a stable job and have formed stable interpersonal relationships. In this context, it is understandable that they hold ambitions to achieve much more within the next two years of their lives. This time frame surrounding their ambition can be understood in terms of research conducted by Fingerman and Perlmutter (1995).

As far as time perspective and chronological age is concerned, Fingerman and Perlmutter (1995) found that differences in time perspectives amongst adults were more a function of stage of life than the length of time a person has lived. It appears that the sense of time held by an individual is structured by the *content* of their life thus far.

The issue of time relating to how long an individual will tolerate discorrespondence in their work environment is addressed later in this chapter. A further area of adjustment demanded of subjects in this study is that of responsibility.

Responsibility

A second area of adjustment for subjects in this study is that of taking responsibility for their own careers and development, as well as adjusting to routines.

Most of the subjects in this study appear to have coped with this adjustment adequately. They are comfortable with initiating their own training and mentorships. They respond proactively if required and yet still recognise that they have much to learn in the field.

The concept of individuals taking greater responsibility for their career development than in the past is discussed by Schreuder and Theron (1997). They suggest that as organisations are changing, the primary implication for individuals is that careers become more protean (Schreuder & Theron, 1997). The protean career is managed by the individual, not the organisation, which merely provides opportunities for career redirection.

"In the protean career, performance is defined by the individual's own criteria of good performance (that is psychological success), whereas in the traditional career the

organisation defines success in the form of a salary and position. The protean career values freedom and growth and is characterised by a high degree of mobility." (Hall, 1976, as cited in Schreuder & Theron, 1997, p14). In this study subjects indicate their willingness to absorb this responsibility but feel limited in the opportunities offered by the organisation to fulfil it.

Schein (1978) says that young employees must learn to strike a balance between being both dependent and independent. This involves balancing the demands of others with taking the initiative to develop challenging opportunities oneself.

With respect to adjusting to routine, Super (1957, as cited in Schreuder & Theron, 1997) ascribes this difficulty to the impatience of youth and the lack of ability to recognise that most work involves a good deal of routine. He suggests that this adjustment can only ever be achieved once time has passed and the individual realises that routine exists in many areas of life (Super, 1957, as cited in Schreuder & Theron, 1997).

A further area of adjustment for subjects is that of interpersonal interactions.

Interpersonal interaction

This finding indicates that subjects have to adjust to interacting on a daily basis with a culturally diverse workforce. In this study, antagonisms emerge particularly between new engineers and artisans. Apart from racial differences, disparity in age, education, experience and remuneration compound the friction. The subjects report having to exercise humility in order to gain co-operation from these co-workers. They also modify their patterns of speech and vocabulary when interacting with different sub-groups of co-workers.

In South Africa, culturally diverse workgroups add a further dimension to work adjustment in general because our ideological past imposed severe restrictions on inter-cultural interaction. Simply put, employees are now forced to work with people who have different values and perceptions shaped by diverse cultural backgrounds. Differences between groups can result in the erection of barriers to their integration (Berger, 1996). Problems of differences in language and the ability to communicate with other groups contribute to inter group antagonisms (Berger, 1996).

Tension between older and younger employees is cited as a common problem in organisations (Webber, 1976). He ascribes this tension to the difference between the textbook approach of problem solving by younger employees and the experience based approach of older employees. Webber (1976) suggests that older employees do often feel threatened by younger ones but that this threat is more a reminder of their mortality than of concern for their position in the organisation.

Subjects in this study appear to recognise and understand the reasons for the antagonism they experience and are mature enough to cope with it by not responding aggressively. Although they do not like the situation, they are prepared to moderate their approach in order to contain outright conflict. In this situation, the subjects have borne all the adjustment required. The organisation needs to consider ways to address the negative impact of underlying conflict between new engineers and established artisans.

Life stage adjustment

Beyond the boundaries of the organisation, individuals in this study are engaged in adjusting to issues that commonly arise in early adulthood. These included moving away from home, getting married, locating new living environments and in a few cases, accepting the responsibility of starting a family. These life tasks are typical of the early adulthood life stage in Western cultures (Gerdes, Ochse, Stander & Van Ede, 1981).

Gerdes et al. (1981) identify a number of tasks faced by individuals which reflect the interdependence of multiple roles faced by young adults. These include four categories of tasks faced by young adults which underlie the individual's drive towards growth and self development. The first category contains tasks relating to the self which include achieving independence and responsibility, establishing and stabilising identity, defining values and developing the capacity for commitment to others. The second category contains tasks relating to family, including selecting a mate, learning to live with a marriage partner, raising children and maintaining a home. A further category relates to work and leisure which involves becoming established in an occupation and developing a pattern of recreation. Finally, the individual faces tasks relating to the community and making a contribution to that community. All of these tasks have to be faced simultaneously (Gerdes et al., 1981).

Most subjects now enjoy fairly stable patterns of home life. Thus it appears that this area of adjustment has been successfully negotiated by the individuals in this study. Those that reported difficulty in arriving at this point valued supportive assistance from superiors in the organisation. Having managed to adjust to changes external to their work environment, these subjects are in a position to focus on work adjustment issues.

Work adjustment is the process of achieving and maintaining correspondence between the individual and the work environment to the mutual satisfaction of both (Dawis & Lofquist, 1984). This section has detailed the various areas where subjects in this study have had to employ work adjustment mechanisms, including issues of time, responsibility and interpersonal interactions in order to achieve correspondence (congruence) between their

expectations and the realities of work life. The following section explains the findings of this study with respect to the coping responses of the subjects to work adjustment.

4.3.2 Response and Coping Mechanisms

Work adjustment only becomes necessary if an individual has experienced reality shock in one or other area of their work experience. Reality shock occurs when expectations and work experiences are incongruent, causing work adjustment to be employed to try to achieve correspondence for the individual. In this study, reality shock is revealed to have been encountered by most of the subjects, therefore their responses to adjustment have been explored.

The process of work adjustment is a manifestation of the interaction between an individual's work personality and the work environment employing the individual (Dawis & Lofquist, 1984; Hershenson, 1996). Therefore the work personality of the individuals in this study in relation to their work environment becomes important when trying to understand their responses to work adjustment.

Response

In this study, all the subjects initially report actively responding to the incongruence they experienced by trying to change the environment. Those that are still dissatisfied at work, still pursue this approach. However some subjects report changing their approach to one of reactiveness, upon encountering resistance from the organisation to change. Often this shift in approach is unconscious and evolves subtly over time. Those that have become reactive, report disappointment in themselves at having allowed circumstances to have shaped their behaviour, particularly with respect to the nature of work they perform.

Adjustment to the perceived slow pace of activities and personal advancement is handled actively, that is, subjects still do not accept the reality of the organisation in this respect. Adjustment to interpersonal interactions, accepting responsibility and coping with routine have been handled reactively, the new engineers have adjusted their own behaviour.

Flexibility is employed by all the subjects to varying degrees in that the mere fact that they remain in the organisation suggests a certain tolerance for incongruence. However, this is often due to their commitment to working for the organisation in order to repay bursary obligations.

It is likely that unless more exciting engineering work is assigned to them, the perseverance that they display will only last until their financial obligations are fulfilled. This was the case with the one subject who had left the organisation as soon as he could.

The time during which incongruence is tolerated is frequently quite short. One subject decided within two months to return to studying as a route to hasten his advancement. Another reported *"hanging around"* for only three days before initiating a work assignment. Others sourced training courses external to the organisation that they felt they needed.

The responses to adjusting to incongruence in the work environment that emerged in this study can be explained in light of work adjustment theory (Dawis & Lofquist, 1984). Incongruence in this case can be correlated to (dis)correspondence, a term employed by Dawis and Lofquist (1984).

In seeking correspondence with the work environment, Dawis and Lofquist (1984) offer four variables which describe individual responses to incongruence. They include flexibility (tolerance for discorrespondence); activeness (changing the environment); reactiveness (changing oneself) and perseverance (length of time that discorrespondence is tolerated). In the absence of measuring instruments available to quantify individual responses, only a descriptive interpretation can be offered with respect to the present study. In general, the subjects interviewed in the current research display a low tolerance for discorrespondence and tend to react actively to the environment within a short period of time.

Further understanding of the individual responses to work adjustment is offered by role adjustment theory (Nicholson, 1984, as cited in Ashworth & Saks, 1995). Those individuals who actively tried to change their work environment by seeking additional stimulation display *determination* where the role bears all the adjustment. Those who responded reactively to their environment by modifying their expectations display *absorption* where the individual bears all the adjustment (Nicholson, 1984, as cited in Ashworth & Saks, 1995).

Essentially, two outcomes of work adjustment are possible. Either employees do adjust to their new working environment or they do not. In this study, six subjects have successfully negotiated work adjustment. However most are still engaged with the process. Of those who have not fully adjusted yet, various coping mechanisms are employed by them to deal with frustration, which is the primary outcome, in this case, of discorrespondence with their environment.

Coping

The results of this study suggest that individuals currently engaged in the work adjustment process employ a variety of methods to cope with incongruence between their expectations and the reality of work. The subjects in this study report high levels of frustration in respect of time delays to achieve tasks and their own advancement as well as the nature of the work they perform, which in their opinion, under-utilises their abilities. In these respects, the subjects are 'stressed'.

Stress is said to occur when there is a discrepancy between an employee's perceived state and desired state, provided that the presence of this discrepancy is considered important by the employee (Edwards, 1992 as cited in Keaveney & Nelson, 1993). Stress is typically considered to be experienced when an individual is overloaded with work or has to fulfil multiple roles. However, stress can also be experienced if an individual is understimulated, bored or frustrated. Frustration results from the blocking of motives of goal seeking behaviour (Atwater, 1983). Delays are a typical source of frustration (Atwater, 1983).

Nelson (1987) suggests that if an individual experiences reality shock during organisational socialisation, the outcomes of socialisation may result in individual distress. This distress may manifest itself behaviourally, psychologically or physiologically and result in costs to the organisation culminating in staff turnover (Nelson, 1987). Savery (1987) argues that individuals typically begin their careers with very high expectations of what they can achieve for themselves and society in general. Failure to achieve these expectations leads to stress and possible low job satisfaction. When stress is experienced, individuals employ coping strategies to deal with it.

Strategies

In the present study, individuals use both psychological processes, hobbies and interests and other individuals to cope with their frustration and disappointment during socialisation. Sometimes these strategies are employed within the work environment, sometimes externally. The results obtained in this study are integrated in this section which explores the overt coping strategies employed by these subjects in the light of prior research. Thereafter, an understanding of the psychological coping processes is offered. One description of coping is any process of analysis and evaluation used to decide how to protect oneself against the adverse effects of a stressor (cause of the stress) (Schuler, 1986, as cited in Keaveney & Nelson, 1993).

The most commonly used strategy for coping in this study is the seeking of peer support. Ostroff and Kozlowski (1992) suggest that peers and co-workers may meet the social needs

of employees during socialisation and that seeking out social support is a strategy used by newcomers to adapt to the organisation.

Subjects also report receiving help from family members. Schein (1978) recommends opening up channels of communication with family members, friends and peers as a useful coping response to dealing with problems.

Rechannelling energy that is not satisfactorily expended at work into projects outside of the organisation, is a third common strategy employed by subjects. By furthering their education, exploring design projects or seeking spiritual fulfilment, subjects find outlets for their frustration at work. Schein (1978) identifies rechannelling energy into other interests as typical of individuals, with a strong creativity career anchor, who are blocked from displaying their creativity at work.

In this study, those who reported responding actively to incongruence in their environment cope by trying to change the situation, such as asking for more stimulating work assignments. Those who responded reactively by becoming complacent decided *"not to fight reality"*. These coping responses are adequately explained by Schein (1978).

As Schein (1978) observes, a coping response is anything a person chooses to do in order to deal with the life task at hand. A response can be to do nothing, allowing a situation to remain as it is or it can be internal, such as choosing not to be too upset about something (Schein, 1978).

Psychological Coping

A variety of coping efforts have been identified by experts in the field and it is beyond the scope of this document to record all of them. However, one commonly agreed upon category, namely, psychological coping, offers insight into some of the comments offered by subjects in this study.

Subjects report coping by *"looking on the bright side"* or accepting the reality of work life as a way to *"support my family"*. Others look forward to the day they can leave the organisation. These strategies are explainable in terms of the theory of psychological coping.

Psychological coping refers to internal, personal coping efforts focused on changing perceptions of environmental stressors or their outcomes (Keaveney & Nelson, 1993). Keaveney and Nelson (1993) suggest that psychological coping can take one of three forms.

Intrinsic motivational orientation represents psychological coping by perceptual biasing of incoming stressful stimuli (Keaveney & Nelson, 1993). Individuals who employ this strategy may deliberately reinterpret external stimuli in a more favourable light. This strategy is employed by the individual in this study who was 'warned' during his interview that he may perceive the pace of activities in the organisation as very slow. He stated that he decided that he would prefer this over a dynamic environment as he would be able to settle into the organisation better. He consciously shifted a potentially negative experience into one that he perceived to be positive.

A second psychological coping strategy is perceived role benefits (Keaveney & Nelson, 1993). Individuals selectively refocus their attention on more desirable stimuli. They take a 'silver lining' approach, mentally highlighting the positive while ignoring or downplaying the negative. In this study, one subject who articulated frustration around the pace of activities, said that the positive aspect of this experience was that because life was so slow and easy at work, he could focus his energies on furthering his studies. He consciously attempted to identify a positive balancer to his boredom.

These first two strategies do not hold potential threat for the organisation as the individuals still manage to view their work environment positively. However, the third strategy does offer negative outcomes for the organisation.

Individuals employ psychological withdrawal as a third coping strategy by mentally distancing themselves from the stress-causing environment in order to cognitively limit negative effects of stress (Keaveney & Nelson, 1993). Psychological withdrawal manifests itself in individuals rechannelling their energy outside of the organisation or biding their time until they can leave. One subject copes by *"not thinking about this place"* as soon as he leaves work.

Psychological withdrawal is most evident amongst those subjects who have consciously decided to leave the organisation once their bursary obligations are fulfilled. This lack of commitment to a future within the organisation is reinforced as they admit forging links with industry beyond their workplace in preparation for leaving.

Further understanding of this finding is offered by research conducted around the relationship between commitment and career stage (Cohen, 1991). Cohen (1991) believes that organisational commitment manifests itself in important organisational outcomes including turnover. Results revealed that organisational commitment during the early career stage varies depending on individual opportunities and available alternatives and that the early career period is the most susceptible to employees intentions to remain or leave the

organisation (Cohen, 1991). Reichers (1986, as cited in Cohen, 1991) explains that psychological attachments including expectations, challenge and conflict, carry the most weight as antecedents to commitment during the early career stage.

Furthermore, Shadur (1999) suggests that a key factor contributing to individual involvement in an organisation is the organisational climate which can either facilitate or impair employee involvement.

Leavitt (1996) suggests that public managers who seek a motivated workforce with low turnover should provide flexibility in their organisational policies and procedures to enable individuals to rotate through jobs to discover their career anchors and then continue to fulfil the needs of these anchors (Leavitt, 1996).

In terms of organisational socialisation, this third core theme of adjustment is addressed by theorists who explain that individuals enter a third stage of socialisation after reality shock. This third stage is characterised by change on the part of the individual in terms of their self-image, values and behaviours (Porter-Lawler-Hackman, 1975, as cited in Wanous, 1980) or a resolution of conflicts (Feldman, 1976).

The six subjects who report having settled down and adjusted to organisational routines may well be said to be engaged with this third phase of socialisation. However those who are still struggling to adjust and are even considering leaving the organisation have clearly not resolved the conflicts presented by the incongruence between their work expectations and experiences.

4.4 SUMMARY

This chapter offers discussion and interpretation of the results of this study with the context of organisational psychology.

Three core themes have been identified, anticipation, reality shock and adjustment. All of these three themes can be understood within the broad literature around organisational socialisation which typically offers three stages in this process. These stages address the expectations of newcomers, their experiences in the work environment and their adaptation to the organisation.

In the first theme, anticipation, it appears that the contributing factors of childhood experiences, societal stereotypes, university education and organisation entry experiences all created unrealistic expectations of the work world for subjects. These findings are supported by a number of theorists including Schein (1978) and Dean (1982).

In the second theme, reality shock, many of the experiences of the subjects were revealed to be incongruent with their expectations. Notable incongruence was encountered with respect to the content of work and the context in which it is performed as influenced by the organisational climate, together with issues that impact upon career mobility.

The third core theme discussed in this chapter refers to the various adjustment issues faced by subjects in this study and their responses to adjustment. Generally subjects respond actively to their work environment and try to alter variables that cause frustration. When these attempts prove unsuccessful, they resort to employing coping strategies, the most negative of which is psychological withdrawal.

Forty years ago, Walton (1960) observed in his study of why engineers leave organisations that their reasons for staying are most likely to be connected with the intellectual characteristics of the work. Today this reason seems to still hold true.

Even if individuals do not actually leave the organisation, they lose motivation as evidenced by those subjects who reported feeling complacent or experience stress. Hanson (1989) warns that when a worker is understimulated for a few years, expectations start to resemble limitations of the job and energy levels and prospects for escape into new careers decline.

The early career experiences of the subjects in this study has, by and large, been an unexpected or disappointing one for them. The following chapter offers recommendations to the parties involved in the socialisation of young graduate engineers in the hope that such suggestions may facilitate the assimilation of future employees during their early career period.

CHAPTER FIVE – APPLICATION

This research focuses on the nature of the early career period of graduate engineers currently employed in a South African utility organisation as determined by the relationship between their work expectations and experiences. The results of this study are offered in the form of a thematic analysis based on the responses obtained from a sample of subjects. They reveal distinct areas where actions could be taken to facilitate the organisational entry process for individuals by reducing reality shock.

This chapter outlines three separate issues pertaining to this research. Firstly, recommendations are offered with respect to possible actions that could be taken respectively, by the organisation which employs these subjects, the universities which prepare them for work and the individuals themselves (5.1).

Furthermore, this chapter records limitations of the present study (5.2) and finally it offers suggestions for future research in this field (5.3). A summary of this chapter is also presented (5.4).

5.1. RECOMMENDATIONS

The recommendations offered in this section include suggestions for facilitating the organisational entry of newcomers and have been obtained from the subjects interviewed in this study as well as the researcher.

5.1.1 Recommendations to the Organisation

These recommendations are offered sequentially, following the typical order of activities performed when a new employee is sought and employed by an organisation.

Recruitment

Advertisements intended to attract suitable candidates to the organisation should be carefully worded to reflect the true nature of daily tasks. Emphasis upon the term 'nuclear' should be downplayed unless the individual will definitely be directly employed in this department of the organisation. If the primary tasks envisaged for the new employee are maintenance tasks, this should be articulated clearly in job advertisements.

During the interviews conducted with applicants, realistic job previews should be presented. These previews should emphasise the nature of the duties to be performed and a clear message should be sent to the applicant around the volume of paperwork required. Applicants should be informed about lengthy procedures and the general pace of activities.

Ideally, applicants should be interviewed within the perimeter of the plant where they will work. From their first interaction with the organisation, applicants should encounter the necessary rigorous security measures enforced. By experiencing the strict access control regulations upfront, applicants are likely, even subconsciously, to internalise this aspect of the work environment.

If possible, shortlist candidates should be escorted on a brief tour of the plant in order to familiarise them with their future workplace.

Selection

When the organisation decides to make an offer of employment to an individual, it should consider inter alia, personality traits together with academic performance. The individuals in this study who express less frustration towards their jobs, were, by their own admission, not 'A' students. They also do not express a strong desire to be involved in design activities and are comfortable with the maintenance aspects of engineering. One could venture to suggest that less ambitious individuals who are comfortable with steady routine are more likely to remain with the organisation in the long term.

Furthermore, it may be in the interests of both the organisation and the individual if the selection process included a 'value matching' component. A comprehensive profile of the individual's work values compared with the organisation's values may reveal potential congruence between the two. Strong evidence from this research indicates that the good financial rewards on offer from the organisation are not the most valued aspect of work for young engineers, who primarily seek challenging tasks.

Affirmative Action

Affirmative action is a necessary element in the selection process. However it is imperative that the organisation conveys to successful applicants that they have been selected on the grounds of their academic and individual credentials, not their colour. Perceptions of only having been employed in order to meet organisational race targets should be dispelled at the earliest opportunity.

Induction

The two-day General Employee Training (G.E.T.) course is generally well received. However, one element could be added. A brief address about the psychological adjustment required of all new employees would reassure newcomers that their feelings of anxiety are acknowledged and understood by the organisation. This address should be presented by a member of the Human Resources Department with strong empathetic skills. It should be

intended to allay feelings of insecurity and offer assistance to newcomers. Appropriate coping training should be included.

Immediate supervisors should be prepared to anticipate the arrival of a new member of their department. Designated work space should be allocated in advance of the new employee arriving and a meaningful task identified for completion by the newcomer.

Ideally, a peer of the new employee, who already knows the organisation, should be assigned to assist the newcomer during the first few days.

Psychological Contract

A member of the organisation should devote time with each individual newcomer in order to compile a psychological contract. This should be a written document which articulates expectations from both parties. A discussion around the contents of this contract offers an opportunity for unrealistic expectations to be highlighted and possibly reformed early in the entry period.

Training

The content of training courses offered by the organisation is regarded as being of a very high standard. The only areas of difficulty with respect to training are that new employees shoulder sole responsibility for deciding which courses to attend and sometimes in obtaining permission to attend them. It is suggested that during their first year of employment, the training schedule be more structured and directive. Thereafter, the current system of self-initiated training could be employed.

Projects

Clearly great enthusiasm exists for inclusion in project work and a large measure of satisfaction is derived if subjects are given responsibility for managing projects. This should be utilised as much as possible by the organisation towards the development of young engineers.

Obviously projects are not always available to suit the desires of this one group of employees. However, more than one subject indicated that they would enjoy being assigned to a project outside of the plant, especially those within the greater Cape Town communities. When electricity is installed in areas where it has not been available to citizens before, some of the young engineers would like to be assigned to the position of 'engineer on site' where they could interact with members of the community in that capacity. If this proposal were possible, it could develop project management skills in the engineers and create goodwill in the broader community towards the organisation and the profession in general.

Mentoring

Mentoring is perceived as necessary and valuable to young engineers. However the role of mentor should not be imposed upon individuals in the organisation. Rather, mentors should be volunteers who are given specific training for the role.

One area of difficulty appears to be relationships between new engineers and established artisans. A suggestion in this regard would be to invite artisans to volunteer for the role of co-mentor. Their responsibilities could include orienting the newcomer to the practical aspects of engineering. Such co-mentors should be financially rewarded for their efforts, possibly on the basis of the number of engineers in their care who complete their training successfully. By recognising the vast experience of these artisans and co-opting their input into training young engineers, it is possible that some of the traditional tension between these two groups would be eased.

The above recommendations are offered to the organisation in the light of the reported difficulties that engineers express experiencing upon organisational entry. They are intended to create more realistic expectations among applicants and facilitate their assimilation into the organisation. However, the full responsibility for preparing individuals for the world of work does not rest exclusively with organisations. Universities and institutions of higher learning also have a role to play.

5.1.2 Recommendations to Universities

Universities have to strike a fine balance in their curriculae in order to meet the dictates of international academic excellence and the needs of industry. At present the emphasis is clearly upon the former with courses that teach design and pure engineering principles. Whilst these should remain the essential core focus, two further aspects leave students significantly under-prepared for the realities of working in large organisations.

Practical Skills

It is unlikely that universities will shift their entire focus to practical training. The Technikons fulfil this aspect more than adequately but engineering diplomas from these institutions do not carry the desired status of university degrees.

Whilst resources are admittedly limited, the academic year is short ($\pm$32 weeks) and a supplementary two week practical course could significantly improve the ability of students to apply their theoretical knowledge. Whether conducted on the university campus or a Technikon campus or even at co-operative organisations, this course should include knowledge of tools and machinery commonly encountered in an engineering environment.

Furthermore, projects intended to test the knowledge of students with regard to design principles should include an element of functionality. Students should produce artefacts that not only look aesthetically pleasing, but actually work. Extensions of due dates for projects should not be granted lightly in order to encourage students to learn to meet deadlines.

Interpersonal skills

Graduate engineers report one of their greatest work adjustments as cultivating the ability to communicate with other people in the organisation who represent diverse cultural backgrounds.

The current six month communication module included in engineering degree courses emphasises written communication. Whilst written skills are important, an effort should be made to include interpersonal skills such as conflict resolution, interaction in meetings and sensitivity training. Students should be encouraged to work in culturally diverse groups which reflect the real work situation.

Responsibility for preparing oneself for the realities of work life also rests upon the individual.

5.1.3 Recommendations to Student Engineers

These recommendations to student engineers are offered by the subjects interviewed in this study. They can be categorised into three distinct responsibilities that students should recognise as their own, including the formation of expectations, activities whilst at university, and attitude.

Expectations

Students should, as far as possible, hold realistic expectations about their future work life. They should take note of their duties during vacation work and not assume that 'things will be different' when they eventually assume full time positions of employment.

They should network as much as possible with engineers in industry and take heed of their perceptions of work. South African students should not anticipate extensive design work and should ask incisive questions during interviews around the nature of daily activities. They should also try and develop realistic perceptions of time with respect to advancement. A five year period in a large organisation before promotion is more realistic than one or two years.

Student Life

During their full-time student phase, individuals should interact as much as possible with other students from diverse cultural backgrounds. They should not isolate themselves from communicating with others. Furthermore, they should try and exercise self-discipline with

respect to meeting assignment deadlines and coping with routine in anticipation of work place demands. By scanning newspaper employment advertisements, they should gain an insight into realistic market-related salaries for graduate engineers.

Attitude

Finally, when joining an organisation for the first time, the primary advice offered by current employees is to exercise humility. By acknowledging that they still have much to learn from individuals with less education but more experience than themselves, interpersonal interactions are significantly eased.

Humility needs to be balanced with a proactive approach to seeking information. Students are advised to ask questions and take responsibility for initiating their own development.

Whilst this research has produced a variety of results and consequent recommendations, it remains but one contribution to the field of understanding the early work career period. Limitations of this study are discussed in the following section.

5.2 LIMITATIONS OF THE STUDY

This research has a number of limitations which need to be recognised when consideration is given to the results obtained. These limitations pertain to the methodology employed, the nature of the sample and the transferability of results to other organisations.

5.2.1 Methodology

A primary limitation of this study is the fact that data was collected at one point in time. The implications of this, are simply, that a snapshot view of work life is offered by each respondent at the time of data collection. This cross-sectional approach was unavoidable due to time constraints imposed upon the study.

Respondents were required to 'think back' to the time of their graduation and recall their expectations compared with their experiences. This retrospective approach may have resulted in some unintended distortion in their responses. However, the consistency of responses obtained mitigates against the likelihood that gross inaccuracies are reported. Possibly, a longitudinal study, where the same group of subjects are interviewed upon graduation and again at annual intervals for a period of years may lead to more exacting results around their perceptions and coping responses.

Important methodological issues around the quality of the research process and results including the validity and reliability of the present study were discussed in Chapter Two of this document. However, comment around the sample employed is warranted.

5.2.2 Sample

The sample employed in this study consisted of 16 individuals within defined parameters of the early career period in a particular organisation. In total, 26 individuals within these same parameters are employed by the organisation. One refused to be included in the study on the grounds that he was not comfortable being interviewed. Two further subjects agreed to be included but were unable to find time to be interviewed due to work demands. Others were unavailable for various legitimate reasons such as training or leave commitments. However, once again the consistency of responses does suggest that the sample is large enough to offer reliable findings.

A further possible limitation with respect to the sample is that all 16 individuals were not the same 'type' of engineer. Although largely mechanical engineers, a range of disciplines is represented. Apart from the one software engineer who is employed in a distinctly different capacity from the others, responses were fairly uniform regardless of the specific field of engineering in which subjects are employed.

5.2.3 Transferability

One important issue that should be considered with respect to the transferability of results to other organisations, is the nature of 'product' at this organisation. Nuclear power is a unique output. Its production demands extremely stringent security measures for obvious reasons. As no other organisation in South Africa produces nuclear power, the results are limited in their transferability in this respect.

Despite this limitation, the aspirations and expectations of graduate engineers can be considered to be fairly uniform. Certainly the results may be of value to other large organisations, particularly parastatals or those producing volatile products requiring equally stringent security and safety measures, for example, oil refineries.

The results may be less relevant to smaller engineering firms whose focus is consulting or contracting work.

5.3 FURTHER RESEARCH

There are a variety of issues in this field that deserve further investigation. This research focused on the relationship between work expectations and experiences of graduate engineers currently employed in a large utility organisation. In the event that incongruence existed, adjustment responses have been explored.

Further research into how expectations are formed is desirable. Longitudinal studies which track the shifting perceptions of individuals as they progress through the early career period could offer valuable learnings in respect of work adjustment.

Research into the perception of time by individuals of different ages and at various career stages may yield useful results. Understanding how to adjust one's perception of time to accommodate a career-long perspective and still achieve personal goals may reduce anxiety over the rate of personal advancement.

The nature of the early career experience amongst young engineers employed in small contracting or consulting firms may yield notably different results as the organisational climate within smaller organisations is likely to be different from the organisation in this study. The nature of work performed may also be markedly different.

In each study, the specific work environment in which each individual engages, contributes significantly to the individual work experience and must therefore be considered. To this end, qualitative research, of which there is very little in this field in South Africa, should be employed in order to obtain worthy results.

5.4 SUMMARY

This chapter offers recommendations to organisations planning to employ graduate engineers, the universities designing and presenting course currriculae as well as engineering students in South African universities. It is suggested that all three parties hold joint responsibility for the establishment of realistic work expectations amongst new graduates in the engineering discipline.

Limitations of the present study are also identified in this chapter specifically with respect to the cross-sectional methodology employed and the transferability of the study. Finally, areas for future research are identified as certain topics emerged from this research that require investigation. Exploration of such issues may well add value to the field.

CONCLUSION

This research investigates the relationship between the work expectations and work experiences of a sample of engineers during their early career stage. Attention is given to the nature of these two constructs and individual work adjustment responses to incongruence encountered between them.

The results of this research offer a qualitative reflection of the individual's life-world at work and contribute to the understanding of career psychology through an in-depth investigation of the early career stage. In the current South African climate of limited professional human resources, greater understanding of individual experiences is essential, if highly qualified graduates are to be retained both in organisations and the country.

Critical to the retention of these individuals is their psychological well-being at work. The results of this study indicate that significant incongruence is experienced at the individual level between work expectations and reality. Thus psychological well-being is negatively affected, which has adverse consequences for the organisation and the individual. In the introduction to this document it was noted that psychological well-being in a work context is achieved if individuals have variety in their jobs, opportunities to learn, autonomy to make decisions, social support and recognition and opportunities for advancement. The results of this study indicate that almost all of these elements are absent amongst the research sample. The organisation does, however, offer satisfactory financial rewards and security, two elements that are not highly valued by the subjects in this study.

Reality shock is not a phenomenon unique to South Africa. Chapter One of this document (literature review) offered an insight into the research conducted in this field thus far and it is clear that high work expectations are common amongst young professionals in most industrialised societies, as is the disappointment often experienced when expectations are not realised. This study reveals that, despite all the well-documented evidence around unrealistic expectations, the same problems of incongruence beset South African engineering graduates.

A concerted effort is required to address this situation. Human resource practitioners and line managers in organisations and training institutions have a responsibility to provide realistic information to students around the true content of work and the context in which it will be performed, in an effort to foster realistic expectations. Furthermore, organisations should attempt to identify individual work values prior to employment and strive to accommodate them. Young graduates themselves also have an individual responsibility around the management of their careers which requires a concerted effort on their part to

investigate the reality of work life prior to entering organisations. This may require modification of their work expectations.

It is suggested that some adjustment of current practices is required by individuals, universities and organisations, in order to facilitate the attainment of congruence between the expectations and experiences of early career individuals. Increased congruence between these two constructs will result in improved psychological well-being which will in turn benefit individuals and organisations alike.

REFERENCES

Altmann, R. (2000). Understand the organisational climate. *Canadian Manager 25,* 2. Retrieved March 22, 2001, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Aryee, S., & Wyatt, T. (1996). Early career outcomes of graduate employees: The effect of mentoring and ingratiation. *Journal of Management Studies 33*, 1. Retrieved February 21, 2001 from EBSCO database (Business Source Premier) on the World Wide Web: http://www.ebsco.com.

Ashworth, B.E., & Saks, A.M. (1995). Work-role transitions: A longitudinal examination of the Nicholson model. *Journal of Occupational and Organisational Psychology 68*, 157–175.

Atwater, E. (1983). *Psychology of adjustment* (2nd ed) Prentice-Hall Inc., Engelwood Cliffs, New Jersey.

Berger, M. (1996). Cross cultural team building: guidelines for more effective communication and negotiation. McGraw-Hill, London.

Breakell, L.D. (1991). Newcomers in organisational entry coping with early job experience. *Journal of Industrial Psychology 17, 3*, 13–18.

Buchanan, B. (1974). Building organisational commitment: The socialisation of managers in work organisations. *Administrative Science Quarterly, 19*, 533–546.

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis.* Heinemann, London.

Carvello, J.V., Copeland, J.E., Hermanson, R.H., & Turner, D.H. (1991). A public accounting career: The gap between student expectations and accounting staff experiences. *Journal of Accounting Horizons 5*, 1–11.

Cohen, A. (1991). Career stage as a moderator of the relationships between organisational commitment and its outcomes: A meta-analysis. *Journal of Occupational Psychology 64*, 253–268.

Colwell, S. (1998). Mentoring, socialisation and the mentor/protégé relationship. *Teaching in Higher Education 3*, 3. Retrieved February 21, 2001, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com

Costlow, T. (1999). Tomorrow's engineers speak up. *Electronic Engineering Times 1076.* Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com

Dawis, R.V., & Lofquist, L.H. (1984). *A psychological theory of work adjustment.* University of Minnesota Press, Minneapolis.

Dean, R.A. (1982). Reality shock: The link between socialisation and organisational commitment. *Journal of Management Development 2, 3*, 55–65.

Dose, J.J. (1997). Work values: An integrative framework and illustrative application to organisational socialisation. *Journal of Occupational and Organisational Psychology 70*, 219–240.

Electronic Engineering Times (1994). Twists and turns in careers. Issue 823, 117. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Electronic Engineering Times (1995). This is what we want. Issue 871, 121. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Feldman, D.C. (1976). A contingency theory of socialisation. *Administrative Science Quarterly 21*, 433–451.

Fingerman, K.L., & Perlmutter, M. (1995). Future time perspectives and life events across adulthood. *Journal of General Psychology 122*, 1. Retrieved September 5, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Fowler, F.J., & Mangione, T.W. (1990). *Standardised Survey Interviewing.* Sage, California.

Gerdes, L.C., Ochse, R., Stander, C., & van Ede, D. (1981). *The developing adult.* Butterworths, Pretoria.

Greenhaus, J.H., Seidel, C., & Marinus, M. (1983). The impact of expectations and values on job attitudes. *Journal of Organisational Behaviour and Human Performance 31*, 294–417.

Greenhaus, J.H., & Callanan, G.A. (1994). *Career management.* (2nd ed) Dryden.

Hanson, P.G. (1989). *Stress for success.* Pan Books Ltd, London.

Heckert, T.M., & Wallis, H.A. (1998). Career and salary expectations of college freshmen and seniors. *College student journal 32, 3*, 334. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Hershenson, D.B. (1996). Work adjustment: a neglected area in career counselling, *Journal of Counselling and Development, 74, 5*, 442. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Hodgetts, R.M. (1991). *Organisational behaviour: theory and practice.* Macmillan Publishing Company, USA.

Holton, E.F., & Russell, C.J. (1997). The relationship of anticipation re: newcomer socialisation processes and outcomes: A pilot study. *Journal of Occupational and Organisational Psychology 70*, 163–172.

Hummelvoll, J.K., & da Silva, A.B. (1998). The use of the qualitative research interview to uncover the essence of community psychiatric nursing. *Journal of Holistic Nursing 16*, 4. Retrieved June 19, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Institute of Race Relations Yearbook (1999/2000). Institute of Race Relations.

Kaiser, T.L. (1997). *Supervisory relationships: Exploring the human element.* Pacific Grove, USA: Brooks Cole Publishing Company.

Keaveney, S.M., & Nelson, J.E. (1993). Coping with organisational role stress. *Academy of Marketing Science 21*, 2. Retrieved September 9, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Keenan, A., & Newton, T.J. (1986). Work aspirations and experiences of young graduate engineers. *Journal of Management Studies 23, 2*, 224–237.

Kelley, S.W. (1992). Developing customer orientation among service employees. *Journal of the Academy of Marketing Science 20,* 1. Retrieved March 22, 2001, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Klein, K.J., Dansereau, F., & Hall, R.J. (1994). Levels issues in theory development, data collection and analysis. *Academy of Management Review 19*, 2.

Knapp, M.C. (1980). The psychological contract. *The CPA Journal*, 76.

Kotter, J.P. (1973). The psychological contract: Managing the joining up process. *California Management Review 15, 3*, 91–99.

Kvale, S. (1983). The qualitative research interview: a phenomenological and hermeneutical mode of understanding. *Journal of Phenomenological Psychology 14*, 2. Retrieved June 19, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Kvale, S. (1996). The 1 000 page question. *Qualitative Inquiry 2*, 3. Retrieved June 19, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Leavitt, W.M. (1996). High pay and low morale. *Public Personnel Management 25*, 3. Retrieved September 6, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Le Roux, H., Scheepers, J.M., & Lessing, B.C. (1997). The relationship between career maturity, career expectations and perceptions of job and organisational knowledge of engineering bursars. *Journal of Industrial Psychology 23, 2*, 31–38.

Ludski, H. (2001, March 25). Skills logjam a thing of the past. *Sunday Times Business Times 3*, p1.

Maloney, L. (1999). The mentoring art. *Design News 54*, 13. Retrieved February 21, 2001, from EBSCO database (Masterfile) on the World Wide Web: http://www.ebsco.com.

Maykut, P., & Morehouse, R. (1994). *Beginning Qualitative Research*. The Falmer Press, London.

Miceli, M.P. (1986). Effects of realistic job previews on newcomer affect and behaviour: an operant perspective. *Journal of Organisational Behaviour Management 8*, 1.

Mignerey, J.T, & Rubin, R.B. (1995). Organisational entry: An investigation of newcomer communication behaviour and uncertainty. *Journal of Communication Research 22, 1*, 54. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Miles, M.B., & Huberman, A.M. (1994) *Qualitative Data Analysis*. 2nd ed. Sage, California.

Miller, D.C., & Form, W.H. (1964). *Industrial sociology: the sociology of work organisations.* (2nd ed) Harper and Row, New York.

Miller, D.C. (1986). *Managing professionals in research and development: a guide for improving productivity and organisational effectiveness.* Jossey-Bass, San Francisco.

Mullen, C.A., Cox, M.D., Boettcher, C.K., & Adoue, D.S. (1997). *Breaking the circle of one.* Peter Lang Publishing Inc., New York.

Nelson, D.L. (1987). Organisational socialisation: A stress perspective. *Journal of Occupational Behaviour, 8.*

Nicholson, N., & West, M. (1989). Transitions, work histories and careers, in M.B. Arthur, D.T. Hall and B.S. Lawrence (ed) Handbook of career theory. Cambridge University Press, Cambridge.

Nordvik, H. (1996). Relationships between Holland's vocational typology, Schein's career anchors and Myer Briggs Type Indicator (MBTI). *Journal of Occupational and Organisational Psychology 69*, 3.

Ostroff, C., & Kozlowski, S.W.J. (1992). Organisational socialisation as a learning process: the role of information acquisition . *Personnel Psychology, 45.*

Popovich, P., & Wanous, J.P. (1982). The realistic job preview as a persuasive communication. *Academy of Management Review 7*, 4.

Purvis, S.E.C., & Panich, R.L. (1986). Improving upon the first-year retention rate of entry-level professionals. *CPA Journal 56*, 12.

Reichers, A.E. (1987). An interactionist perspective on newcomer socialisation rates. *Academy of Management Review 12*, 2.

Savery, L.K. (1987). Reactions to incongruency: Job expectations and reality. *Journal of Managerial Psychology3,* 4.

Schamberger, M.M. (1997). Elements of quality in a qualitative research interview. *South African Archives Journal 39.* Retrieved June 19, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Schein, E.H. (1978). *Career dynamics: Matching individual and organisational needs.* (1st ed) Addison-Wesley, Phillipines.

Schein, E.H. (1987). *The Clinical Perspective in Fieldwork.* Sage, California.

Schoenfeld, A.C., & Magnan, R. (1994). *Mentor in a manual.* (2nd ed) Magno Publishers Inc., USA.

Schreuder, A.M.G., & Theron, A.C. (1997). *Careers: An organisational perspective.* Juta & Co, Cape Town.

Seijts, G.H. (1998). The importance of future time perspective. *Journal of Psychology Interdisciplinary and Applied 132*, 2. Retrieved September 5, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Shadur, F. (1999). The relationship between organisational climate and employee perceptions of involvement. *Group and Organisation Management 24*, 4. Retrieved March 22, 2001, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Simonsen, P. (1997). *Promoting a development culture in your organisation.* Davies-Black publishing, Palo Alto, California.

Skeats, J. (1991). *Successful induction.* Kogan Page, London.

Super, D.E. (1992). Toward a comprehensive theory of career development in *Career Development: Theory and Practice* eds D.H. Montross and C.J. Shinkman. Charles C. Thomas Publishers, Illinois.

van Maanen, J. (1979). The fact of fiction in organisational ethnography. *Administrative Science Quarterly, 24.*

van Maanen, J. (1983). *Qualitative methodology.* Sage, California.

van der Merwe, R. (1987). *Induction: the new man and his job.* Research paper C3, University of Port Elizabeth Publication Series.

Vecchia, R.P. (1995). *Organisational behaviour.* (3rd ed) Dryden Press, Harcourt Brace College Publishers, USA.

Wah, L. (1998). The new workplace paradox. *Management Review 87, 1*, 7. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Walton, E. (1960). What makes engineers move – and remain? *Personnel Administration 23*, 3.

Wanous, J.P. (1980). *Organisational entry: Recruitment, selection and socialisation of newcomers.* Addison-Wesley, Philippines.

Waung, M. (1995). The effects of self regulatory coping orientation on newcomer adjustment and job survival. *Personnel Psychology 48*, 3. Retrieved September 5, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Webber, R. (1976). Career problems of young managers. *California Management Review XVIII*, 4.

Whitely, W.T., & Coetsier, P. (1993). The relationship of career mentoring to early career outcomes. *Organisation Studies 14/3.*

Yates, L.V. (1990). A note about values assessment of occupational and career counselling. *Journal of Measurement and Evaluation in Counselling and Development 23, 1*, 54. Retrieved April 10, 2000, from EBSCO database (Academic Search Elite) on the World Wide Web: http://www.ebsco.com.

Yin, R.K. (1984). *Case study research: design and methods.* (Applied Social Research Methods Series, Vol 5) Sage, Beverly Hills, CA.

Yin, R.K. (1991). *Applications of case study research.* Cosmos Corp., Washington DC.

APPENDIX A

CONFIRMATION OF INTERVIEW

Dear (name of subject)

Thank you once again for agreeing to be interviewed by me in order to assist my research. As I indicated to you on the phone the other day, I am currently registered at UCT for a masters degree in Organisational Psychology and my thesis is on work adjustment among engineers.

I hereby confirm our appointment for 1.15pm on Tues 4 July 2000 in the MAB-Boardroom (small boardroom) at (name of organisation). As I said, the interview will take about one hour and I would appreciate it if you would give some thought to the following issues before we meet. Please consider the period after graduation up till now at work (what we call the early career period). Try and think about what your expectations were when you joined the organisation and whether or not they have been confirmed through your work experiences. Specifically you should consider your expectations in respect of 1) the actual nature of the work you perform, 2) supervision and training you receive and 3) other personal issues such as overtime, ethics, status, advancement opportunities and your work environment.

Hopefully we will have an open discussion around issues that you raise. Once again I wish to assure you of confidentiality surrounding the contents of our conversation. I look forward to meeting you on Tuesday.

Regards
Sarah Riordan

APPENDIX B

BROAD INTERVIEW SCHEDULE

1. Why did you decide to become an engineer?

2. Education: Where did you study? Which engineering discipline did you pursue? Did you have a bursary?

3. Explore organisational entry: Is this your first job after graduation? How did you obtain this position? Tell me about your interview/ first few days at work.

4. Would you say your reasons for becoming an engineer have been fulfilled? Generally speaking, would you say that, since you graduated, your expectations have been met up until now? Why?

5. Specifics: Tell me about the nature of your daily routine / tasks / responsibilities. Is this what you expected to be doing? Why?

6. How would you describe the supervision you receive? Is this what you expected?

7. What about training opportunities? Expected? Mentoring?

8. How do you see yourself advancing in your career / this organisation? Time to achieve advancement? Expected?

9. Interpersonal interaction with others in the organisation? Do you feel you are treated with respect?

10. Reward? Is it what you expected? Intrinsic and extrinsic?

11. Pressure of work? Overtime? Expected?

12. Organisational culture/climate? Describe it to me. How do you feel?

13. Do you think your university training adequately prepared you for this job? Why?

14. When you are not satisfied with something here at work, what do you do? Do you try to change things? How? Why? How long does it take before you try to change something?

15. Explore feelings about their responses thus far.

16. What were the biggest surprises for you? Why?

17. How do you / did you cope with the unexpected? What helped?

18. What advice would you give current students in this field / employing organisations / universities to help future individuals make this transition to work?