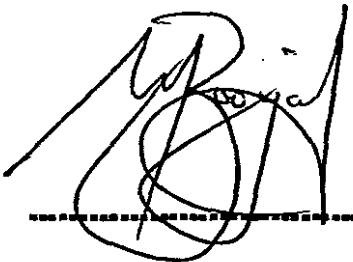


DECLARATION

I, the undersigned, hereby declare that this dissertation is my own work, and has not been submitted to any other university or technikon for degree purposes. The opinions contained herein are my own, and not necessarily those of the Cape Technikon.


-----**WILLIAM (BILLY) BOONZAIER****02 NOVEMBER 2001**
-----**DATE**

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TO GOD BE THE GLORY

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ABSTRACT

The Job Characteristics Model is widely accepted as a conceptual tool for addressing problems related to employee demotivation, dissatisfaction and marginal performance. The validity of the Job Characteristics Model (Hackman & Oldham, 1980) was assessed by reviewing relevant studies of the model. The review and evaluation are based on studies testing the variables and the relationships between the variables as contained in the model.

The reviewed evidence confirmed that the dimensionality of the job characteristics is best represented by the five-factor solution as proposed by the model. The subjective self-report measures of the five job characteristics as formulated by the theory and measured by the revised Job Diagnostic Survey (JDS) were also supported. No evidence was found for the multiplicative Motivating Potential Score (MPS), and as a result the use of a simple additive index of job complexity is recommended as the predictor of personal and work outcomes. Strong empirical support emerged for the relationships between the job characteristics and the personal outcomes. Much weaker relationships between the job characteristics and the work outcomes, however, materialized. Results failed to support the mediating effect of psychological states on the job characteristics/outcomes relationships as specified by the model. The postulated relationships between job characteristics and psychological states were also not confirmed by empirical evidence. The role of growth-need strength, knowledge and skill, and work environment characteristics, as moderators of the relationships between job characteristics and psychological states, as well as of the relationships between psychological states and personal and work outcomes, was seriously questioned.

A more parsimonious Job Characteristics Model is consequently suggested and a commensurate revision of the JDS proposed. The construct life functioning was extrapolated from prior research conclusions and recommendations, and included in the revised model as a moderator of the relationships between the independent and dependent variables. The revised Job Characteristics Model proposes internal work motivation, general job satisfaction and growth satisfaction as dependent variables and the five job characteristics (skill variety, task identity, task significance, autonomy, and feedback) as independent variables. Furthermore, the revised model postulates that the presence of the five job characteristics determines the experience of the three personal outcomes. The effectiveness of this revision of the Job Characteristics Model was tested empirically by determining:

- (a) whether significant amounts of variance in the dependent variables were due to the job characteristics, and
- (b) whether life functioning accounted for significant amounts of outcome variance beyond the influence of the job characteristics.

A systematic stratified random sample of 201 employees positioned in organized commerce and industry in the greater Cape Town area was drawn. Respondents provided data based on two questionnaires, namely the revised JDS and the Life Functioning Questionnaire (LFQ). Trained field-workers conducted structured interviews with respondents whereby the JDS was completed for each employee and respondents afterwards completed the LFQ themselves.

Hierarchical multiple regression analyses of the data confirmed strong support for the relationships between the job characteristics and the personal outcomes. Life functioning, however, did not account for significant amounts of outcome variance beyond the influence of the job characteristics, and is thus not a comprehensive moderator of the relationships in the revised Job Characteristics Model. The implications of the study for management and human resource practitioners are discussed and a human sciences technology for job enrichment interventions is presented as a priority in order to address contemporary management issues in the workplace related to employee demotivation, dissatisfaction and marginal performance.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND TO THE PROBLEM

Human resources management can be succinctly described as the process through which an optimum fit is achieved between the employee, job, organization, and environment so that employees reach their desired level of satisfaction and performance and the organization meets its goals (Hall & Goodale, 1986, cited in Gerber, Nel & Van Dyk, 1998: 11). Increasingly, human resources management is being recognized as the most vital practice of any organization in order that business goals and competitive advantage be achieved (Noe, Hollenbeck, Gerhart & Wright, 1997: 6). Managing people is a central concern of every manager in every organization (Milkovich & Boudreau, 1997: 9). In most cases, corporate annual reports state that people are an organization's most important asset (Barney & Wright, 1998: 31). As the senior human resources manager of Toyota states:

People are behind our success. Machines don't have new ideas, solve problems, or grasp opportunities. Only people who are involved and thinking can make a difference.... But how people are utilized and involved varies widely from one company to another. The workforce gives any company its true competitive edge (Dessler, 1997: 18).

Rapid changes are currently occurring in the field of human resources management. Trends like technological innovation, globalization and the shift from manufacturing jobs to service jobs are modifying the ways in which organizations need to be managed. These trends impact upon the management of human resources as jobs in turn require empowerment, in the form of delegated decision making, rather than autocratic, restrictive supervisory practices (Dessler, 1997: 12-13; 312). Kruger, Smit and Le Roux (1996: 249) regard it as unacceptable to be an autocratic manager and to hamper the creativity of the workforce. They furthermore underscore the importance of motivating employees and encouraging them to make decisions and take responsibility in the workplace.

Furthermore, these trends necessitate a multi-skilled worker able to meet the changing demands of jobs, the nature of which now require a broader skills repertoire than previously. (A case in point is the computer literacy now

required of a disparate multitude of employees.)

Managers and workers alike are thus experiencing rapid changes in the demands posed by their respective jobs. Organizational behaviour is presently in a state of transformation and employees are voicing their distress and grievances collectively in order to establish and protect their rights and interests. The resultant alienation of workers from their jobs indicates that the work experience of workers does not fulfil their needs and expectations and contributes only marginally to the leading of a meaningful life. There is thus a growing gap between the work behaviour of employees and the way in which they are expected to perform by their employers.

Gerber, et al. (1998: 8) regard poor work motivation and job dissatisfaction as significant plights in many South African organizations. These symptoms are manifestations of specific human resources problems existing in South African workplaces, the seriousness of which warrants attention and intervention (Gerber, Nel & Van Dyk, 1995: 536-537). These human resources problems include *inter alia* low labour productivity, labour unrest and strikes, as well as high absenteeism and labour turnover. South Africa's human resources problems are, in part, due to job alienation and workers' dissatisfaction with their quality of work life, including lack of recognition, uninteresting work, poor relationships with colleagues, isolation because of working on their own, and a lack of meaningfulness because employees experience no sense of fulfilment from the goods they produce or from the services they render (Gerber, et al., 1995: 283). This creates a misfit between workers and jobs and places a premium on using appropriate methods to establish and maintain a motivated and satisfied workforce.

To address these problems, trade union leaders, government officials and corporate executives are tending towards workplace reforms embodied in what is currently known as work humanization, or alternatively, as the new industrial relations or quality of work life (QWL). Armstrong (1996: 389) recommends that improvements in organizational effectiveness and the gaining of a competitive edge are best achieved by altering people management practices from a "control" to a "quality of working life" strategy aimed at satisfying the organization's goals and simultaneously supporting the development of its people. According to Mirvis and Lawler (1983, cited in Kemp, 1994: 176) a quality of work life strategy requires a QWL environment that:

- (a) draws, develops and promotes employees;
- (b) provides workers with job enrichment;
- (c) provides opportunities for participatory management;
- (d) espouses fair treatment and lends itself to a safe and secure work experience;
- (e) strives for equitable compensation and benefits with accompanying stable employment.

A quality of work life strategy is based on the assumptions that employees support what they help to create, that they strive to make a positive contribution to organizational goals, and that they are responsible when treated as mature adults (Kemp, 1994: 175).

Creating a synthesis of employers' and employees' goals to foster motivation, satisfaction and work performance is becoming a key practice of contemporary human resources management. Job redesign has been proposed as a human sciences technology to address the problem of demotivation, dissatisfaction and marginal performance in the workplace. Hackman (1980: 445), Armstrong (1996: 388) as well as Gerber, et al. (1998: 232) regard job redesign as a method to improve the quality of employees' work life. Job redesign technology can be utilized as a human resources strategy to structure jobs in such a way that they possess a greater motivational and satisfaction value in order to meet both organizational and worker objectives simultaneously. Job redesign can thus be employed to effect optimal worker-job fit by enriching specific elements, or characteristics, of jobs.

1.2 BRIEF ACCOUNT OF THE HISTORICAL DEVELOPMENT OF JOB REDESIGN THEORIES

Over the years, as management science relating to job redesign has developed, it has given rise to various technologies aimed at producing solutions to the worker-job fit (or misfit) problem, thus alleviating human resources problems by increasing the performance, motivation and satisfaction of workers. In the early 1900s Taylor had a tremendous impact on industrial society through the advent of the scientific management approach which viewed workers purely as economic entities. Taylorism is regarded as a management approach which sought to determine, scientifically, the best methods for performing a task, and for selecting, training and motivating employees. Taylorism saw productivity increase initially, but authoritarian work milieus and fragmented jobs bred resistance and discontent, and the principles of Taylorism were ultimately

condemned as being inhumane (Walters, 1975: 16; Stoner & Freeman, 1992: 33).

The inadequacies of Taylor's approach gave rise, in the 1930s, to the human relations school which addressed workers' recognition and social needs by focusing on interpersonal and group dynamics. However, this management approach came to be regarded as no less manipulative than Taylorism because both strategies aimed at securing worker compliance to management authority. Managers attempted to motivate and keep workers satisfied by making them feel important and useful. Attention centred on the functioning of small groups, a sensitivity towards workers, and on sharpening the interpersonal skills of managers. The basic ingredient that was, however, not addressed, was an attempt to enhance the nature of the job itself (Steers & Porter, 1991: 17).

Herzberg (1968) then heralded in a new, humanistic management approach by proposing a set of factors, closely related to the intrinsic nature and content of the work done, that tend to motivate people to improve their performance, thus resulting in increased job satisfaction. The basic premise of this approach holds that fundamental changes in the nature of the job are required if the experience of work is to be conducive to worker motivation and satisfaction.

The 1970s and 1980s produced a number of landmark studies which elaborated on Herzberg's philosophy. The latest approach to understanding worker-job relationships is known as the job characteristics theory. This theory has subsequently been embodied in the Job Characteristics Model (Hackman & Oldham, 1980), which is considered the **most influential model** guiding research on the nature, or characteristics, of jobs (Johns, Xie & Fang, 1992: 658). "The most well known and widely discussed theory of job re-design is the Job Characteristics Model of Hackman and his colleagues" (Kelly, 1992: 754). The Job Characteristics Model attempts to provide a systematic exposition of how the interaction between the nature of the job (that is, the job characteristics), the nature of the job environment, and the nature of the worker influences the motivation, satisfaction and effectiveness of the worker.

The Job Characteristics Model, as an innovation in the management of human resources, sparked a plethora of international research. Local research, too, has established the applicability of the model for use in South African organizations (Boonzaier & Boonzaier, 1994). This led to the acceptance of the

Job Characteristics Model as a conceptual basis for addressing problems related to performance, motivation and satisfaction, and utilizing the accompanying Job Diagnostic Survey (JDS) as a management tool to:

- (a) diagnose jobs considered for redesign in order to establish their current capacity for stimulating motivation, satisfaction and effective work performance;
- (b) identify those specific job characteristics that are most in need of enrichment, based on the diagnosis in (a) above;
- (c) assess the "readiness" of employees to respond positively to improved jobs;
- (d) implement action steps for redesigning jobs and enriching specific job characteristics;
- (e) evaluate the effects of job redesign interventions on the motivation, satisfaction and effectiveness of employees.

Human sciences technology relating to the Job Characteristics Model has thus been utilized to address motivation, satisfaction and performance problems caused primarily by shortcomings inherent in the nature of the job itself.

1.3 GLOSSARY OF TERMS

This section provides a set of definitions to serve as a preliminary clarification of terms used in this dissertation. Where the ensuing terms are used, the following explanations apply:

- * **External environment characteristics:** Influences outside the organization which are part of the individual's total life experience and which thus influence work behaviour, for example: marital status, friendships, family relationships and financial matters (Fried & Ferris, 1987: 311).
- * **Human sciences technology:** The practices and methods of doing, making and implementing based on human sciences theory in order to improve quality of life (Prinsloo, 1993: 4-6).
- * **Humanism:** The school of thought in psychology which views people in an optimistic light and focuses on self-direction, growth and self-actualization, and where emphasis is placed on the present and the future rather than on the past (Nevid, Rathus & Greene, 1997: 18).

- * **Job characteristics:** Those components of a task which determine the motivation and satisfaction potential of a task, namely skill variety, task identity, task significance, autonomy, and feedback, as defined individually and included in Section 2.2.3.2.
- * **Job Characteristics Model:** The Hackman and Oldham (1980: 90) model which explains work behaviour as the result of the relationships between job characteristics, worker characteristics and work environment characteristics. This model is explained comprehensively in Section 2.2.3.2.
- * **Job redesign:** Those activities related to changing specific jobs or interrelated job systems for the purpose of improving the quality of workers' job experiences as well as their work-related productivity (Armstrong, 1996: 379).
- * **Life functioning:** The overall functioning of the individual in all the domains of her/his life, being a function of the interaction between the characteristics of the person and her/his total environment (Van Zyl, 1986: 46-48).
- * **Moderator variable:** A qualitative or quantitative variable which exerts an influence on the relationship between an independent and a dependent variable and which will account for significant amounts of variance in the dependent variable beyond the contribution of the independent variable (Baron & Kenny, 1986: 1174).
- * **Motivation:** The degree to which an employee is self-prompted to perform effectively on the job; that is, the employee experiences positive internal feelings when working effectively on the job, and negative internal feelings when doing poorly (Hackman & Oldham, 1974: 6). When a person carries out a task because (s)he enjoys it, then this person can be regarded as motivated. Mol (1990: 20) distinguishes motivation from movement, and regards movement as the process by which employees are moved from behind (e.g. with threats) or from the front (e.g. with incentives).
- * **Parsimony, parsimonious:** The principle that the best theoretical model among all satisfactory models is that with the least number of parameters

necessary to account for the facts. Hence, more generally, the principle which asserts that if it is possible to explain a phenomenon equally adequately in a number of different ways, then the simplest of explanations (in terms of the number of variables or propositions) should be selected (Rose & Sullivan, 1996: 244).

* **Quality of work life (QWL):** Levine, Taylor and Davis (1984: 81-104) identify the following seven significant predictors of QWL, as reported by 64 Delphi panel members representing 3250 employees:

- degree to which superiors treat employees with respect and display confidence in their abilities;
- variety in daily work routine;
- amount of challenge in work;
- the degree to which present work leads to good future work opportunities;
- self-esteem;
- extent to which life outside of work affects life at work; and
- the extent to which work contributes to society.

According to Gerber, et al. (1998: 230-231), quality of work life comprises the following eight components:

- sufficient and fair compensation;
- safe and healthy working conditions;
- development of human resources;
- security and growth in the organization;
- social interaction;
- constitutionalisation in the work environment;
- total "lebensraum"; that is to say, a balance between an employee's working time and his or her family life; and
- social relevance of the job.

* **Satisfaction:** The overall degree to which an employee is satisfied and happy with the job as well as the degree to which an individual is satisfied with opportunities for growth in the job (Hackman & Oldham, 1974: 6).

* **Work behaviour:** The behaviour of the worker in the work environment, comprising both work and personal outcomes, including work effectiveness, internal motivation, satisfaction with the job in general, and satisfaction with opportunities for growth as defined separately by Hackman and Oldham

(1980: 89-94) and elaborated upon in Section 2.2.3.2.

- * **Work environment characteristics:** Those characteristics in the job environment which influence work behaviour, namely satisfaction with pay, security, co-workers, and supervisors, as stipulated by Hackman and Oldham (1980: 86) and elaborated upon in Section 2.2.3.2 and Section 3.3.2.2.
- * **Worker characteristics:** This firstly refers to the work-related characteristics of the employee, namely the person's psychological states, growth-needs and knowledge and skill, as contained in the Job Characteristics Model (Kulik, Oldham & Hackman, 1987: 282-283) and defined individually in Section 2.2.3.2 and Section 3.3.2.1. Secondly, the term includes the non-work characteristics of the individual, such as interests in activities external to the work situation, as referred to in Section 3.5.2.

1.4 PROBLEM STATEMENT

When addressing motivation, satisfaction and performance problems in the workplace, human resources practitioners and managers require human sciences technology which entails, firstly, a parsimonious theoretical model that specifies when workers will be motivated to perform effectively and experience job satisfaction; secondly, an accompanying diagnostic instrument(s) to diagnose the status quo of a specified job or group of jobs; and thirdly, action steps for the management of change.

The Job Characteristics Model of Hackman and Oldham (1980: 90) stimulated in excess of 200 empirical studies (Remm & Vandenberg, 1995: 279) testing the validity of the variables and the relationships between variables in the model. These studies focused primarily on evaluating and criticizing specific facets of the model. The Job Characteristics Model emerged as an internationally accepted model of job redesign, possessing proven usefulness. Nevertheless, distinct and limiting shortcomings were also revealed. The accumulated empirical evidence has, however, to date, not produced research efforts to actually revise the Job Characteristics Model *per se*.

The core problem which this study addresses revolves around the lack of empirical refinement of the Job Characteristics Model. Thus, a revision of the Job Characteristics Model as such, consolidating segmented prior research conclusions and recommendations, is needed in order to functionally equip

managers and human resources practitioners alike to manage satisfaction, motivation and performance problems in organizations more effectively.

1.5 PURPOSE OF THE STUDY

The overall purpose of this study is to revise the Job Characteristics Model and to test a proposed refinement of the model empirically.

1.6 OBJECTIVES AND METHOD OF THE STUDY

The specific research objectives comprise:

1.6.1 Objective 1

To examine empirical evidence relating to the validity of the individual variables and the relationships between variables as postulated by the Job Characteristics Model in order to formulate shortcomings of the model.

1.6.2 Objective 2

To propose refinements to the Job Characteristics Model based on its shortcomings and the recommendations for future research as reported in evaluative studies of the model in order to establish a more discriminating and parsimonious Job Characteristics Model.

1.6.3 Objective 3

To examine, empirically, the effectiveness of this revision of the Job Characteristics Model. The revised model proposes the three personal outcomes (internal work motivation, general job satisfaction and growth satisfaction) as dependent variables and the five job characteristics (skill variety, task identity, task significance, autonomy, and feedback) as independent variables. The presence of the five job characteristics determines the experience of the three personal outcomes. Furthermore, the revised model proposes life functioning as a moderator of the relationships between the job characteristics and the personal outcomes.

The following methodology was employed to achieve the set objectives of the study:

Firstly, an extensive study of the literature was undertaken. Local and international research regarding the Job Characteristics Model was reviewed. A multi-disciplinary approach was adopted whereby literature from the domains of industrial psychology, management, human resources management, psychology and

industrial social work was consulted. This resulted in the compilation of a synoptic history of job redesign theories, placing in perspective the development of the variables and processes contained in the Job Characteristics Model. The model and its historical development are set out in Chapter 2.

The literature study furthermore provided empirical evidence relating to the testing of the validity of the variables and the relationships between variables of the Job Characteristics Model. Shortcomings of the model could be formulated and a refinement of the model proposed. The aforementioned empirical evidence, evinced deficiencies and the ensuing recommendations for improvements to the model are discussed in Chapter 3.

Secondly, an empirical study employing questionnaires and structured interviews was conducted among 201 randomly selected workers in organized commerce and industry in the greater Cape Town area to test this revision of the Job Characteristics Model. Based on the propositions contained in the revised model (see aforementioned Objective 3), the following research questions were addressed:

- (a) Do the job characteristics account for significant amounts of variance in the personal outcomes?
- (b) Does life functioning contribute significantly to the revised Job Characteristic Model's explanatory power beyond the influence of the job characteristics?

The following research hypotheses were considered:

- (a) The job characteristics account for significant amounts of variance in the personal outcomes.
- (b) Life functioning accounts for significant amounts of variance in the personal outcomes beyond the influence of the job characteristics.

The corresponding null hypotheses were formulated as follows:

Null hypothesis 1

The job characteristics do not account for significant amounts of variance in the personal outcomes.

Null hypothesis 2

Life functioning does not account for significant amounts of variance in the personal outcomes beyond the influence of the job characteristics.

The two measuring instruments used were amended forms of the Job Diagnostic Survey (JDS) of Hackman and Oldham (1980), and the Heimler Scale of Social Functioning (HSSF) as contained in Van Zyl (1986). Participation was voluntary and participants remained anonymous. Responses were processed by employing hierarchical multiple regression procedures.

In this manner the null hypotheses were tested empirically. The methodology of the study and the ensuing results are reported in Chapters 4 and 5, while the practical implications of the findings for management, human resources practitioners and for future research are addressed in Chapter 6.

1.7 IMPORTANCE OF THE STUDY

The following reasons confirm the importance of the study:

- (a) South Africa needs human sciences technology to address the critical human resources problems related to demotivation, marginal performance and dissatisfaction. Failure to address these problems will render it near impossible for commerce and industry to supply efficiently the goods and services urgently required by local markets. Local companies will also not be in a position to compete for an international market share, thus perpetuating an inward-looking economy.
- (b) Organizations and managers are legally bound by the constitution which affords workers specific rights and privileges; for example the right to fair treatment in the workplace. A shortage of human sciences technology currently exists to cater effectively for the needs and aspirations of the majority of workers. Current technology relating to the Job Characteristics Model does have proven capabilities, but at present with concomitant shortcomings.
- (c) The high level of worker militancy and the frustration of employees with employers and government who do not consider their needs (for example the need for a meaningful job), breed worker dissatisfaction and alienation, and bode poorly for economic growth in general.
- (d) The government's goal of acceptable quality of life for all necessitates technology development to enhance both the work and non-work experiences of employees.

1.8 BASIC ASSUMPTIONS OF THE STUDY AND A CONCEPTUAL FRAMEWORK FOR HUMAN SCIENCES TECHNOLOGY RESEARCH

The study assumes the basic philosophies of the human resources model as

espoused by Steers and Porter (1991: 18-19) as a point of departure when researching or using the Job Characteristics Model, namely:

- (a) In addition to the basic needs for belonging and respect, workers do not regard work as inherently distasteful, and would like to contribute to meaningful goals which they have helped to establish.
- (b) Most workers can exercise far more creativity, responsible self-direction and self-control than their present jobs demand and these unused skills represent untapped, wasted human resources.
- (c) It is the responsibility of managers to learn how to make best use of these reservoirs of talent. An environment must be created in which workers can contribute their full range of capabilities.
- (d) Managers should encourage the full participation of employees in enriching the characteristics of their own jobs; they should focus on democratizing the workplace, seeking to broaden the areas over which workers exercise self-direction and self-control as they develop and display greater competence.
- (e) Managers should give the necessary support, or support systems should be created, to enhance the total life functioning of workers.

The basic premise underlying these assumptions is that fundamental changes in the nature of jobs would improve employees' experience of work and be conducive to worker motivation, satisfaction and effective performance. The Job Characteristics Model remains the most influential model guiding research on job redesign as a strategy for enhancing motivated work performance and job satisfaction (Johns, Xie & Fang, 1992: 658; Boonzaier, 1995: 7).

One of the goals of human sciences research relating to work, is to develop technology aimed at sustainable solutions to organizational problems in respect of demotivation, dissatisfaction and marginal performance. The phenomena of motivation, satisfaction and performance are characterized by specific factors which **cause** or energize related work behaviour, factors which **direct** or channel this behaviour, and influences which **maintain** or sustain work behaviour (Stoner & Freeman, 1992: 440). The various theories of motivation and satisfaction focus differently on the factors which cause, channel, and sustain behaviour. These theories are based on conceptual frameworks which guide theory development, and thus human sciences technology research, and ultimately influence managers in managing workers.

According to the framework of Porter and Miles (cited in Steers & Porter, 1991: 20-24), as adopted in this study, a comprehensive theory of motivated work performance and satisfaction should focus on three sets of variables which constitute the work situation:

- (a) **Characteristics of the job:** the focus here is on what the worker does at work. Factors such as the significance of the task, the variety of activities required to do the job, and the extent of autonomy allowed, all influence the motivation, performance and satisfaction experienced by the employee.
- (b) **Characteristics of the worker:** in this instance the focus is on what the employee brings to the work situation. The interests, attitudes and needs of workers operate as worker characteristics in determining the level of motivated work performance and satisfaction.
- (c) **Characteristics of the work environment:** this set of variables relates primarily to what happens to the employee at work. The quality of supervision and type of incentives, for example, could dramatically affect the motivation, satisfaction and performance of workers.

This conceptual framework serves valuably as:

- (a) a vehicle for organizing ideas related to motivated work performance and job satisfaction in the workplace; and
- (b) a frame of reference against which theories of motivation, satisfaction and work performance can be judged in terms of their ability to deal adequately with all relevant factors which energize, direct and sustain behaviour at work.

Within this multivariate framework it is not only important to focus on several key factors which relate to motivation, satisfaction and performance, but also to view these factors in interaction with one another within a systems perspective. Thus the entire system of forces operating on the employee must be considered before worker motivation, satisfaction and performance can be adequately understood and constructively managed to the benefit of worker and organization alike.

1.9 DELIMITATION OF THE STUDY

This study focuses on the interaction between the characteristics of the job, the individual, and the work and non-work environment in determining the level

of work motivation and job satisfaction of workers. The study does not directly address the work performance and productivity of workers. The measurement of work performance and productivity are not free from controversy, and indices of productivity, especially, suffer from questionable validity (Maller, 1988: 23). These and other work outcome dependent variables (for example, work effectiveness) are generally not specifically defined by theory as these factors are generally unique to particular work settings. The development of such work outcome measures for a specific work setting would fall within the scope of a separate dissertation.

This study considers the interrelationships between the characteristics of jobs, individuals and work and non-work environments, and work motivation and job satisfaction at a specific time. The effects of implemented changes in variables (for example the job characteristics) did not receive attention. Another unaddressed question revolves around the extent to which the patterns of interrelationships among the specified variables are stable or unstable over long periods of time.

This study focuses primarily on revising the Job Characteristics Model as a conceptual basis to address demotivation and dissatisfaction problems and does not itself attempt to test empirically the validity of the existing Job Characteristics Model. The Job Characteristics Model has already been shown to be functional within the South African business environment (Boonzaier & Boonzaier, 1994).

The implications of the revised Job Characteristics Model will be discussed, but no attempt is made to test empirically any facet of management interventions emanating from the use of the Job Characteristics Model and accompanying JDS in industry. By proposing and testing a refinement of the Job Characteristics Model, the study is exploratory in nature and does not attempt to generalize findings to any statistical population.

To the extent that the study suggests a combination of strategies, which it draws from more than one discipline, to remedy problems with regard to motivation and satisfaction, it can be viewed as a multi-disciplinary contingency approach. In addressing its problem statement, the study makes a contribution to the science of focusing on people and their behaviour in work environments; that is, a contribution to the field of industrial psychology.

1.10 CONTRIBUTION OF THE STUDY

The main contribution of this research is:

- (a) To revise the Job Characteristics Model and thereby test the relationships between the variables depicted in Figure 1.1.
- (b) To not only effect a theoretical refinement of the Job Characteristics Model, but to provide practical human sciences technology guidelines to human resources practitioners and managers regarding the structuring of tasks in order to provide an enriched job environment.
- (c) To present to managers empirical evidence of the organization's interest in attending to not only grievances related to the nature of jobs and the work environment, but also to the non-work problems and frustrations of workers.

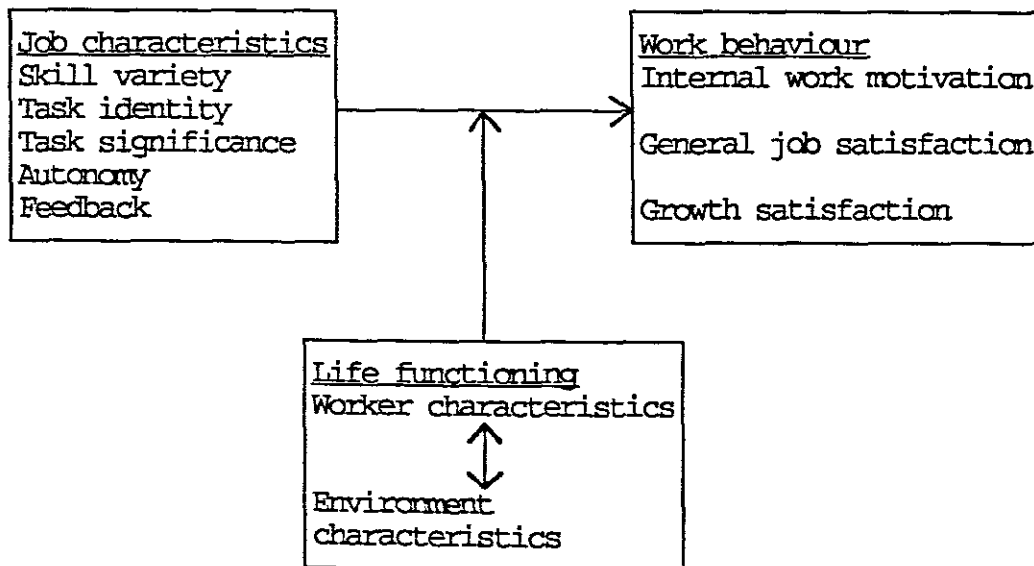


Figure 1.1 A revision of the Job Characteristics Model

CHAPTER 2

JOB REDESIGN THEORIES IN PERSPECTIVE

2.1 INTRODUCTION

In 1994, South Africa underwent a relatively peaceful political transformation which, amongst other things, raised considerable expectations of a better quality of life for especially the previously disadvantaged communities (Boonzaier, 1995: 6). Improved health services, housing, education and a stable income are desired by the populace but are expensive, and South Africa is a poor economic performer compared to newly industrialized countries. Schwab, Porter, Sachs, Warner and Levinson (1999: 196) indicate, in *The Global Competitiveness Report*, the gross domestic product (GDP) of South Africa as \$116,5 billion and the per capita gross domestic product (per capita GDP) as \$2 720. A per capita GDP of \$10 000 is considered the economic development milestone for newly industrialized countries. To exacerbate South Africa's poor economic performance, the current economic growth rate of 3% and population growth rate of 2,5% effectively neutralize any growth in per capita GDP. In fact, South Africa experienced a per capita GDP impoverishment of 1,4% (Schwab, et al., 1999: 196).

Despite South Africa's mineral and natural resources, there is simply not enough wealth currently generated in the country to afford all the services that its people desire. An economic transformation is thus required in order to fulfil the dreams of the nation. An economic vision of doubling the per capita GDP to \$5 500 in the next ten years, given an annual population growth rate of 2,5%, is feasible, considering South Africa's comparative advantages in mineral and natural resources, infrastructure, technological capabilities and competitive spirit. In 1995, compared to its eleven fellow member states of the Southern African Development Community (SADC) - Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe - South Africa's per capita GDP was more than twice that of Mauritius, which held the second position (Amos, Scott & Scott, 1996: 50). However, the per capita GDP of Mauritius subsequently increased sharply to \$3 402 (Schwab, et al., 1999: 172), thereby overtaking South Africa, whose per capita GDP in fact dropped.

South Africa's industries are also far from being globally competitive. The

Global Competitiveness Report (Schwab, et al., 1999: 11) ranks South Africa 47th out of a total of 59 countries including, *inter alia*, Taiwan, Mexico, India, Brazil and Russia. More importantly, South Africa is rated last (out of 59 countries) with regard to the extent to which human resources assist organizational competitiveness. Poor employee motivation, satisfaction and performance; the questionable competence of managers; poor labour regulations; a high unemployment rate; the ineffectiveness of the police force; poor hiring and firing practices; and low customer satisfaction feature as prominent liabilities on the national competitiveness balance sheet of South Africa.

This situation correlates strongly with the **Global Advantage of South Africa Project Report** (1995) submitted to the National Economic Forum by the Monitor Company. Details of this report were presented to Cabinet by the Trade and Industry Minister who proceeded to focus on the causes of business failure and South Africa's poor economic performance. The reasons cited were cronyism, trade protectionism, isolation, lack of healthy domestic competition between companies, poor labour management, outdated business processes, bureaucracy, racism, crime, and minimal strategic planning.

This scenario reflects the critical current state of human resources management practices in South Africa, especially with regard to the demotivation, dissatisfaction and marginal performance of workers in the workplace. South Africa, however, of necessity requires a well-managed, motivated and satisfied labour force in order to realize rapid and sustained economic growth.

A need thus exists in South Africa for the application of human sciences technology in commerce and industry in order to improve the quality of employees' work experiences. Job redesign is becoming increasingly prominent in South Africa as a strategy for attempting to increase, simultaneously, the productivity of the work performance and the quality of the work experience of employees (Gerber, et al., 1998: 232). The term job redesign is used in preference to the term job design as it signifies a departure from the dominant, autocratic paradigm which characterizes the status quo of human resources management in South Africa.

As the problem statement of this study refers to a refinement of the most recent human sciences technology pertaining to job redesign, namely the Job

Characteristics Model, it is appropriate at this time to focus firstly on an account of the historical development of prominent job redesign theories, incorporating the classical, neo-classical and behavioural science approaches to job redesign.

Secondly, attention will be directed to the Job Characteristics Model and its attendant theoretical statements as the modern behavioural science approach to job redesign.

Lastly, the conceptual framework of Porter and Miles (cited in Steers & Porter, 1991: 20-24) will be used as a frame of reference against which the different historical job redesign theories will be judged in terms of their ability to deal adequately with all the relevant factors and problems which energize, direct and sustain behaviour at work. This framework dictates, as reported in Section 1.8, that a comprehensive theory of job redesign should focus on the characteristics of the job, the characteristics of the worker, as well as on the characteristics of the work environment in order to aid researchers and managers in attending appropriately to problems pertaining to the motivation, satisfaction and work performance of employees.

2.2 HISTORY OF JOB REDESIGN THEORIES

2.2.1 Classical job redesign theory

The work of Adam Smith (1776, cited in Stoner & Freeman, 1992: 312) can be regarded as the first major influence on classical job redesign practice. A key idea featuring in his writings is the division of labour, which was regarded as a method to establish more effective work performance. One of the oldest and clearest illustrations of the application of division of labour to job redesign was offered by Adam Smith (1850, cited in Hackman & Oldham, 1980: 47) in his description of the pin-making process:

One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head: to make the head requires two or three distinct operations: to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

A later classicist, Taylor (1911), advocated two different forms of division of labour, namely that between management and workers, and that between workers themselves. Managers were viewed as responsible for intellectual work, and workers responsible for performing manual work, with no overlap existing between the two.

The practical demonstrations and writings of Taylor (1911) hastened the progression towards work simplification. The most important feature of Taylor's classical approach is that it built upon the principle of division of labour and suggested that management should explicitly assume responsibility for the redesign of jobs, and also exercise influence over the execution of work. Work methods were to be established by management and not by workers. Workers were hired only to work and were to be explicitly informed that they were not paid to think.

According to Stoner and Freeman (1992: 31), Taylor based his management system on production line time studies. Using time study as his base, he subdivided each job into its components, and designed the quickest and most efficient methods of performing each component, thereby establishing how much workers should be able to do with the current equipment and materials at hand. Unnecessary movement was minimized through careful analysis of the task components, and fatigue was reduced with judicious rest periods. When the single best way was determined, the worker was expressly forbidden to deviate from it.

According to Steers and Porter (1991: 15), the classical approach rested upon several assumptions regarding the nature of human beings. Workers were viewed as being lazy, dull, aimless, often dishonest, and also mercenary. The only way in which organizations could get workers into factories and keep them there was to pay a so-called "decent" wage. Taylor accepted that, for a price, workers could be bought to perform activities which they found boring and had no interest in. A differential pay rate system was also proposed whereby more productive workers were paid at a higher rate than their co-workers. This higher rate of pay was carefully calculated based on the profit that would result from the increase in production. Managers of the classical era, in their quest for profits, thus also began modifying the basic system of remuneration. But while jobs were made more and more routine and specialized, management began putting severe constraints on the incentive system, thereby limiting

worker income.

The general expectation of Taylor's approach, or Taylorism, was that by simplifying jobs, work could be executed more efficiently; less-skilled employees would be required; the control of management over production would be increased; and organizational profits would be enhanced. Initially Taylorism did produce significant success, but the uncompromising search for efficiency was regarded by many who came into contact with it as a depressing and degrading management style. Shortly after its principles were applied to production systems, it was discovered that the resulting tasks afforded the task performer hardly any satisfaction. Other dysfunctional consequences of the classical approach also began to manifest in the workplace. Among the earliest documented instances of human problems resulting from classical work redesign are accounts of the repercussions of routine, repetitive tasks (Walker & Guest, 1952; Worthy, 1950). Highly repetitive jobs were found to diminish worker alertness, to decrease sensitivity to sensory input, and, in many cases, to impair muscular co-ordination. Workers often informally engaged in behaviours aimed at countering their feelings of boredom, such as daydreaming, chatting with other workers, making frequent readjustments in their posture and position, and finding excuses to take unnecessary breaks from work. It became clear that simple, routine, non-challenging work led to high employee dissatisfaction, increased absenteeism and labour turnover, and to substantial difficulties in effectively managing employees working on a simplified job. Intensive investigations of such jobs as bicycle chain assembly, soap wrapping, tobacco weighing and packing, cartridge case assembly, and pharmaceutical product packing were conducted (Buchanan, 1979: 15). The results confirmed the dissatisfaction caused by repetitive work and that increased productivity did not necessarily occur.

Buchanan (1979: 14), however, offers two points in mitigation of Taylor's work. First, Taylor's methods of analysing task components or characteristics were admirable solutions to the problems faced by American industrial management at the turn of the century. Mechanization and industrialization were proceeding at a rapid rate and there was a good supply of immigrant labour. These unskilled and unorganized immigrants experienced language difficulties and had little capacity or desire to exert self-control over their new work environments. Taylor's methods showed American managers how labour could be employed effectively. Second, in explaining these techniques of systematically managing

employees, Taylor influenced the areas of investigation in which researchers were to work, and provided a theoretical framework against which contradictory ideas could be formulated and clarified. It was, however, clear that the boredom and attendant counter-productive behaviours induced by division of labour more than offset these two benefits.

Attempts to solve the problems of monotony and boredom saw managers increasing opportunities to alter posture, as well as introducing spaced rest periods, job rotation, the broadcasting of music during work, and grouping workers to facilitate conversation. [The concept of broadcasting music during work was tested experimentally, and output was mysteriously highest when music was played for 75 minutes in the middle of the work spell (Wyatt, Langdon & Stock, 1937, cited in Buchanan, 1979: 16).]

Buchanan (1979: 24) places these efforts by management to combat the human problems associated with division of labour within the basic framework of a theory developed by Viteles in 1950. This framework, presented in Figure 2.1, represents the first step in the development of the job redesign theories which emerged in reaction to Taylorism.

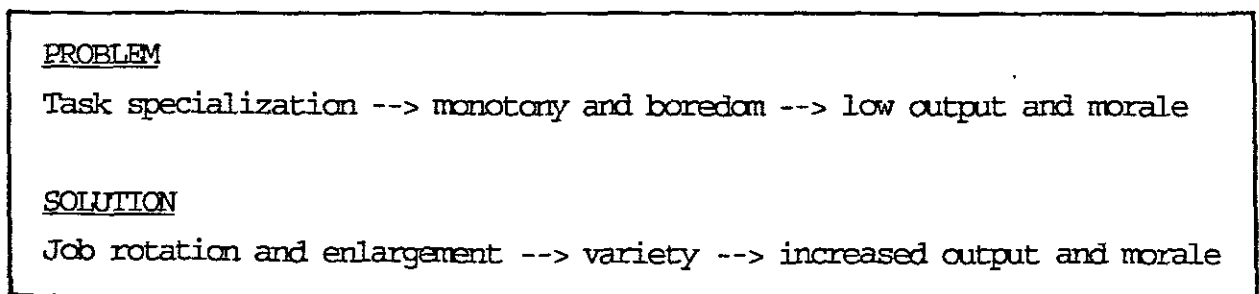


Figure 2.1 Arguments for job rotation and enlargement (Buchanan, 1979: 24)

Job enlargement as a job redesign strategy is defined as the recombination of two or more separate jobs into one, thus lengthening the total time to do the work (Walker & Guest, 1952: 151). This thus increases the scope of the job and the range of tasks that the person carries out. The job is structurally bigger and gives the employee greater variety. The job cycle is increased as there are many tasks to be performed by the same worker. Job enlargement changes the pace of the work and its operation by reallocating tasks and responsibilities, but it does not increase the complexity or depth of the job. Redesigning work by enlarging jobs is thus the opposite of task specialization. A job is redesigned

to have many tasks for the employee to perform instead of dividing jobs into the fewest possible number of tasks per employee. Enlarged jobs require longer training periods, and job satisfaction should increase because monotony and boredom are reduced as the scope of the job expands.

Job rotation is a strategy whereby variety at work is increased by allowing workers to move from one set of tasks to another according to either a fixed schedule or an informal arrangement (Van Assen & Den Hertog, 1984: 907). Employees are thus trained on a wider variety of jobs, the advantage being that employees do not perform the same routine job every day. Managers, additionally, have a means of coping with absenteeism and labour turnover. The disadvantage is that employees could perform several boring and monotonous jobs rather than one. The complexity of the job thus does not change as employees are assigned to different jobs requiring more or less the same levels of skills.

Job rotation and job enlargement can be regarded as relatively simple solutions to the detrimental effects which job simplification and specialization were argued to have, but were in actual fact concerned with the introduction of changes to jobs and can thus be viewed as job redesign strategies (Forshaw, 1985: 18). Despite their simplicity, the positive outcomes yielded by job rotation and job enlargement projects included improved productivity, betterment in quality of work performance, increased job satisfaction, and reduction in labour turnover (Harding, 1931; Cox & Sharp, 1951; Walker, 1950; Davis & Canter, 1956).

Conclusion

Classical job redesign theory initially focused on the role of monetary incentives as a means to enhance worker motivation and satisfaction. Task specialization was introduced in conjunction with these monetary incentives in order to establish productive work performance. Owing to the negative effects of task specialization on workers, job enlargement and job rotation were introduced as techniques to redesign jobs in order to enhance motivation, satisfaction and productivity.

Utilizing the conceptual framework proposed for evaluating job redesign theories (refer to Section 1.8), it is clear that classical job redesign theory focused primarily on the characteristics of the job (task specialization, job

enlargement and job rotation), and, to a lesser extent, on the characteristics of the work environment (for example, the influence of music and lighting) as relevant factors to consider when attempting to influence work behaviour. The role of worker characteristics, or individual differences, as a determinant of motivation, satisfaction and productive performance was not addressed by classical job redesign theory.

In addition, the classical theory of job redesign, and especially the proponents of job enlargement and job rotation, failed to address certain other pertinent issues, including:

- (a) whether task specialization inevitably causes tedium and boredom;
- (b) whether boredom has adverse effects on work behaviour; and
- (c) whether job enlargement and rotation provide adequate solutions to the problems of monotony and boredom, where they exist.

It is prudent at this juncture to take cognizance of the Hawthorne illumination studies (Luthans, 1995: 9-11), with their unforeseen findings, as an impetus for the further development of job redesign theories. During 1924 to 1933, Elton Mayo conducted a series of landmark studies at the Hawthorne Works of the Western Electric Company near Chicago. The relationship between the intensity of lighting in the workplace and worker productivity was examined.

Experimental groups were subjected to deliberate fluctuations in workplace illumination. When the level of light was increased for this group, productivity in general increased, although erratically. When the level of light was then decreased, productivity mysteriously continued to increase. Surprisingly, control groups with constant illumination increased their productivity level by the same amount as the experimental groups. In subsequent phases of the Hawthorne studies, as reported by Luthans (1995: 10) and Stoner and Freeman (1992: 40-41), sample groups (comprising relay room operators and electric wirers) were subjected to a variety of experimental conditions. The influence of increased wages, varying lengths of rest periods, and shortened work days and work weeks on work output was examined. These independent variables were, however, not in themselves causing the change in the dependent variable (productivity). The results showed that a complex set of interrelated employee attitudes, as well as the perception among the sample groups that management paid special attention to them and displayed a concern for their welfare, caused the increases in output. The influence of the "human factor" on

the relationship between the nature of a job and worker behaviour was clearly illustrated.

2.2.2 Neo-classical job redesign theory

Subsequent to the classical approach to job redesign, Brayfield and Crockett (1955) suggested that some workers may find repetitive work pleasant and satisfying owing to the influence of individual differences and preferences. A number of other researchers also reported results directly contrary to studies revealing the dysfunctional consequences of scientific management (Kilbridge, 1960; Kennedy & O'Neill, 1958; Turner & Miclette, 1962; cited in Buchanan, 1979: 27-28). Walker and Marriott (1951), despite their general conclusion in opposition to scientific management, found that many of the employees in their study felt positive about their jobs because of the simplicity and straightforward nature of the work. This possibility of worker characteristics influencing job experiences and outcomes had not been addressed by classical job redesign theory. The Hawthorne studies had, however, stimulated the need for further research on the role of individual differences, or employee characteristics, in determining work behaviour.

Smith and Lem (1955) and Brayfield and Crockett (1955) indicated that some workers could be expected to find boring work satisfying owing to the range of individual differences and preferences among workers. An individual's susceptibility to boredom is determined by a number of personal characteristics in interaction with specific characteristics of the job. Turner and Miclette (1962) reported, in a study of 115 electronic instrument assembly operators, that morale and job repetitiveness were not strongly related. Aforementioned studies substantiate that repetitive work does not necessarily cause boredom.

Related studies investigated whether workers who reported their jobs as being boring actually experienced their jobs as being unpleasant, and whether their feelings of boredom in fact impacted negatively upon their work performance. Focusing on the relationship between boredom on the one hand and employee attitudes towards work and their work-related productivity on the other, Brayfield and Crockett (1955) concluded that there was little evidence of any relationship between boredom and work attitudes or output. Kennedy and O'Neill (1958, cited in Buchanan, 1979: 27), also, found no difference between the work attitudes of assembly operators performing repetitive tasks compared to utility workers performing similar but more complex work. It can thus be concluded from

these studies that boredom does not necessarily have a negative effect on work attitudes or output.

Argyris (1957) queried job enlargement as a solution to the problems of monotony and boredom created by the classical approach to job redesign. He argued that personality growth could be affected by some aspects of the structure of the organization. He noted that job enlargement tended to extend the use of manual abilities but that manual abilities made a less important contribution to personality growth than did intellectual abilities. If job enlargement were combined with the process of worker participation and the benefit of profit-sharing schemes, then the whole human personality at work would be developed. Argyris (1957: 183) termed this combination "enlarged job enlargement". Job enlargement *per se* as proposed by the classical theory was thus not regarded as an adequate solution for monotony and boredom.

The studies which criticised job enlargement as a job redesign technique were, however, unable to compete with the positive results which job enlargement seemed to produce. Benefits to the organization included improved productivity and quality, reduced labour turnover, improved operating flexibility and fewer bottlenecks in production (Elliot, 1953; Guest, 1957). What was demonstrated, however, was that it is advisable not to make simple generalizations about the boring nature of repetitive work, nor about the relationships between the characteristics of jobs and both satisfaction and motivation, nor about the effectiveness of job enlargement as a general universal job redesign technique.

Subsequently a more sophisticated approach to job redesign was proposed by Katzell, Barrett and Parker (1961, cited in Buchanan, 1979: 32), illustrating the type of development in job redesign thinking which superseded that of scientific management. Their model (see Figure 2.2) is described as "an independent variables / intervening variables / dependent variables model" of job redesign, thus elaborating upon the two-variable research designs of the classical approach (independent and dependent variables only).

Buchanan (1979: 32) considers the results of a study by Turner and Lawrence as illustrative of the merit of the Katzell, Barrett and Parker model of job redesign. Turner and Lawrence (1965) set out to examine the relationship between job characteristics and work behaviour. They conducted a study of the relationships between six requisite task attributes (variety, autonomy,

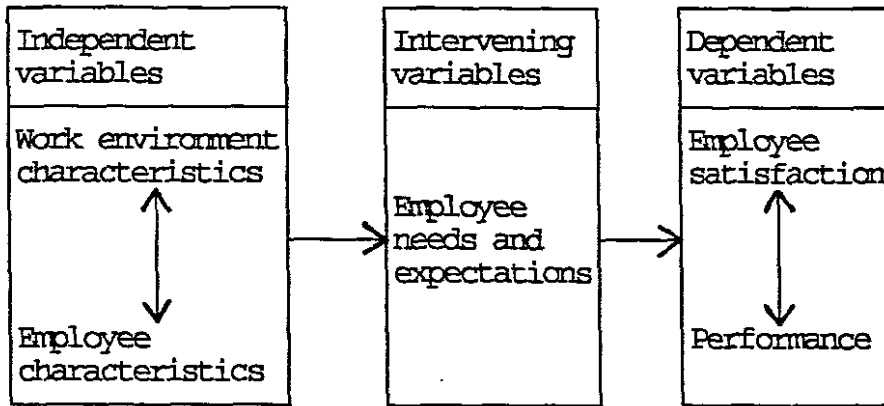


Figure 2.2 Katzell, Barrett and Parker's neo-classical model of job redesign

required social interaction, opportunities for social interaction, knowledge and skill required, and responsibility) and both absenteeism and job satisfaction for blue-collar workers. Measures of these job characteristics were found to be very closely interrelated, and a summary measure, the requisite task attributes index (RTA index), was therefore introduced.

The study correlated RTA ratings with measures of job satisfaction and absenteeism for 470 employees in 47 different jobs across 11 industries. The expectation of a positive relationship between scores on the RTA index and job satisfaction, and a negative relationship between RTA index and absenteeism was confirmed only for workers from factories located in small towns. The relationship between the RTA index and job satisfaction was reversed for urban employees while the RTA index was not related to absenteeism for this same group.

The researchers concluded that workers in large cities were exposed to a heterogeneous mix of social cultures and did thus not respond positively to jobs high in complexity, whereas workers in rural settings did. This serendipitous finding revealed that subcultural factors, or social system variables, appeared to have a significant effect on worker behaviour. Thus subcultural factors were shown to moderate the relationship between job characteristics and work behaviour.

Blood and Hulin (1967) and Hulin and Blood (1968) provide data on the importance of subcultural factors in determining work behaviour. They propose

an alienation from, as opposed to integration with, the traditional work norms of the middle class as a factor important in moderating the relationship between job characteristics and worker responses. Hulin and Blood (1968: 48) define the traditional middle class work norm as a positive sentiment regarding occupational achievement: a belief in the intrinsic value of hard work, a striving for the attainment of responsible positions, and a belief in the work-related aspects of Calvinism and the Protestant ethic.

When employees hold traditional values regarding the value of work and achievement in the work situation, as would be expected from employees in rural areas [based on the conclusion of Turner and Lawrence (1965)], jobs with a high complexity would elicit a positive response from workers. However, when employees are alienated from these norms, as might be expected from urban workers, more complex jobs would be responded to negatively. According to this conceptualization, it appears that certain employee characteristics must be taken into account simultaneously with job characteristics in order to explain work behaviour adequately. Both Turner and Lawrence (1965) and Hulin and Blood (1968) address individual differences on a sociological level; that is, in terms of differences between urban and rural workers, or stated differently, in terms of the alienation of urban workers from middle class work norms.

The conceptualizations put forward by Turner and Lawrence (1965) and Hulin and Blood (1968) were applied directly in South Africa by Orpen (1983). Orpen demonstrated that differences in the degree of westernization of black workers moderate the relationship between job complexity and work motivation and job satisfaction. Black workers in South Africa who hold western values respond much more positively to high level jobs, or jobs high in complexity, than do black workers holding tribal values. This study, and its attendant management implications, warrant further discussion as census data reveals that the black economically-active population of South Africa constitutes 71% of the total economically-active population (Gerber, Nel & Van Dyk, 1995: 538).

The measure of westernization used in Orpen's (1983) study was that developed by Grant (1973, cited in Morse & Orpen, 1975: 24-49) for special use with black workers in South Africa. This scale was developed from interviews with rural and urban workers, and from current social anthropological evidence, and demonstrates an internal consistency of $r = 0,69$. The scale furthermore

distinguishes between blacks living in rural and urban areas in South Africa, and correlates positively with a number of independent demographic and economic indicators of westernization.

Subjects in Orpen's study were divided into western or tribal subgroups on the basis of whether their scores on the urban-rural scale fell above or below the median, and on whether or not they had spent more than half of their lives in an urban area. Subjects in the western group ($n = 96$) had spent an average of 33,2 years in an urban area, while subjects in the tribal group ($n = 61$) an average of 10,6 years. The sample group comprised black employees chosen deliberately to represent a wide range of jobs which were considered, on an *a priori* basis, to vary significantly in terms of four job dimensions (variety, autonomy, feedback, and identity). The subjects performed jobs ranging from truck drivers, packers, machine operators, clerks, messengers, to supervisors of manual labourers. Subjects represented a wide spectrum of ethnic groups, including Zulu, Xhosa, Tswana and Sotho. The sample differed widely with regard to age, education, rural or urban background, and gender.

The results of Orpen's (1983) study reflect differences between western and tribal black workers in their reactions to the same job characteristics. The western-oriented black worker has a much stronger desire for higher-order need gratification in the work setting than the tribal-oriented worker owing to the fact that western-oriented black workers have been socialized in urban environments and have been exposed to a westernized work norm. This finding implies that, with other factors remaining constant, western-oriented black workers are likely to respond more positively than tribal blacks to enriched jobs.

Westernization as a variable which influences the relationship between job characteristics and work motivation and job satisfaction for black workers in South Africa has profound implications for managers. In view of the large social distance usually maintained between white managers and black employees, the former tend to attribute to all black employees, whether they be basically western or tribally oriented, the same set of stereotypical traits which they believe characterize black workers, when indeed the needs of each group differ. Furthermore, managers need to realize the differential importance shown by westernized and traditional workers for seniors and peers. The traditional worker tends to accord much more respect to persons in view of their seniority

than the westernized worker. With a group of traditional workers, management should especially avoid creating conflict by appointing or promoting to supervisory positions workers other than those who are older, and thus more senior, or possessing higher standing in the tribal culture.

With reference to job redesign, the findings of Orpen (1983) suggest that it is only for those black workers with a western orientation that intrinsic job factors will be likely to have a significant effect on satisfaction and motivation. Employees with a tribal orientation feel relatively more satisfied and motivated by the provision of better working conditions, more effective supervision, and a fairer company policy; and relatively more dissatisfied if those factors are absent or not to their liking, than they are likely to be affected by the provision of more challenging, more interesting work and work which provides a greater sense of responsibility and achievement.

Job redesign focuses deliberately on the gratification of higher-order needs. Job enrichment schemes thus seem likely to be less effective for black workers with a tribal orientation, primarily because their deficiency needs are not sufficiently gratified for them to be concerned about the improvement in the characteristics of their jobs *per se*. The chances of success with enrichment schemes applied to western-oriented workers are thus comparatively greater.

Conclusion

The neo-classical job redesign theories established pertinent job characteristics in combination with certain worker characteristics as influential in determining the behaviour of employees in the workplace.

With the formulation of the RTA index by Turner and Lawrence (1965), the neo-classical approach to job redesign made provision for the inclusion of a broader range of job characteristics as variables which influence job satisfaction and work motivation than that proposed by the classical school. Whereas classical job redesign theory attended partially to the influence of specific work environment characteristics on work behaviour, the neo-classical theorists omitted to attend to this influence.

Neo-classical job redesign theory considered, for the first time, the role which worker characteristics, or individual differences, play in moderating the relationship between job characteristics and work motivation and job

satisfaction. The nature of these individual characteristics, however, revolved mainly around subcultural factors, or sociological level variables (Turner & Lawrence, 1965; Hulin & Blood, 1968; Orpen, 1983). The major value of the sociological level studies lies in that they stimulated further research which led to the direct assessment of a broader spectrum of personality and psychologically-based individual differences. These advancements thus made the direct measurement of relevant individual differences at the individual level possible, rather than applying indirect measures such as subcultural factors or sociological level variables in explaining work behaviour.

The neo-classical theories of job redesign thus focused on both the characteristics of jobs and the characteristics of workers in determining work behaviour, but in so doing, did not specifically attend to characteristics of the work environment and the influence of these factors on motivation and satisfaction in the workplace. This approach to job redesign increased awareness of the complexity of the relationship between the characteristics of jobs and concomitant work behaviour. An increased emphasis on the importance of individual and subcultural differences in moderating the relationship between job characteristics and work behaviour was thus established.

With regard to the specific nature of the worker characteristics, namely the rural/urban orientation as well as the westernization/tribal conceptualization, each assumes a substantial homogeneity of worker characteristics and response tendencies within two settings. It would, however, be erroneous to accept that there are no substantial individual differences amongst individuals within each of these two sets of dichotomized variables. Attempts to measure individual differences indirectly via subcultural or sociological variables thus seem to have limited application.

The aforementioned shortcomings in the developments surrounding worker characteristics gave rise to further advancements in job redesign theory known as the behavioural science approach to job redesign.

2.2.3 The behavioural science approach to job redesign

The numerous human difficulties associated with classically designed work necessitated not only a departure from work simplification but also an improvement upon job enlargement and job rotation as techniques to overcome these problems. In order to preserve the "human factor" at work, alternative

approaches to work redesign began to take shape. Although the various behavioural science approaches which emerged have different theoretical underpinnings and different implications for management action, they do share a common objective, namely to redesign work in such a way that high work productivity is achieved without incurring the human costs associated with traditional classical approaches (Hackman & Oldham, 1980: 52). One behavioural science approach to job redesign which evolved as a response to the neo-classical theories was Herzberg's (1968) two-factor theory.

2.2.3.1 Herzberg's two-factor theory

The neo-classical approaches to job redesign focused, in a limited fashion, on the influence of employee characteristics on work motivation and satisfaction. Herzberg, however, incorporated the employee's psychological experience of work into job redesign in order to construct a theoretical foundation for sound job redesign practice. Herzberg (1968) introduced a humanistic management approach by proposing a set of factors related to the nature and content of the work performed that tends to motivate people to improve their performance, thus resulting in job satisfaction. The basic premise is that the nature of the job determines whether or not the experience of work is conducive to worker motivation and satisfaction.

The two-factor theory of motivation and satisfaction, with its guidelines for job redesign, was formulated based on a study of the work experience of 203 accountants and engineers using the critical incident method of obtaining data. Luthans (1995: 152) paraphrases the two questions essentially asked of respondents in Herzberg's (1968) study:

- (a) When did you feel particularly good about your job - what turned you on?
- (b) When did you feel exceptionally bad about your job - what turned you off?

A number of replicate studies using a variety of populations, including some in Communist countries, were also conducted (Herzberg, 1972: 118), making the original research one of the most duplicated studies in the field of job redesign. Findings suggest that the factors involved in producing work motivation and job satisfaction on the one hand, and job dissatisfaction on the other, are separate and distinct. Separate factors thus need to be considered, depending on whether problems related to a lack of job satisfaction and motivation are at issue or whether problems of job dissatisfaction are being examined.

Herzberg (1968) places the factors which give rise to job satisfaction and motivation and those factors causing job dissatisfaction within a framework of the worker's psychological experience of work. Two distinct, different sets of employee needs are involved in the determination of job satisfaction and motivation on the one hand and job dissatisfaction on the other. Herzberg proposes one set of needs as stemming from the human being's animal nature: that is, the built-in drive to avoid pain from the environment. Included in this drive are all the learned drives which become conditioned upon the basic biological need of pain avoidance. The other set of needs relates to a unique human characteristic: that is, the ability to achieve and through that to experience psychological growth.

The stimuli for the growth needs are tasks that induce growth and in the industrial setting this refers to factors relating to job content. Stimuli inducing pain avoidance behaviour are found in the job environment, or job context, and relate to basic needs.

The motivator or growth factors are intrinsic to the job and comprise achievement, recognition for achievement, responsibility, growth or advancement, and the work itself. The hygiene or dissatisfaction avoidance factors are extrinsic to the job and comprise salary, status, security, company policy and administration, and supervision.

The two-factor theory illustrates employees' strivings to satisfy their basic needs through the hygiene factors and their desire for psychological growth through the motivator factors. The central proposition of the theory is that sources of job satisfaction and motivation are qualitatively different from the determinants of dissatisfaction. The motivators are instrumental in promoting motivation and satisfaction, whereas the hygiene factors are important in avoiding potential sources of dissatisfaction. Herzberg (1968) advocates a dual strategy of enriching specific elements or characteristics of jobs in order to increase their motivating potential, while also attending to particular work environment factors to minimize worker dissatisfaction.

The two-factor theory, as a behavioural science approach to job redesign, establishes a link between human nature, the working world, and worker behaviour. Ensuing recommendations to managers encompass specific principles to be applied in order to enrich the motivating characteristics of jobs. Herzberg

(1972: 121) lists seven principles of vertical job loading whereby employees' jobs can be enriched and incumbents granted the opportunity for growth in their jobs:

- (a) removing some controls while retaining accountability;
- (b) increasing the accountability of individuals for their own work;
- (c) giving a worker a complete natural unit of work;
- (d) granting additional authority to an employee in her/his activity, that is to say, job freedom;
- (e) making periodic reports directly available to the worker herself/himself rather than to the supervisor;
- (f) introducing new and more difficult tasks not previously handled; and
- (g) assigning individuals specific or specialized tasks, enabling them to become experts.

These vertical job loading principles relate directly to the motivator factors, namely responsibility, personal achievement, recognition, growth, and the work itself. Herzberg (1972: 123-124) suggests ten steps which managers should follow when instituting the vertical job loading principles in their subordinates' jobs:

- (a) Select for enrichment those jobs in which:
 - i) technical changes can be made with the minimum expense;
 - ii) job satisfaction is low;
 - iii) the provision of hygiene factors is expensive; and
 - iv) improved motivation will affect performance.
- (b) Examine these jobs with the conviction that their job content can be changed.
- (c) "Brainstorm" a list of possible job enrichment changes without concern for their practicality.
- (d) Screen the list to exclude suggestions that involve hygiene factors, retaining only those concerned with motivators.
- (e) Screen the list for generalities such as "give workers more responsibility", retaining only specific suggestions concerned with motivators.
- (f) Screen the list to eliminate horizontal loading factors, that is to say, factors related to job enlargement or job rotation.
- (g) Avoid direct employee participation in determining the changes to be made. It is not the act of workers participating that ensures future motivation, but the nature of the work content.

- (h) Set up a controlled experiment to examine the consequences of the job enrichment interventions.
- (i) Expect initial results to be poor until employees become accustomed to their new jobs.
- (j) Expect anxiety and hostility from supervisors, at least initially. The anxiety comes from their fear that the changes will result in poorer performance.

The goal of this effort is to expand jobs to give workers a greater role in planning, performing and evaluating their work, thus providing an opportunity to satisfy their growth needs. The theory furthermore calls for the maintenance and promotion of hygiene factors in the work environment in order to simultaneously satisfy the basic needs of workers.

The motivator-hygiene theory is not without shortcomings, however. Research has failed to confirm the two-factor theory owing to a lack of clarity in Herzberg's original exposition of his theory (King, 1970). The original dichotomization of aspects of the workplace into motivators and hygiene factors may partly have been due to the methodology employed in the research. The interview procedure followed by Herzberg stimulated projective as well as defensive responses. According to attribution theory, satisfaction is usually attributed to personal achievement (dispositional attributions), while dissatisfaction, in general, is not ascribed to personal failings but to factors in the work environment (environmental attributions). The attributional process thus creates the dichotomization between the factors promoting job motivation and satisfaction and those causing job dissatisfaction. It therefore becomes possible, on the basis of this shortcoming, for a given factor to cause motivation and satisfaction for one worker and job dissatisfaction for another. Work factors can thus serve as motivators at times and as hygiene factors at other times.

Salancik and Pfeffer (1977), too, criticise the causal inferences made on the basis of the methodology followed in Herzberg's (1968) research. According to these researchers, the causal influences ascribed to the motivators and hygiene factors cannot be defended by using a non-experimental research design.

An absence of measures to test the different components of this model confounds empirical validation of this theory in an organizational context. Practical

difficulties thus arise in utilizing and implementing the theory in actual job enrichment programmes. For example, diagnosis of jobs prior to implementing changes is idiosyncratic, and measures to gauge the results of job enrichment interventions rely only on subjectivity.

Mullins (1993: 460) contends that Herzberg's (1968) theory applies least to unskilled employees whose work can be regarded as uninteresting, repetitive, limited in scope, and monotonous, because unskilled workers adopt an instrumental orientation to work whereby their primary concern is economically based. Conversely, Blackburn and Marm (cited in Mullins, 1993: 460) report findings which illustrate that relatively low-skilled workers adopt a variety of work orientations, focusing on, *inter alia*, autonomy, worthwhileness of the job, and intrinsic aspects of the job.

Conclusion

Herzberg's two-factor theory (1968), as a behavioural science approach to job redesign, directed attention to the significance of the job itself as a factor in determining the motivation, satisfaction and performance of workers. This emerged in direct contrast to Taylor's (1911) classical approach with its emphasis on external monetary incentives. The behavioural science approach to job redesign thus focused on job characteristics (that is to say, the nature of the job), worker characteristics (incorporating both basic and growth needs), and work environment characteristics (namely the hygiene factors) in the determination of work motivation and satisfaction.

Specifically with regards to worker characteristics, however, the two-factor theory of Herzberg can be regarded as a universalistic theory because it accepts that all workers will respond in the same way to their work environment and their enriched jobs. The theory thus does not include specifications of the manner in which the unique individual characteristics of workers interact with the presence or absence of the motivators and hygiene factors in influencing job motivation and satisfaction. The theory, thus, does not adequately address the individual nature of worker characteristics.

The last two decades produced a number of landmark studies which elaborated on Herzberg's approach to understanding the worker-job relationship. Job redesign theory in general was, as a result of these studies, elaborated to specify, in concrete terms, how individual differences phenomena could be dealt with both

conceptually and practically in the redesign and implementation of actual change projects. In this way the ~~modern~~ behavioural science approach to job redesign, namely the Job Characteristics Model, was established.

2.2.3.2 The Job Characteristics Model of job redesign

Hackman and Lawler are considered the fathers of the original job characteristics theory (Miner, 1980: 230). The job characteristics theory of Hackman and Lawler (1971) was formulated as a model of job redesign.

According to the job characteristics theory, work behaviour is determined by the interaction between job characteristics, work environment characteristics, and worker characteristics. The conceptualization of this interaction, according to Hackman and Lawler (1971: 262), is based primarily on expectancy theory (Porter & Lawler, 1968). The job characteristics theory thus has its origin in expectancy theory.

The job characteristics theory is based on the following assumptions (Hackman & Lawler, 1971: 262-263):

- (a) The worker will engage in a particular behaviour, as required by the organization, to the extent that (s)he believes that (s)he can obtain an outcome which (s)he values by engaging in that behaviour. These valued outcomes can be both intrinsic (for example, a feeling of accomplishment) and extrinsic (for example, financial rewards) in nature. Outcomes are considered to be incentives when the worker anticipates obtaining some valued outcome as a result of a contemplated action or course of action. The value which the individual attaches to outcomes is determined by the extent to which they satisfy the needs of the worker. The work situation should therefore be so structured that workers can strive to satisfy their needs by engaging in productive, motivated work behaviour.
- (b) Most lower-order needs in Maslow's (1943, 1954) hierarchy (namely the physiological, security, and social needs) can be, and often are, reasonably well satisfied for individuals in contemporary society, on a continuing basis. The desire for further satisfaction disappears and these lower-order needs thus possess no further motivational value.
- (c) The higher-order needs (the needs for respect and self-actualization) can, in contrast, be satisfied on a continuing basis without the strength of desire for additional satisfaction of these needs diminishing. It may occur that the satisfaction of higher-order needs can actually increase the

strength of the need. The drive for satisfaction of higher-order needs thus possesses a strong motivational value.

- (d) Not all workers will respond to work-related opportunities to satisfy higher-order needs. Work can therefore not always be so structured for everyone that higher-order needs are satisfied by productive, motivated work behaviour.
- (e) Workers who seek job-related higher-order need satisfaction will experience such satisfaction when they perceive that they have, as a result of their own efforts, accomplished something that they personally believe is worthwhile or meaningful. These workers have a greater chance of satisfying higher-order needs when they work effectively on meaningful jobs which provide feedback on the adequacy of their personal work activities.
- (f) In order to possess any motivational or satisfaction value, a job must:
 - i) allow workers to feel personally responsible for an identifiable and meaningful portion of work;
 - ii) provide work outcomes which are perceived as meaningful and worthwhile; and
 - iii) provide feedback in respect of the effectiveness of performance.
- (g) The harder and better that an individual works on a job with a high potential for higher-order need satisfaction, the more opportunities (s)he will have to experience higher-order need satisfaction and the more incentive there can be for continued effective performance. Higher-order need satisfaction is thus viewed as a result of effective performance as well as an incentive to sustain good performance.
- (h) Internal motivation and general satisfaction within the work situation are determined firstly by the presence, in workers, of the need to pursue job-related higher-order need satisfaction, and secondly by the presence of certain job characteristics (namely skill variety, task identity, autonomy, feedback, dealing with others and friendship opportunities) which, when coupled with quality work performance, make higher-order need satisfaction possible.

Hackman and Oldham (1974, 1980) subsequently revised the job characteristics theory and termed their refinement the Job Characteristics Model, henceforth referred to as the model (refer to Figure 2.3), which is now considered the most influential model guiding research on the nature or characteristics of jobs (Johns, Xie & Fang, 1992: 658). Kelly (1992: 754) refers to this model as the most well-known and widely discussed theory of job redesign. Hackman and

Oldham (1975) also developed a measuring instrument to validate their model, namely the Job Diagnostic Survey (JDS), which was revised parallel to refinements of the model (Hackman & Oldham, 1980: 90).

Purpose of the model

The Job Characteristics Model, the accompanying JDS and the proposed action steps for improving motivation, satisfaction and performance (Hackman & Oldham, 1980) have been functionally utilized in South Africa as a revised job redesign practice (Wiesner & Vermeulen, 1997: 177) to address critical human resources problems currently facing managers and human resources practitioners (Boonzaier & Boonzaier, 1994: 101-109). More specifically, the model specifies the conditions under which workers will display motivation, satisfaction and productive behaviour. The JDS, in turn, can be used to:

- (a) diagnose jobs considered for redesign in order to establish the current potential of a job for enhancing motivation and satisfaction;
- (b) identify those specific job characteristics that are most in need of enrichment;
- (c) assess the "readiness" of employees to respond positively to improved jobs.

Where remedial action is required, strategic guidelines (Anthony, Perrewe & Kacmar, 1999: 308) assist managers in planning for an enriched workplace.

The model, the attendant JDS and the proffered action steps thus facilitate a process through which managers can practically achieve an optimal fit between workers and their jobs by addressing motivation, satisfaction and performance problems caused primarily by shortcomings in the nature of jobs.

Outline of the model

The Job Characteristics Model is underpinned by the humanistic management approach which purports to preserve, maintain and develop the "human factor" in the workplace. This intent is visible in the various components of the model. According to the model (see Figure 2.3), workers exhibit positive **personal and work outcomes** (internal work motivation, general job satisfaction, growth satisfaction, and work effectiveness) if they experience three **psychological states**, namely:

- (a) they perceive their work to be meaningful;
- (b) they experience responsibility for the results or outcomes of their work;
- (c) they have knowledge of the results of their work.

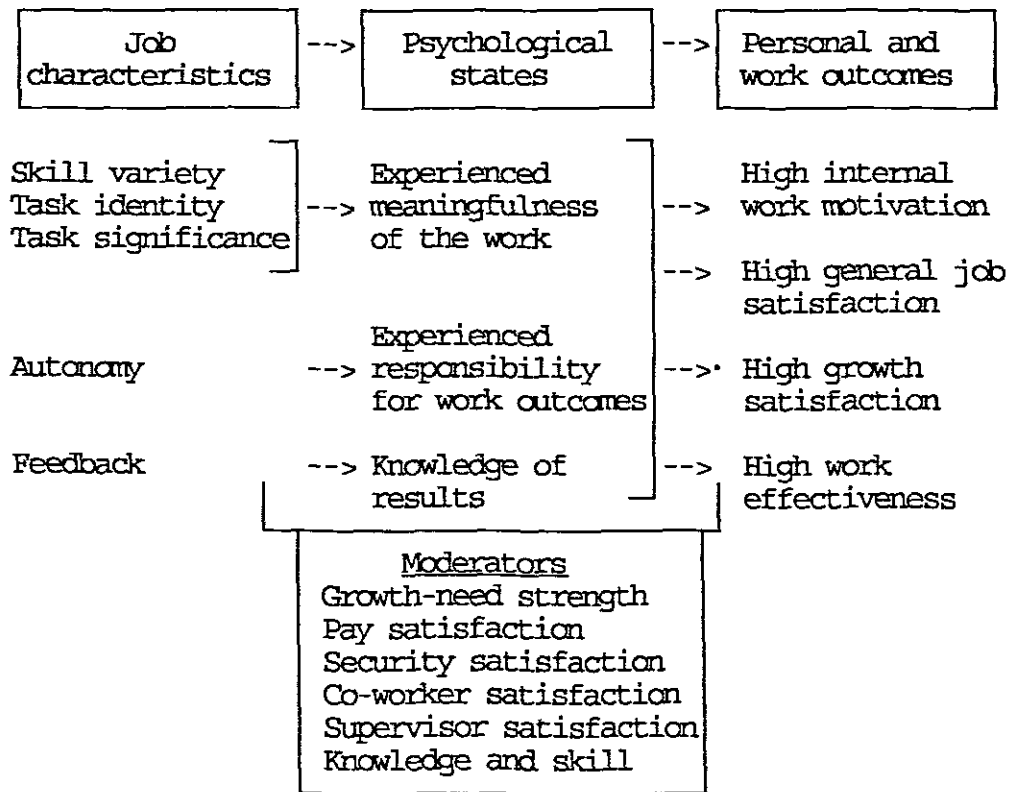


Figure 2.3 The Job Characteristics Model (Hackman & Oldham, 1980: 90)

Positive reinforcement and personal reward are experienced (Armstrong, 1996: 382) when employees are aware of performing well on a task (knowledge of results) that the employee feels accountable and responsible for (experienced responsibility) and which is regarded as worthwhile and of value (experienced meaningfulness). These three psychological states are enhanced by the presence of five specific **job characteristics**, namely skill variety, task identity, task significance, autonomy, and feedback.

Definition of variables

Hackman and Oldham (1975, 1976) provide definitions of the different job characteristics, psychological states, outcomes and moderator variables. The model refers to **internal work motivation** as the extent to which the employee is self-motivated to perform effectively on the job; that is, the employee experiences positive internal feelings when performing effectively on the job, and negative internal feelings when doing poorly. **General job satisfaction** refers to the degree to which the employee is satisfied and happy with the job. **Growth satisfaction** refers to the degree to which an individual is satisfied with opportunities for growth in the job. This particular personal outcome is the result of elaborations on the original model by Hackman, Pearce and Wolfe (1978: 293). The model does not provide a definition of **work effectiveness** as this factor is unique to particular work settings.

Experienced meaningfulness of the work refers to the degree to which the employee experiences the job as generally meaningful, valuable and worthwhile. **Experienced responsibility for work outcomes** is defined as the degree to which the employee feels personally accountable and responsible for the results of the work (s)he does. **Knowledge of results** is the degree to which the employee knows and understands, on a continuous basis, how effectively (s)he is performing the job.

According to the model, for workers to experience meaningfulness, jobs must contain skill variety, task identity, and task significance. **Skill variety** refers to the degree to which a job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee. **Task identity** is defined as the degree to which the job requires completion of a "whole" and identifiable piece of work - that is to say, doing a job from beginning to end with a visible outcome. **Task significance** represents the degree to which the job has a substantial impact

on the lives or work of other people, whether in the immediate organization or in the external environment.

Workers will experience responsibility for their work outcomes if jobs contain a significant degree of autonomy. **Autonomy** represents the extent to which the job allows the employee substantial freedom, independence, and discretion in scheduling the work and in determining the procedures to be used in carrying it out.

For workers to have knowledge of the results of their work activities, feedback must be introduced. **Feedback** refers to the extent to which performing the work activities required by the job results in the employee obtaining direct and clear information from the job about the effectiveness of her or his performance.

The model further specifies the existence of **moderator variables**, namely growth-need strength, satisfaction with pay, satisfaction with security, satisfaction with co-workers, satisfaction with supervision, and knowledge and skill. These moderators intervene to influence both the relationships between the job characteristics and the psychological states, as well as the relationships between the psychological states and the personal and work outcomes. The moderator variables are defined as follows:

- (a) **Growth-need strength** refers to workers' needs for personal accomplishment, for learning, and for developing themselves beyond where they are at present.
- (b) **Pay satisfaction** refers to the degree of satisfaction with basic compensation and benefits as well as satisfaction with the extent to which the organization's compensation relates to the individual's contribution to the organization.
- (c) **Security satisfaction** is the degree of satisfaction with the amount of general security experienced as well as with the prospects of security.
- (d) **Co-worker satisfaction** reflects the degree of satisfaction with other workers with whom contact is made in the work situation, as well as satisfaction with opportunities to get to know and to help people.
- (e) **Supervision satisfaction** refers to the degree of satisfaction with the treatment, support and guidance received from supervisors, as well as the degree to which the general quality of supervision is considered satisfactory.

- (f) **Knowledge and skill** as a moderator variable is not specifically defined as they are unique to particular work settings.

The Job Diagnostic Survey (JDS)

The JDS provides direct measures of all the variables in the Job Characteristics Model as depicted in Figure 2.3 (excluding work effectiveness and knowledge and skill, as previously explained). The JDS also measures two additional job characteristics that are not included in the model (Hackman & Oldham, 1980: 103-104), namely:

- (a) **Feedback from agents:** the degree to which the employee receives clear information about his or her performance from supervisors or from co-workers; and
- (b) **Dealing with others:** the degree to which the job requires the employee to work closely with other people, inside and outside the organization, in the execution of work activities.

Feedback from agents supplements JDS information on the job characteristic variable "feedback". Dealing with others is designed to alert the planners of job redesign interventions to the possibility of an interconnected set of jobs requiring attention rather than focusing on a single job.

Based on the model, the JDS computes a score reflecting the overall motivating potential of a job in terms of the five job characteristics. This Motivating Potential Score (MPS) provides a single indicator of the extent to which the five job characteristics are present in a job and is computed as follows:

$$\text{MPS} = \left[\frac{\text{skill variety} + \text{task identity} + \text{task significance}}{3} \right] \times \text{autonomy} \times \text{job feedback}$$

The MPS ranges from 1 to 343 as the five job characteristics are measured on seven-point scales.

Implications of the model

Specifically, the following theoretical statements can be inferred from the Job Characteristics Model:

- (a) Internal work motivation, general job satisfaction, growth satisfaction, and work effectiveness result from jobs so designed as to prompt employees

to experience three psychological states, namely experienced meaningfulness of their work, experienced responsibility for work outcomes, and knowledge of results.

- (b) The presence of five job characteristics determines the experience of three psychological states. Skill variety, task identity and task significance lead to experienced meaningfulness of the job; autonomy predicts experienced responsibility for work outcomes; and feedback from the job influences knowledge of results.
- (c) The psychological states are complete mediators of the relationships between the job characteristics (independent variables) and personal and work outcomes (dependent variables).
- (d) The overall potential of a job to prompt internal work motivation (MPS) is determined by the mathematical product of feedback, autonomy, and the mean of skill variety, task identity and task significance. (Feedback and autonomy are thus assumed to be more critical than skill variety, task identity and task significance individually in prompting internal work motivation.)
- (e) The employee's growth-need strength, satisfaction with pay, security, supervision and co-workers, as well as the employee's level of knowledge and skill, moderate both the relationships between the job characteristics and the psychological states and the relationships between the psychological states and the personal and work outcomes.

Conclusion

The Job Characteristics Model, with the accompanying JDS, represents a comprehensive behavioural science approach to job redesign, as the model considers the characteristics of the job, the characteristics of the work environment, as well as the characteristics of the worker in determining work behaviour. According to the model, work behaviour (internal work motivation, general job satisfaction, growth satisfaction and work effectiveness) is thus determined by a combination of the following variables:

- (a) The five job characteristics (skill variety, task identity, task significance, autonomy, and feedback).
- (b) Worker characteristics (the three psychological states, namely experienced meaningfulness of the work, experienced responsibility for work outcomes, knowledge of results, as well as growth-need strength and knowledge and skill).
- (c) Work environment characteristics (security satisfaction, salary

satisfaction, co-worker satisfaction, and supervision satisfaction).

The JDS represents a comprehensive set of measurements with which the different components of the Job Characteristics Model can be tested empirically. The theory can thus be implemented and utilized in actual job enrichment programmes in South Africa also (Nel, Gerber, Van Dyk, Haasbroek, Schultz, Sono & Werner, 2001: 333-334). Diagnosis of jobs prior to redesign is possible, and the effects of job enrichment interventions can be measured. The formulation of this model and instrument can be regarded as the first attempt in job redesign theory to focus on individual differences directly by measuring the critical psychological states and the growth-need strength of workers. It is, therefore, a worker-based job redesign theory.

The modern behavioural science approach to job redesign, in producing the Job Characteristics Model, thus heralded an era where phenomena in the work situation relating to motivation and satisfaction were adequately dealt with according to the criteria laid down by Porter and Miles (cited in Steers & Porter, 1991: 20-24) as discussed in Section 1.8.

Subsequent to the formulation of the Job Characteristics Model, studies relating to the testing of the validity of the variables and the relationships between the variables of the model were conducted. These empirical findings are reported in Chapter 3.

Table 2.1

Focus of the different approaches to job redesign

APPROACH TO JOB REDESIGN	FOCUS		
	Job characteristics	Work environment characteristics	Worker characteristics
Classical	*	*	
Neo-classical	*		*
Behavioural science	*	*	*

2.3 SUMMARY .

The classical, neo-classical and behavioural science approaches to job redesign focus in different ways and with different degrees of rigour on the three sets of variables which constitute the world of work, namely characteristics of the job, the worker and the work environment. Table 2.1 serves as a summary of the different approaches to job redesign and the respective characteristics of the work situation that each approach focuses on.

CHAPTER 3

REVISION OF THE JOB CHARACTERISTICS MODEL

3.1 INTRODUCTION

The poor work motivation, job dissatisfaction and marginal performance which plague South African organizations have been highlighted in Chapters 1 and 2. Substantial developments in human sciences technology to address these pressing issues have, however, been made in especially the last two decades. In particular, Hackman and Oldham (1980) made a major contribution to these developments by formulating the Job Characteristics Model and compiling the accompanying Job Diagnostic Survey (JDS).

The Job Characteristics Model focuses primarily on the nature of the job content as the determinant of the attitudes and behaviour of workers. The model states that high levels of motivation, satisfaction and work performance are achieved when three psychological states (experienced meaningfulness of the work, experienced responsibility for work outcomes, and knowledge of results) are present in the job incumbent.

The varying presence of five job characteristics (skill variety, task identity, task significance, autonomy, and feedback) influences the extent to which individuals experience these psychological states. The extent to which the job characteristics are present in a specific job is computed by the JDS into a single index, the Motivating Potential Score (MPS), which serves as an indicator of the level of job complexity. In addition to the five core job characteristics, the JDS also measures two additional job characteristics (feedback from agents, and dealing with others) for diagnostic utilization during organizational change projects.

Various worker characteristics (knowledge and skill, growth-need strength) and work environment characteristics (pay satisfaction, security satisfaction, co-worker satisfaction and supervision satisfaction) serve as moderator variables which mediate the relationships between the job characteristics and the psychological states as well as the relationships between the psychological states and the personal and work outcomes.

Of all the job redesign theories to date, the Job Characteristics Model has

generated the most research and discussion (Algera, 1990: 86). The model is also regarded as one of the most comprehensive frameworks for job redesign (Anthony, Perrewe & Kacmar, 1999: 306). The JDS, likewise, is the most widely used instrument in job redesign research and possesses known and generally acceptable psychometric properties (Griffin, 1991: 429). However, in spite of evidence supporting the validity of the Job Characteristics Model and the utility of the JDS, local and international criticism has increasingly been voiced regarding specific components of the model, and specific shortcomings of both the model and the JDS have repeatedly been documented (Wall, Clegg & Jackson, 1978; Roberts & Glick, 1981; Birnbaum, Farh & Wong, 1986; Graen, Scandura & Graen, 1986; Fried & Ferris, 1987; Idaszak & Drasgow, 1987; Evans & Ondrack, 1991; Cordery & Sevastos, 1993).

The purpose of this chapter is to review relevant studies regarding this model by indicating which parts of the model are supported by empirical evidence and can therefore be regarded as valid, and which parts of the model need modification. Subsequently, a refinement of the model and the accompanying JDS is proposed.

The review of studies and the evaluation of the model will be presented, firstly, in terms of the variables contained in the model and, secondly, in terms of the relationships between the variables in the model.

3.2 REVIEW AND EVALUATION: VARIABLES IN THE JOB CHARACTERISTICS MODEL

The model specifies personal and work outcomes as dependent variables and job characteristics as the independent variables.

3.2.1 Job characteristics

Empirical evidence relating to the job characteristics focusses predominantly on the following themes:

- (a) the factor structure of the job characteristics;
- (b) subjective versus objective job characteristics;
- (c) the additional job characteristics;
- (d) the Motivating Potential Score (MPS).

3.2.1.1 Factor structure of the job characteristics

The Job Characteristics Model stipulates five core job characteristics (skill variety, task identity, task significance, autonomy, and feedback) as

determinants of work behaviour. The original exposition of the model contained four job characteristics (Hackman & Lawler, 1971), but Hackman and Oldham (1974, 1975, 1976, 1980) included task significance as a fifth job characteristic. Individual indicators of the extent to which each of the job characteristics is present in a job are provided by the JDS, in conjunction with a composite score, the MPS index, being a single indicator of overall job complexity (refer to Section 2.2.3.2 for the algorithm for computing the MPS index). The question thus arises as to which particular combination of job characteristics, whether five separate or a single index, provides optimum representation of the complexity of a job.

In their factor analysis of the job characteristics, Sims, Szilagyi and Keller (1976) obtained responses from both non-supervisory employees of a medical centre and supervisory employees of a manufacturing firm. Support was found for the *a priori* dimensionality of five job characteristics as suggested by the model. Pokorney, Gilmore and Beehr (1980) collected data from 173 employees of a large insurance company with branches located throughout the United States and Canada. Results were consistent with the five job characteristics specified by the model. Further support for the postulated dimensionality of the job characteristics is provided by Lee and Klein (1982), using a sample of 1632 public sector workers. The study of Harvey, Billings and Nilan (1985) gives further credence to the five-factor structure of the model. Their finding is based on data from 2028 full- and part-time workers of the Ohio National Guard. The study of Johns, Xie and Fang (1992), based on a random sample of 605 first- and second-level managers in a large utility company in Canada, also found the five-factor solution appropriate.

Dunham (1976), however, found that a single factor accounted for 83% of the explained variance in a study of 3610 employees of a large merchandising corporation, thus not supporting the five job characteristics as specified by the model. Based on an alternative factor rotation, the consideration of a four-factor solution is advised with the skill variety and autonomy items collapsing to form a common factor and thus being empirically the same. Dunham (1976) proposes, in conclusion, a single- or a four-factor structure as the most parsimonious solution. Dunham, Aldag and Brief (1977) reported further on the factor structure of the job characteristics. The JDS data of 5945 workers from five different organizations, which was further divided into 20 subsamples, was analysed. Results indicate an inconsistency in the

dimensionality of the job characteristics across samples. The structure of five job characteristics was found in only two of the twenty samples investigated. In general, a smaller number of factor structures were found, usually four, three or two, depending on the sample.

Fried and Ferris (1986) found a three-factor structure the best alternative. A sample of 6930 employees in 56 organizations across 876 different jobs was used. A principal axis factor analysis, oblique factor rotations and a procrustes transformation were applied in the analysis of data. Results showed that task identity and feedback can be regarded as separate and distinct job characteristics, but that skill variety, task significance and autonomy collapsed into a single factor. Possible causes cited are the moderating influence of age, education and position on the underlying factor structure. For young people who are highly educated, for example, results support the *a priori* five-factor solution.

Idaszak and Drasgow (1987) point to the reverse-score items of the JDS as a major source of inconsistencies in determining the number of factors operating as job characteristics. The factor structures obtained when administering the original JDS, as well as a revised JDS (designed by replacing reverse-score items with new items), were investigated. Factor analyses identified six dimensions underlying the original JDS. Five of the factors correspond to the pattern expected for the JDS items; the sixth was identified as a measurement factor. When the revised JDS was administered to 134 employees of a printing company, the *a priori* five-factor solution was obtained with no measurement factor. On this basis the researchers recommend the use of their revised JDS.

The study of Kulik, Oldham and Langner (1988) also contrasted the JDS of Hackman and Oldham (1980) with the revised version proposed by Idaszak and Drasgow (1987). A sample of 224 dairy workers completed both versions of the JDS. Results of a confirmatory factor analysis showed that job characteristics items on the revised JDS conformed more closely to the hypothesized five-factor structure than did the original JDS job characteristics items. However, with regard to practical implications, results of Lisrel analyses indicated that the revised items did not improve the usefulness of the JDS in predicting satisfaction, internal motivation or productivity. Cordery and Sevastos (1993) also compared the original and revised versions of the JDS. The sample consisted of 3044 white-collar workers from departments of the Western

Australian State Public Service. Results showed, too, that a revised version of the JDS, using only positively worded items, better fits the five-factor structure underlying the instrument. Harvey, Billings and Nilan (1985) report the same conclusion. By contrast, Burke (1999: 218) indicates that the negatively worded items in the JDS are not as serious a concern as researchers have implied. Rather, the feasibility of screening for invalid responses (those respondents who were careless, inattentive, sabotaged the completion of questionnaires or who read poorly) instead of changing the JDS to include only positively worded items, is highlighted.

In trying to determine the validity of using a five-factor structure, there are several problems in comparing research results:

- (a) Different instruments (for example the Job Diagnostic Survey and the Job Descriptive Inventory) are used in different studies to measure the job characteristics, thus confounding comparisons.
- (b) The nature of samples chosen differs with regard to range of jobs, organizational levels and industries included.
- (c) Some studies make use of objective job characteristics (as reported by external individuals) while others use subjective measures (that is, the self-reports of job incumbents).
- (d) Idaszak, Bottom and Drasgow (1988) outline specific methodological problems which seem to be the primary cause of inconsistent results obtained in the large number of factor analyses of the JDS. Of specific relevance is their finding that samples approximating 1000 subjects are needed to obtain significant results on the factor structure of the job characteristics when using an instrument like the JDS.

In conclusion, studies on the dimensionality of the job characteristics propose from a one- to a five-factor solution. Research on this issue, when using the original JDS, can thus be regarded as inconclusive. The studies of Harvey, Billings and Nilan (1985), Idaszak and Drasgow (1987), Kulik, Oldham and Langner (1988) and of Cordery and Sevastos (1993), however, provide sufficient evidence to justify using the revised version of the JDS to measure the five job characteristics. The revised JDS also supports a five-factor solution as proposed by the model. Experience in South Africa (Boonzaier & Boonzaier, 1994) tends to favour the use of the revised JDS which is thus recommended for diagnostic purposes by researchers and practitioners alike.

3.2.1.2 Subjective versus objective job characteristics

According to Hackman and Lawler (1971), as well as Hackman and Oldham (1974, 1975, 1976, 1980), the worker's perception of the extent to which the job characteristics are present in her/his job determines the personal and work outcomes. This perception of the job characteristics is measured by the JDS and relies on the subjective evaluation by the job incumbent. The dilemma this creates is that when job redesign is introduced, the objective characteristics of jobs are altered. The question is thus whether objective changes in job characteristics result in changes in subjective job perceptions in the direction of the objective modifications. Fried and Ferris (1987) addressed this issue of the linkage between subjective and objective job characteristics in their comprehensive review of nearly 200 relevant studies of the model. In general, the studies included in this meta-analysis show that objective manipulations of jobs do result in changes in the job perceptions of workers in the direction of the objective change. The experimental study of Taber and Taylor (1990) also shows that changes in objective work tasks result in parallel changes in employee perceptions of their jobs.

Fried and Ferris (1987) also provide an indication of the link between objective and subjective job characteristics as evidenced by the correlations between the job incumbent's ratings of the extent to which job characteristics are present in her/his job and the ratings of these same jobs by other sources, for example peers, supervisors and researchers. A median of correlations of 0,63 is reported and a median of median correlations of 0,56 for 15 studies where job incumbent ratings were correlated with that of other sources. Fried and Ferris (1987) conclude that the subjectivity problems associated with incumbent-rated job characteristics are less serious than initially believed.

In a study examining the influence of 24 job characteristics on 17 dependent variables, Algera (1983) found similar correlational patterns when job characteristics were rated by job incumbents and when job characteristics were rated by non-job incumbents. Oldham, Hackman and Pearce (1976) and Stone and Porter (1978) likewise found similar correlations between job characteristics and outcome variables when subjective and objective ratings were used as independent variables. This finding implies that there is no real difference between objective and perceived or subjective job characteristics.

Substantial convergent validities between reports by job incumbents and reports

by other sources such as co-workers, observers and supervisors have been reported in several other studies as well. Hackman and Oldham (1976: 261), for example, found high convergent validities between the different sources. Hackman and Lawler (1971) report convergent validities as high as 0,95. Spector and Jex (1991) also show that job characteristics based on self-reports represent a reasonable measure of objective job characteristics, based on their sample of 232 civil service employees. Kulik, Oldham and Hackman (1987: 285) state that "employees are able to provide generally accurate assessments of the characteristics of their jobs". Johns, Xie and Fang (1992) provide further justification for the use of subjective self-reports as evidential of the job characteristics. Furthermore, they regard the Job Characteristics Model as the "most influential model guiding self-report research on job characteristics" (1992: 658). It can be argued that when the intent is to predict or understand employee behaviour at work, employee ratings of job characteristics are preferable to use, since it is an employee's own perceptions of the objective job that is causal of her/his reactions to it (Hackman & Oldham, 1976: 261).

Conversely, Birnbaum, Farh and Wong (1986) advocate the use of multiple sources of information on job characteristics for use in job redesign interventions. Cellar, Kernan and Barrett (1985), however, question the validity of regarding observer ratings as objective indices of the job characteristics by illustrating that observers can be biased by the same factors which affect ratings by incumbents.

In conclusion, it can be stated that, in job redesign studies, the utilization of subjective job characteristics as reported by workers seems to have weathered rigorous empirical investigation. Studies reveal that the possible confounding factors, namely common method variance (Roberts & Glick, 1981), the influence of extraneous social cues (Griffin, 1983), and priming effects (Fried & Ferris, 1987), have been exaggerated. There is a relatively high relationship between the extent of the job characteristics present in a job as perceived by the worker, and the corresponding evaluations of others. On the basis of all the above-mentioned studies, the subjective ratings of job incumbents can be regarded as a sufficient and valid indicator of the extent of the job characteristics present in their jobs. This then also validates what Taber, Beehr and Walsh (1985: 32) refer to as the common organizational research strategy of using only self-report measures of job characteristics, as

yielded by the JDS. It is furthermore recommended that the revised JDS (see Appendix A) be used to measure the subjective job characteristics.

3.2.1.3 Additional job characteristics

The supplementary variables, namely feedback from others and dealing with others, are included in the JDS to aid the diagnosis of jobs and the reaction of workers to their jobs (Hackman & Oldham, 1975: 162). Sims, Szilagyi and Keller (1976) and Evans, Kiggundu and House (1979) as well as Hogan and Martell (1987) have found little evidence to justify adding these two variables to the set of five core job characteristics. Apart from these studies though, research in general has neglected to test the viability of including these two additional variables.

In **conclusion**, in the absence of valid reasons to the contrary, these two additional job characteristics can therefore not be justifiably added to the standard five job characteristics. They can, however, be utilized by those technologists who may find these indices useful for a specific intervention scenario, and they are also useful as a guideline for researchers attempting to expand the nature and scope of the job characteristics.

3.2.1.4 Motivating Potential Score (MPS)

The model accentuates the contribution of each of the separate five job characteristics in enhancing motivation, satisfaction and performance. It is nevertheless also informative to combine the five job characteristics into a single index which reflects the overall potential of a job to foster positive personal and work outcomes. Such a multiplicative index (refer to Section 2.2.3.2) was formulated by Hackman and Oldham (1974) and is known as the Motivating Potential Score (MPS). This index provides an indication of the extent of job complexity.

Ferris and Gilmore (1985) point out that the traditional multiplicative index is not the only index used in research. Their study compares the utility of the **multiplicative** index of Hackman and Oldham (1974, 1975, 1976, 1980), a **simple unweighted additive** index, and a **weighted additive** index, when moderator effects are tested. The unweighted additive index of job complexity is computed by adding the scores of the five job characteristics. The weighted additive job complexity index is compiled as follows:

$$\text{Job complexity} = 2(\text{Skill variety}) + \text{Task identity} + \text{Task significance} \\ + 2(\text{Autonomy}) + \text{Feedback}$$

Data was collected from 94 nursing employees. A moderated regression analysis revealed that the probability of detecting moderator effects is increased when using the traditional multiplicative index compared to utilizing either of the two additive indices.

Evans and Ondrack (1991), in a replication of the afore-mentioned study, however, declare their preferred formula to be the unweighted additive index. Four versions of the formula were tested using a sample of 1193 male, blue-collar employees who lived and worked in Ontario, Canada. Using a hierarchical multiple regression analysis, little support was found for the traditional multiplicative index. The most suitable formula was found to be the simple additive version. These findings also coincide with those of Arnold and House (1980) who state that the multiplicative index of the MPS is unnecessarily complex, and that a simple additive index suffices.

Fried and Ferris (1987), too, compared the multiplicative MPS index with the simple additive index by conducting a meta-analysis of nearly 200 studies. They conclude that the simple additive index of job complexity is a better predictor of work outcomes than the multiplicative index. Even more emphatically, Hinton and Biderman (1995: 355), applying hierarchical regression to a sample of 195 managerial and non-managerial positions, state that "no evidence for the multiplicative formulation of the MPS was found".

In conclusion, although the algorithm for computing the original MPS is provided by Hackman and Oldham (1974, 1975, 1976, 1980), the rationale for its computation is not stated in the literature. Based on available research results, the simple additive index is recommended for use in job redesign interventions.

3.2.2 Personal and work outcomes

The Job Characteristics Model originally included internal work motivation, satisfaction with work, quality work performance, and absenteeism and labour turnover as personal and work outcomes (Hackman & Oldham, 1974, 1975, 1976). In subsequent refinements of the model, quality work performance was reformulated as work effectiveness, and absenteeism and labour turnover was discarded.

Satisfaction with work was redefined as general job satisfaction and a new dependent variable, namely growth satisfaction, was introduced (Hackman & Oldham, 1980: 90). Growth satisfaction had previously been regarded as a moderator variable in the original conceptualization (Hackman & Oldham, 1975: 162).

Algera (1990: 96) points out that research on the model has focused more on the personal outcomes than on the work outcomes. A possible reason for this is that the measurement of the work outcomes (that is, productivity and performance) is notoriously difficult (Kelly, 1992: 754). O'Brien (1982: 398) also indicates that the model has not been shown capable of predicting individual productivity. Hackman and Oldham (1976: 271) state that the relationships between the job characteristics and both absenteeism and work performance are weaker than the relationships between the job characteristics and the personal outcomes. Kemp and Cook (1983) report that the job characteristics strongly correlate with motivation and satisfaction, but that the job characteristics are less reliably related to measures of turnover, absenteeism and performance. This particular finding is supported by elaborations in Section 3.3.1, where research results pertaining to the relationships between variables in the model will be discussed.

Of specific relevance, however, is the nature of the items used in the original JDS to measure the personal outcomes, that is internal work motivation, general job satisfaction and growth satisfaction. As discussed in Section 3.2.1.1, studies on the dimensionality of the job characteristics, as measured with the original JDS, propose from a one- to a five-factor solution. This problem was dealt with successfully by Idaszak and Drasgow (1987) by replacing reverse-score items with positively-worded items to measure the job characteristics, thereby obtaining a five-factor solution as proposed by the model. Kulik, Oldham and Langner (1988) indicate the possibility that the personal outcomes are subject to the same impurities as the job characteristics when measured with the original JDS. It is suggested that improvements in the criterion-related validity of the JDS may be observed only when both the job characteristics and personal outcomes measures are all positively worded.

In conclusion, studies on the model tend to favour general job satisfaction, growth satisfaction and internal work motivation as dependent variables. The use of the revised JDS (see Appendix A) to measure these personal outcomes is

also recommended.

3.3 REVIEW AND EVALUATION: RELATIONSHIPS BETWEEN VARIABLES IN THE JOB CHARACTERISTICS MODEL

The Job Characteristics Model sets forth job characteristics as independent variables and personal and work outcomes as dependent variables. The psychological states are mediators of the relationships between job characteristics and outcomes. The employee's growth-need strength, satisfaction with pay, security, supervision and co-workers, as well as the employee's level of knowledge and skill, moderate both the relationships between the job characteristics and the psychological states and the relationships between the psychological states and the personal and work outcomes.

3.3.1 Relationships between job characteristics and outcomes

Researchers like Turner and Lawrence (1965), Brief and Aldag (1975), Oldham, Hackman and Pearce (1976), Hackman, Pearce and Wolfe (1978), Wall, Clegg and Jackson (1978), Oldham and Brass (1979), Hackman and Oldham (1980), Roberts and Glick (1981), Caldwell and O'Reilly (1982), Hunt, Head and Sorensen (1982), Terborg and Davis (1982), Algera (1983), Lee, McCabe and Graham (1983), Orpen (1983), Loher, Noe, Moeller and Fitzgerald (1985), Ondrack and Evans (1986), Fried and Ferris (1987), Gerhart (1987), Champoux (1991), Spector and Jex (1991), Boonzaier and Boonzaier (1994) and Remm and Vandenberg (1995) conclude that job characteristics influence outcomes. Furthermore, Adler, Skov and Salvemini (1985), as well as James and Tetrick (1986) and Mathieu, Hofmann and Farr (1993), propose a reciprocal relationship between job characteristics and outcomes.

The South African study of Boonzaier and Boonzaier (1994) warrants attention at this juncture. A sample of 4012 employees of a community service organization stationed at 46 organizational units was drawn to test the validity of the model. Results show that MPS is strongly associated with general job satisfaction ($r=0,48$), employee growth opportunities at work ($r=0,58$) and employee internal motivation ($r=0,41$). These findings coincide with the meta-analyses of Loher, et al. (1985), Spector (1985) and Fried and Ferris (1987).

Lee, et al. (1983) provide evidence for the generalizability of the relationships between job characteristics and outcomes to employees working

within the public sector. Government workers were thus found to react similarly to workers within the private sector with regard to the presence of the job characteristics.

A positive relationship between job characteristics and personal outcomes was found for retail salespeople specifically in studies by Teas (1981, 1982) and Dubinsky and Skimmer (1984). The study of Becherer, Morgan and Richard (1982), of industrial sales personnel, also shows highly significant correlations between job characteristics on the one hand, and internal motivation, general satisfaction and growth satisfaction on the other.

Stone (1986) reviewed empirical evidence relating to the relationships described in the model and found that job complexity correlated strongly with general job satisfaction, both in the field ($r=0,63$) and the laboratory ($r=0,53$). Loher, et al. (1985), however, found a weaker correlation ($r=0,39$) in their sample of mainly laboratory studies. Stone (1986) found contradictory results in that job complexity was positively correlated with job performance ($r=0,30$) in 11 field studies, but showed a negative correlation ($r=-0,26$) in three laboratory studies.

All the above findings have specific implications for managers of human resources. Worker motivation and satisfaction can be enhanced by increasing the extent of the five job characteristics present in a job. This is accomplished by implementing the job redesign strategies reported by Boonzaier and Boonzaier (1994).

It is important at this juncture to take cognisance of Algera's (1990: 97-98) conclusion that strong relationships exist between the perceived job characteristics and **personal** outcomes, but that the correlations between the job characteristics and **work** outcomes are much weaker. The meta-analysis of Fried and Ferris (1987) also makes a clear distinction between the strength and consistency of the relationships between the five job characteristics and the personal outcomes on the one hand, and the five job characteristics and the work outcomes on the other. Their results indicate that feedback has the strongest relationship with general job satisfaction (90% credibility value 0,43), that autonomy has the strongest relationship with growth satisfaction (90% credibility value 0,71) and that skill variety has the strongest relationship with internal work motivation (90% credibility value 0,52). On the

other hand, the relationships between the job characteristics and job performance are weak (90% credibility value: ranging from 0 to 0,13). The relationships between the job characteristics and absenteeism are also weak (90% credibility value: ranging from -0,29 to 0,04). The relationships between job characteristics and personal outcomes are thus generally stronger and more consistent than the relationships between job characteristics and work outcomes.

In conclusion, it can be said that a major strength of the Job Characteristics Model lies in the empirical support for the positive relationships between the job characteristics and personal outcomes. However, when comparing the relationships between the job characteristics and personal outcomes on the one hand, and the relationships between the job characteristics and work outcomes on the other, the model itself is disconfirmed owing to the discrepancy in causal patterns between the job characteristics and personal versus work outcomes. Job redesign practitioners should focus on the model's positive feature, that is, the strong superior relationships between the job characteristics and personal outcomes, and the practical implications thereof.

3.3.2 Moderators and mediators of the relationships between job characteristics and outcomes

Worker characteristics (psychological states, growth-need strength and knowledge and skill) and work environment characteristics (satisfaction with pay, security, supervision and co-workers) are specified as moderators and mediators of the relationships between the independent and dependent variables of the model (refer to Figure 2.3).

3.3.2.1 Worker characteristics

The Job Characteristics Model depicts certain worker characteristics in order to explain an intervening or moderating influence on the relationships between job characteristics and outcomes. Worker characteristics include three **psychological states** (experienced meaningfulness, experienced responsibility, and knowledge of results) which are regarded as mediators of the relationships between the job characteristics and outcomes (Hackman & Oldham, 1980; Johns, Xie & Fang, 1992: 659). Two further worker characteristics are **growth-need strength**, and **knowledge and skill** (Kulik, Oldham & Hackman, 1987: 283) which are depicted in the model as moderators both between the job characteristics and psychological states, and between the psychological states and outcomes,

although Johns, Xie and Fang (1992: 659) report that most researchers have restricted moderator tests to the direct relationships between the job characteristics and outcomes.

It is important at this juncture to take note that employee knowledge and skill, as specified by the model, "has never been tested directly" (Johns, Xie & Fang, 1992: 659). Furthermore, a contradiction exists in the literature as Hackman and Oldham (1980: 90) include knowledge and skill as a moderator variable, but Kulik, Oldham and Hackman (1987: 286) report that "it is still unknown whether employee knowledge and skill will determine how employees will respond to a job's motivating potential". No empirical support for the knowledge and skill variable within the context of the model has been located and therefore no further discussion of this variable is warranted.

Empirical studies with regard to the role of the psychological states and growth-need strength in the model will now be discussed.

(a) Psychological states

The Job Characteristics Model "posits that all three of the psychological states must be experienced by an individual if desirable outcomes are to emerge" (Kulik, Oldham & Hackman, 1987: 280). However, the intervening or mediating influence of the psychological states on the relationships between job characteristics and outcomes has been questioned (Hackman & Oldham, 1976; Wall, Clegg & Jackson, 1978; Renn & Vandenberg, 1995).

As contained in the theoretical statements of the Job Characteristics Model (refer to Section 2.2.3.2), of relevance at this juncture is:

- whether all three psychological states are necessary for positive outcomes to emerge;
- whether the relationships between the job characteristics and psychological states exist as specifically prescribed by the model; and
- whether the psychological states are complete mediators of the relationships between the job characteristics and outcomes.

Hackman and Oldham (1976: 262-264), in their original formulation of the model, in actual fact provide evidence of a difference in status between the psychological states. They tested the hypothesis whether predicting the outcomes (internal work motivation, general job satisfaction, growth

satisfaction, absenteeism and rated work effectiveness), using the psychological states, is maximized when the three psychological states are used as a single unit, versus when any of the possible pairs of the psychological states are used, or when the psychological states are utilized individually. Regressions were computed predicting the outcome measures on the basis of, firstly, all three psychological states as a unit, secondly, the three possible pairs of psychological states, and thirdly, each of the three psychological states singularly. Results indicate that any single psychological state significantly predicts the outcomes, and that a significant increase in predictive value (that is, an increase in R-squared) is only achieved by the further inclusion of any possible pair of states. The strongest predictive combination is thus any two of the three psychological states. Arnold and House (1980) also found little support for the hypothesis that all three psychological states are necessary for the development of specifically internal work motivation. Fried and Ferris (1987) favour reducing the number of psychological states from three to two, by integrating experienced meaningfulness and experienced responsibility into a single dimension. Their results also fail to support the intervening effect of the psychological states on especially the job characteristics - work performance relationships. Remm and Vandenberg (1995) collected data from 188 subjects performing a range of different jobs which showed that not all three psychological states are necessary to maximize the explanation of outcome variance. This finding coincides with the finding of Johns, Xie and Fang (1992).

The relationships which do exist between the job characteristics and the psychological states do also not coincide fully with those specified by the model. The study of Becherer, Morgan and Richard (1982), while validating some of the relationships between the job characteristics and the psychological states, also confutes others. While the regression equation for the knowledge-of-results variable employs standardized regression weights as predicted by the model (that is, feedback predicts knowledge of results), the regression equations for the other two psychological states show mixed results. According to the model, only autonomy should be related to experienced responsibility. However, the standardized regression coefficients for the other job characteristics (that is, skill variety, task identity, task significance, and feedback) are as large as or larger than those for autonomy. Autonomy and feedback also contribute, together with the posited relationships, to predicting variance in the experienced-meaningfulness-of-work variable.

Remm (1989) tested the model in a longitudinal research design utilizing structural equation methodology by drawing a sample of 90 employees representing seven different job categories in an insurance company. Autonomy predicted experienced responsibility, and feedback predicted knowledge of results. Skill variety, task identity and task significance, however, did not predict experienced meaningfulness. This study thus, too, only partially validates the specified relationships between the job characteristics and the psychological states.

The meta-analysis of Fried and Ferris (1987: 303) shows that skill variety has the strongest relationship with experienced meaningfulness (90% credibility value 0,71) and that task significance also has the strongest relationship with experienced meaningfulness (90% credibility value 0,62), thus supporting the theory with regard to the relationships between these two job characteristics and the corresponding psychological state. Task identity, however, showed the strongest relationship with experienced responsibility (90% credibility value 0,40), while autonomy showed a similar strength of relationship with experienced meaningfulness and experienced responsibility (90% credibility value 0,61). Job feedback related similarly to all three psychological states, thus not supporting the theoretical statements regarding the specified relationships between the job characteristics and the psychological states.

With regard to the issue of the psychological states posing as complete mediators in the model, the study of Remm and Vandenberg (1995), using regression procedures, shows that the psychological states are only partial mediators of the relationships between the job characteristics and outcomes, thus contradicting the theoretical statement of the model implicating complete mediation. The results do, however, indicate that the psychological states explain significant amounts of outcome variance beyond the job characteristics.

Testing an alternative model, by excluding the psychological states, Wall, et al. (1978) showed that the alternative model accounts for a significantly greater portion of variance than does the Job Characteristics Model. The alternative model showed a direct causal relationship between job characteristics and work behaviour. The studies of Fried and Ferris (1987) and of Hogan and Martell (1987) also show that the psychological states do not increase the explanatory power of the model. Questions have thus been posed regarding the mediating role of the psychological states. Fried and Ferris

(1987) state, in their review and meta-analysis of the validity of the Job Characteristics Model, that only a few studies have focused on this issue of psychological states as mediator variables. Research has, however, started focusing on other possible mediators (for example, attention state) of the relationships between job characteristics and outcomes (Fox & Feldman, 1988).

Roberts and Glick (1981: 197-198) refer sceptically, in their evaluation of the literature, to the value and role of the psychological states in the Job Characteristics Model: "A psychological state construct was apparently introduced as an intervening variable to increase the explanatory power of the model." Wall and Martin (1987: 68) ask for the exclusion of the psychological states from the model: "It appears that the critical psychological states are an unnecessary elaboration which concern for parsimony would lead one to exclude."

Johns, Xie and Fang (1992) confirm the role of the psychological states as mediators, but support the notion of a single-factor model for the psychological states as espoused by Hogan and Martell (1987). Concern is also voiced by the former researchers with regard to the method variance problem when measuring the psychological states using the JDS, suggesting that it might be wise to avoid measuring both job characteristics and psychological states with the same instrument (Johns, Xie & Fang, 1992: 672).

The model presents the critical psychological states as the "causal core of the model" (Hackman & Oldham, 1976: 255). Wall, Clegg and Jackson (1978: 255) argue, however, that amidst the suspect equal status of the psychological states in the model, the strong relationships between the job characteristics and outcomes nonetheless ensure the same implications for job redesign practices, thus rendering the use of the psychological states construct useless in practical terms. O'Brien (1982: 386), furthermore, states that the job characteristics and psychological states items in the JDS measure basically the same concepts.

With regard to the role of the psychological states in the model, Wall and Martin (1987: 68) state that:

examination of this part of the model has confirmed neither the predicted differential pattern of relationships between the five job characteristics and the three psychological states, nor that these

intervening variables are required to account for the relationship between the core job dimensions on the one hand and the outcome variables on the other.

Champoux (1991: 432) seconds this pronouncement with the conclusion that "research results to date with the critical psychological states do not give unequivocal support to this part of the theory".

In conclusion, the specified relationships between the job characteristics and psychological states are not consistently confirmed by empirical research, as some job characteristics relate to the psychological states in ways not stated by the model. The status of the three states also differs, with experienced meaningfulness playing a prominent role, knowledge of results an insignificant role, and experienced responsibility contributing intermediate predictive utility. The psychological states do explain, however, significant amounts of outcome variance beyond the job characteristics, but are regarded as being of no practical use, given the practical utility of the job characteristics and the personal outcomes as contained in the JDS. Furthermore, the psychological states cannot be regarded as complete mediators of the relationships between the job characteristics and outcomes as specified in the theoretical statements of the model. The inclusion of the psychological states also increases the likelihood of method variance. The above-mentioned studies thus, in general, fail to support the mediating effect of the psychological states on the job characteristics/outcomes relationships as specified by the model.

(b) Growth-need strength (GNS)

The concept of growth-need strength is based on the work of Maslow (1943, 1954). The Job Characteristics Model refers to the higher-order needs of the worker as growth-need strength. GNS is viewed as one of the moderator variables because it is depicted as influencing the relationships between job characteristics and psychological states as well as the relationships between the psychological states and personal and work outcomes. Growth-need strength represents the need for personal growth and development within the job environment. Individuals with a strong growth-need will desire that a high degree of the job characteristics be present in their jobs and will constantly seek opportunities for growth within the job environment. When jobs possess a high degree of the job characteristics, and workers deliver quality work performance, the higher-order needs are satisfied and workers experience a

positive internal feeling, namely the three psychological states. Individuals experience a reward for their performance in the form of higher-order need satisfaction, as well as a positive internal feeling, and are thus further motivated to sustain their good performance. The higher-order needs can therefore be satisfied on a continual basis without detracting from the strength of the drive for further need satisfaction (Hackman & Lawler, 1971: 262).

In the literature, however, the influence of growth-need strength as a moderator variable in the model is questioned. Umstot, Bell and Mitchell (1976), Orpen (1979) and Graen, Novak and Sommerkamp (1982) found that GNS did not moderate correlations between job characteristics and job performance, while Wall and Clegg (1981) found that GNS did not moderate correlations between job characteristics and intrinsic motivation. Maillet (1984) suggests, based on a sample of 117 Canadian penitentiary guards, that the moderator effects of GNS are, at best, minimal with respect to the relationships between MPS and work outcomes. Hunt, Head and Sorensen (1982) also show that GNS displays an insignificant moderating influence on the relationships between job characteristics and personal outcomes for pharmacists employed in a private hospital. The study of Johns, Xie and Fang (1992), too, found very little evidence for the moderating role of GNS. O'Brien (1982: 393), in an evaluation of various studies, reports on the state of research regarding growth-need strength as follows: "The evidence for moderator effects of growth needs is weak." Roberts and Glick (1981) arrived at the same conclusion.

The strongest empirical evidence is provided by three meta-analyses of the moderating effects of GNS on the relationships between job characteristics and various outcome variables. The studies reviewed in these meta-analyses (Fried & Ferris, 1987; Loher, et al., 1985; Spector, 1985) present inconsistent conclusions in respect of the moderating influence of GNS.

Forshaw (1985: 97), in a South African study of the moderating influence of growth-need strength on the relationships between job characteristics, psychological states, and personal and work outcomes, found only partial support for GNS. Champoux (1991), in testing the model utilizing 247 state agency employees, also states that the moderating influence of GNS is not as widespread as the theory implies. Graen, Scandura and Graen (1986) reviewed 26 studies and also found the results inconclusive. It would appear as if the

individual's need to grow cannot be accepted *per se* as an explanation for motivated work behaviour within an enriched job environment. Wall and Martin (1987: 71) concur that research relating to GNS is inconsistent and does not present a coherent pattern of findings.

Roberts and Glick (1981: 196) introduce a further shortcoming by stating that although the model specifies desirable job characteristics for workers with high GNS, it makes no attempt to identify desirable job characteristics for low GNS individuals. The model also provides no indication of the motives of, and therefore the job characteristics that could appeal to, the low GNS worker (Britt & Teevan, 1989).

Jackson, Paul and Wall (1981) ascribe the inconclusive findings relating to GNS as a moderator to deficient empirical work by researchers. They argue that studies examining the moderator effect of GNS have usually utilized the JDS to measure GNS and have taken measures of all the relevant variables on the same occasion. Respondents thus strive for consistency within the confines of the JDS. Having, for example, stated that a specific job characteristic is valued (indicating a high GNS), and that this characteristic is present in the job, little option exists but to report job satisfaction. The measures of GNS are also closely related to the measures of the job characteristics, thus drawing attention to this relationship and thereby the need for consistent responses. They also cite the use of discrepant analytical procedures as a shortcoming in GNS research. Findings regarding GNS as a moderator in the model may thus be method-bound.

Pokorney, Gilmore and Beehr (1980) focused on the different statistical techniques employed to test for moderator effects as a possible reason for inconclusive findings. When comparing the correlation and regression results of the same data set, the correlation subgroup analysis lends more support to the hypothesized moderating effect of GNS than does the result of the regression analysis. A lack of methodological refinements may thus also contribute to the inconclusive results regarding the moderating role of GNS in the model. Vecchio (1980: 480) has two criticisms of the published research on individual difference moderators. The first relates to the nature of the moderator variables studied: the variables are predominantly personality variables and the scales used to measure this type of variable are regarded as poor predictors. The second criticism relates to the nature of the sample: a

restricted focus has been maintained in the sampling procedure where the samples, in general, could be regarded as relatively homogeneous.

Graen, Scandura and Graen (1986: 485) provide adequate reason why the conceptualization of GNS as a moderator variable in the model is based upon a faulty premise. They explain that GNS refers to the extent of employee motivation for growth on the job; that is, an employee's desire for the challenge of new learning. Growth-need strength thus assesses individual needs for growth opportunities, with individuals responding to particular growth opportunities based on their GNS. But the MPS represents only the current level of job characteristics present in the job; nowhere does the JDS measure opportunities for growth in the job *per se*. It is thus only actual changes in job characteristics that hold prospects for growth and bring GNS as a relevant variable into play. As moderator studies have focused only on the current level of job characteristics present in a job, the influence of GNS as a moderator variable in the model has not been adequately addressed.

It is important to note at this juncture that Hackman and Oldham (1975: 163), in their original conceptualization, refer to GNS as a "malleable individual difference characteristic" constructed to be a reliable indicator of individual needs. In a further discussion, Hackman and Oldham (1976: 259) use such terms as "the possibility", "It may be" and "tentatively" when referring to the role of GNS as a moderator in the model. Their "present findings provide no reason to expect that the ultimate impact of working on enriched jobs will be more negative than positive for any group of employees, regardless of the level of growth-need strength" (1976: 275), thus actually claiming GNS not to be a moderator in the model. In a study by Kulik, Oldham and Hackman (1987: 294), concern is voiced regarding the measurement strategy employed by the JDS to assess the growth-need strength of employees, thus reflecting on the suspect validity of the GNS construct. Roberts and Glick (1981) indicate, based on low intercorrelations, that the two original formats of the GNS scales measure different constructs. They furthermore question the reliability and validity of these two GNS constructs.

The conceptualization of GNS is based on the need hierarchy of Maslow (1943, 1954). Thierry and Koopman-Iwema (1984: 138), however, find very little empirical support for Maslow's theory. They reason that each category of needs is complex in composition and thus complicates the operationalization of

partial needs. Another criticism concerns the assumption of prepotency in the hierarchy structure which postulates that the "next" need will not motivate behaviour until the "previous" one has been satisfied. The same authors report that research shows that behaviour is aimed at satisfying various categories of needs simultaneously and that this precondition is not valid. Furthermore, the specific categories of needs are questioned and remain suspect. Wahba and Bridwell (1983: 34) also report that although Maslow's theory is widely accepted, little research evidence exists to support it.

In conclusion, it can be stated that the nature and manifestation of growth-needs, their measurement, as well as how need satisfaction actually occurs, remain polemical. Problems therefore exist in accepting growth-need strength as a measure of worker characteristics within the work situation. The above-mentioned evidence seriously questions the role of GNS as a moderator of the relationships between job characteristics and psychological states, as well as of the relationships between psychological states and outcomes.

3.3.2.2 Work environment characteristics

The Job Characteristics Model states that jobs which possess a high motivational value (that is, a high degree of the job characteristics) will give rise to positive psychological states, which will in turn influence work behaviour positively, specifically for workers who are satisfied with pay, security, co-workers and supervisors. If workers waste unnecessary energy on frustrating job environment factors, the strength of the relationships between job characteristics and work behaviour is negatively influenced (Oldham, 1976; Oldham, Hackman & Pearce, 1976; Hackman & Oldham, 1980). Oldham, et al. (1976: 401) sought to illustrate that the work context variables and GNS, individually and in combinations, moderate the relationships between job characteristics and outcome measures. Their research design and attendant analysis of data, however, did not include all the possible combinations of the work context and GNS variables to warrant the acceptance of such a postulation. Katz (1978: 705) and Brousseau (1983: 34) agree that the influence of the broader work situation, or work environment characteristics, should be included in job redesign interventions. Although Johns, Xie and Fang (1992) also found some support for this notion, they conclude that "the results provide relatively good support for the basic (unmoderated) job characteristics model" (1992: 674).

The study of Hunt, Head and Sorensen (1982) also shows that satisfaction with pay, security, co-workers and supervisors displays an insignificant moderating influence on the relationships between job characteristics and outcomes for pharmacists employed in a private hospital. Various other studies also show insignificant moderator effects for the context variables in the model (Abdel-Halim, 1979; Katerberg, Hom & Hulin, 1979; Champoux, 1981; Ferris & Gilmore, 1984).

Champoux and Howard (1989) found complex interactions between the characteristics of jobs and work context variables for medical technologists. Champoux (1992) continued this line of research and specifically defined several different forms of interaction between the complexity of a job and the work context in determining work behaviour. Instead of the context factors, for example distracting employees from experiencing the characteristics of their jobs as specified by the model, research has shown that incumbents working within negative contexts may "escape" from such environments and rather turn to the intrinsic nature of their jobs for gratification. Job redesign programmes should therefore begin with a systematic diagnosis of the current state of jobs, workers and the work context.

Kulik, Oldham and Hackman (1987: 285) claim that "employees who have high needs for growth, who possess adequate knowledge and skills, and who are satisfied with the work context, will be best 'fit' [sic] to high MPS jobs", signifying that the moderators do not operate in isolation from one another, but rather jointly, in combination with each other. This implies that the testing of any of these moderators individually, or in any combination other than specified, is not in accordance with the conceptualization of the relationships as specified by the model. The concept of joint moderators, as depicted in the model, is also espoused by Kemp and Cook (1983).

Apart from the job environment characteristics specified by the Job Characteristics Model, researchers have also considered other job environment factors as moderator variables in the model. To this end, such characteristics as functional speciality (Dunham, 1977), work involvement (Katerberg, Hom & Hulin, 1979), organizational structure (Vecchio & Keon, 1981), quality of the social environment at work (Repetti & Cosmas, 1991), type of industry (Yeh, 1996) and many other variables (Griffeth, 1985: 74) have been evaluated.

Griffeth (1985: 75) comments on the results of studies which focus on the moderating role of job environment characteristics on the relationships between job characteristics and work behaviour: "However, inconsistent findings have also been reported among these studies." Wall and Martin (1987: 74) summarise as follows:

The literature relating work design to organizational context is at present fragmented. It suggests a range of factors it is plausible to take into account, but as yet there is insufficient empirical evidence to identify the most salient among these.

In conclusion, the inclusion of work environment characteristics as moderator variables in the Job Characteristics Model confuses the relationships in the model. The role of work environment characteristics as moderators of the relationships between job characteristics and psychological states, as well as of the relationships between psychological states and personal and work outcomes, is seriously questioned.

A major weakness of the Job Characteristics Model is its inadequate attempt to stipulate specific worker characteristics which influence, mediate or moderate the relationships between job characteristics and work behaviour. A further shortcoming of the model is the weak empirical support for the work environment characteristics as moderator variables of the specified relationships between the independent and dependent variables. Ganster (1980: 145) refers to these conclusions derived from empirical evidence as the "continual failure to document reliable moderator effects". Algera (1984: 189) provides an appropriate summation of the state of research on the influence of worker characteristics and work environment characteristics on the relationships between job characteristics and work behaviour:

To sum up, let us state that the job characteristics model does offer pointers for diagnosing work situations, but from a theoretical perspective the model is still fairly obscure. This is particularly true for the critical psychological states and the role of moderator variables.

3.4 GUIDELINES FOR THE UTILIZATION OF THE JOB CHARACTERISTICS MODEL AND THE JDS BASED ON THE SHORTCOMINGS OF THE MODEL

Porter and Miles (cited in Steers & Porter, 1991: 20-24) stipulate specific criteria for dealing comprehensively with phenomena in the workplace relating

to demotivation, dissatisfaction and marginal performance. According to these criteria, three dominant sets of variables constitute the world of work, namely characteristics of the **job**, characteristics of the **worker** and characteristics of the **work environment**.

The modern behavioural science approach to job redesign, in producing the Job Characteristics Model and the attendant JDS, has focussed with different degrees of rigour and success on the criteria laid down by Porter and Miles (1991: 20-24). The research evidence presented confirms strong positive relationships between the **job** characteristics as independent variables and motivation and satisfaction as dependent variables. Internal work motivation, general job satisfaction and growth satisfaction serve as valid dependent variables. The five job characteristics, namely skill variety, task identity, task significance, autonomy, and feedback are verified as valid independent variables. However, original formulations of the model are shown to specify inappropriate and inadequate **worker** and **work environment** characteristics as moderators/mediators of the relationships between the independent and dependent variables.

The review and evaluation of the Job Characteristics Model furthermore suggest that worker and work environment characteristics influence the dependent variables in important ways, but that no single characteristic explains a significant amount of outcome variance. More specifically, worker characteristics, in particular the psychological states and GNS, remain inadequately explored and polemical. This is possibly due to the fact that job redesign research in general and studies pertaining to the Job Characteristics Model in particular, assume that situational factors are largely responsible for the behaviour of employees (Arvey, Carter & Buerkley, 1991: 364). Staw and Ross (1985: 469) note that work behaviour is rarely formulated as having an endogenous source of variance, that is to say, a source which is reflective of the state of the person. When person variables are used, they are used only to specify the type of person for whom certain situational or environmental variables are predictive. Hackman and Oldham (1974, 1975, 1976, 1980) exhibit this conceptualization by focussing on person characteristics within a specific situation, condition or environment. In the Job Characteristics Model, worker characteristics, like the psychological states and GNS, are conceptually defined in terms of the characteristics of a worker for whom job characteristics provide need satisfaction. Endogenous causes of work behaviour

are thus formulated in terms of exogenous factors, and the influence of comprehensive endogenous or person factors is ultimately disregarded.

The evidence reviewed implicates the model as flawed not only with regard to worker characteristics, but also with regard to work environment characteristics as moderator variables. Scrutiny of the work environment characteristics in the Job Characteristics Model leads to the conclusion that a smorgasbord of convenient variables has been considered and indiscriminately included.

To facilitate theory development, it is recommended that the following research suggestions and methodological issues be explored and clarified:

- (a) The basic unmoderated/unmediated Job Characteristics Model (with job characteristics as independent variables and personal outcomes as dependent variables) can be utilized as a point of departure in future model developments. The attendant revised JDS (Appendix A) can serve as the measuring instrument of afore-mentioned variables.
- (b) Further worker and work environment variables need to be identified, defined and examined as possible mediators and moderators of the relationships between the job characteristics and outcomes. These variables should be chosen on a sound theoretical basis. Efforts should also include the re-examination and modification of current Job Characteristic Model variables, for example psychological states, GNS and work environment characteristics.

To improve practical job enrichment interventions, the following guidelines are provided for the future use of the model and the accompanying JDS:

- (a) The personal outcomes, namely general job satisfaction, growth satisfaction and internal work motivation, should be retained as dependent variables.
- (b) In the absence of reliable performance data, work outcomes should not be considered.
- (c) The use of the five-factor structure of the job characteristics, as proposed by Hackman and Oldham (1980), is recommended.
- (d) The revised version of the original JDS, using only positively worded items (Appendix A), is suggested for use by job redesign practitioners seeking to measure the five subjective job characteristics and the three personal outcomes.
- (e) In the absence of valid reasons to the contrary, the two additional job

characteristics (namely feedback from others and dealing with others) should be excluded from a diagnostic procedure.

- (f) The simple additive index for computing the Motivating Potential Score is recommended.
- (g) The worker characteristics (psychological states, growth-need strength, and knowledge and skill) proposed by the model should be excluded from job enrichment interventions, pending the revision of current and the development of additional worker characteristics.
- (h) The work environment characteristics (satisfaction with pay, security, co-workers and supervision), on the basis of a paucity of research support for their moderating role, should be viewed with circumspection within the confines of the model, but included in job redesign efforts owing to their diagnostic value.

One of the central future research goals relating to the Job Characteristics Model should be the identification, definition and measurement of appropriate **worker** and **work environment** characteristics (person and environment factors) which would account for significant amounts of variance in motivation and satisfaction beyond the influence of the job characteristics and so enhance the predictive validity and practical usefulness of the model.

Fried and Ferris (1987: 313), in their review and meta-analysis of the validity of the Job Characteristics Model, categorically state the need for further research on the influence of moderator variables on the relationships between job characteristics and work behaviour: "... one can conclude that job design researchers should continue to explore the effects of potential moderators." More specifically, research should focus on identifying appropriate worker and work environment variables.

Guidelines for future research provided in the literature, facilitate the specification of the nature of such appropriate variable(s) that may moderate the relationships between job characteristics and work behaviour.

3.5 GUIDELINES FOR FUTURE RESEARCH

Organizational behaviour literature specifies that worker and work environment characteristics should encompass:

- (a) comprehensive person and environment factors in interaction with one another (Gerhart, 1987; Arvey, Carter & Buerkley, 1991; Willer, 1991;

Judge & Hulin, 1993; Watson & Slack, 1993);

- (b) both work and non-work related influences (Loscocco & Roschelle, 1991; Higgins & Duxbury, 1992; Rice, Frone & McFarlin, 1992; Judge & Hulin, 1993; Sloboda, Hopkins, Turner, Rogers & McLeod, 1993).

3.5.1 The interaction between person and environment factors in explaining variance in work motivation and job satisfaction

Kulik, Oldham and Hackman (1987: 278) state that the Job Characteristics Model can "be conceptualized as a model of person-environment fit". The variables in the Job Characteristics Model can thus be classified in terms of a person-environment fit conceptualization, as depicted in Table 3.1. The Job Characteristics Model states that the interaction between job and worker characteristics (person and environment factors) determines job responses (Roberts & Glick, 1981; Kulik, Oldham & Hackman, 1987). However, from the conclusions based on a review of the literature, the conceptualization and measurement of the worker or person characteristics, as well as the environment factors, with the exception of the job characteristics, have been shown to be seriously lacking in validity (see Table 3.1), and in need of revision and refinement.

Table 3.1

The Job Characteristics Model as a person-environment fit theory

		Job Characteristics Model variables
Person-environment fit theory	Person factors	Knowledge and skill* Growth-need strength* Psychological states*
	Environment factors	Job characteristics Work environment characteristics*

* Lacks empirical validity

According to Arvey, Carter and Buerkley (1991: 359), work behaviour is determined by the fit between facets of the job environment and person factors [$B = f(P,E)$]. These authors classify job redesign research in general, and

studies pertaining to the Job Characteristics Model in particular, as falling within the parameters of their "specified situational effects model" (1991: 364). This model assumes that situational factors are largely responsible for the behaviour of employees. The scientific utility of dispositional, or person, factors remains inadequately explored by job redesign researchers and more specifically by the proponents of the Job Characteristics Model. This correlates with the shortcomings of the model stated in Section 3.4.

Ostroff (1993) proposes an interactive approach whereby person and environment characteristics are considered. The researcher mentions that it has, however, been difficult to determine the appropriate conceptualization and measurement of both environment and person variables in organizational research. Estimates of the proportions of variance in work behaviour due to person and situational factors, or the interaction between the two, have been difficult to consolidate across studies. Arvey, Carter and Buerkley (1991: 377), based on their review of literature, estimate that person factors account for between 10-30% of the variance in specifically job satisfaction; that situational factors account for 40-60%; and that the interaction between the two account for between 10-20% of the variance. Factors associated with both the environment (exogenous) and the person (endogenous), and the interaction between the two, are thus important determinants of behaviour at work.

Robertson and Smith (1985: 66) highlight the deficiency of the Job Characteristics Model to account adequately for environment factors in that the model does not take account of a range of contextual variables of evident significance, particularly those concerned with technology, supervisory roles and managerial practices.

Willer (1991) focuses awareness on the lack of recognition of person factors, or individual differences, as an influence on behaviour in organizations. This research stresses the importance of viewing behaviour at work as a function of both person and environment. Dysfunctional personal and work outcomes are regarded as a consequence of not recognizing appropriate worker-task-environment fit. According to the aforementioned researcher, the influence of extra-organizational life roles is also to be included in an analysis of behaviour at work. Cherrington and England (1980: 155) also indicate that one's desire for an enriched job is not determined by a single variable, but by a complex combination of situational and personality

variables. Pargament (1986: 679) indicates the need for more extensive studies that consider the relationship between the person and the environments of which (s)he is part.

Gerhart (1987) argues that attention should be given to environmental as well as dispositional, or person, factors in predicting work behaviour. This study finds that situational factors, such as job complexity, are valid predictors, and consistent with the model of Hackman and Oldham (1980). With regard to dispositional factors in general, however, Gerhart's (1987) findings indicate that measurement problems preclude accurate assessment of their predictive power.

Levin and Stokes (1989) elaborated on the work of Gerhart (1987), especially with regard to overcoming the measurement problems associated with the dispositional or person factor influence on work behaviour. Levin and Stokes (1989) show that both job characteristics (as measured by the JDS) and negative affectivity (NA), as a dispositional characteristic, determine behaviour at work. Negative affectivity is a worker characteristic distinguished by a disposition to experience aversive emotional states. People tend to experience a variety of negative emotions across time and situations. People high in NA tend to be distressed, agitated, worried, suspicious, pessimistic and dissatisfied over time regardless of the situation they find themselves in. High NA workers have ongoing feelings of distress and nervousness and tend to dwell on their mistakes, disappointments and shortcomings and to focus more on the negative aspects of the world in general. In contrast, low NA individuals are more satisfied, self-secure, calm and focus less on, and are more resilient in response to, the daily frustrations and irritations of life.

The use of NA as a worker characteristic is controversial, because:

- (a) the influence of positive affect (PA), as a measure of disposition, is mostly disregarded, as negative affect and general affect are usually used as person factors in most studies (Judge & Hulin, 1993: 391);
- (b) Negative affectivity is not a measure of psychological health. Although many high NA workers would be considered poorly adjusted, low NA does not imply psychological health. High NA levels also do not preclude an individual from experiencing positive mood states.

In a further development regarding the role of person factors in organizational behaviour, Judge and Hulin (1993) propose a closely related construct, subjective well-being, as a determinant of work behaviour. They find both characteristics of the work and the worker's general level of happiness and way of looking at the world to be important influences on work behaviour. In their conceptualization, affective disposition was found to lead to subjective well-being, and subjective well-being and job satisfaction were mutually causal.

The nature and definition of worker or person characteristics are also illustrated in a controversial study by Arvey, Bouchard, Segal and Abraham (1989). Data revealed that approximately 30% of the variance in job satisfaction was associated with genetic factors. Individuals appear to bring to the workplace predispositions that are difficult to modify. Dispositions like NA and PA demonstrate high heritability. Cropanzano and James (1990), however, assert that it is premature to accept this notion and that more work on the role of dispositional factors in determining work behaviour needs to be done. Bouchard, Arvey, Keller and Segal (1992: 89), in response, state that it is not premature to accept the idea that work attitudes are partially genetically influenced. Focusing on person factors, they caution that individual differences are genuine and complex in origin, that each person is unique in her or his own right, and that differences between workers cannot be explained away with the assertion that they are due to x, y or z environmental variables (1992: 92).

Roe (1984: 125) states that the practical role of person characteristics will change in the future. A number of person variables have been tested, but results have proved inconsistent. Referring to the role of person factors in the Job Characteristics Model, Robertson and Smit's (1985: 59) state that the model appears to be flawed and further work is needed to develop it. This is in accord with the following conclusion by Hackman and Oldham (1980: 451) regarding the role of person factors in job redesign: "That there are important individual differences in readiness for enriched work and reactions to it seems indisputable; ... Some **new thinking** and some **new research methods** clearly are called for to resolve this conceptually interesting and practically important question" (own emphasis).

In conclusion, research on employee motivation and satisfaction should focus

on the nature of, and interaction between, both person and environment factors. The Job Characteristics Model provides a valid representation of job characteristics as an environmental factor, but a more comprehensive conceptualization which includes both person and environment factors in interaction with one another, must yet be formulated.

3.5.2 The interaction between work and non-work influences in explaining variance in work motivation and job satisfaction

Judge and Hulin (1993: 388) report that empirical research results, in general, linking personality variables to organizationally relevant variables (e.g. motivation and satisfaction), have been disappointing. They furthermore state that the dispositional approach, which claims that general affective states influence work behaviour, has rekindled interest in the impact of personality, or worker characteristics, on the workplace. In reviewing the literature, they find a strong general factor which predisposes individuals to be satisfied with various aspects of their lives. This general factor subsumes both work and non-work domains. They conclude that outcomes in the workplace must be studied within the larger context of general emotionality which encompasses all aspects of employees' lives, both work-related and non-work-related.

The research pioneered by Hackman and Oldham (1974, 1975, 1976, 1980) focussed, however, only on the influence of specific work-related employee characteristics on task behaviour and the influence of specific work-related environment characteristics on task behaviour. This led to a management philosophy which regarded the motivation and satisfaction of workers as influenced by factors peculiar to the workplace. Work and, for example, family, are compartmentalized and viewed as separate and unrelated. Current organizational policies which are based on this view are regarded by Higgins and Duxbury (1992: 389) as hinging on the "myth of separate worlds". They call for the reconsideration of these outdated personnel policies in light of their demotivating effect on human resources.

Warr (1987: 2) refers to the changing perceptions of the role of work by indicating that the meaning which people attach to work is a function of their total life experience. Champoux (1980) contends that a holistic view of people's reactions to jobs is sorely needed. This perspective would benefit approaches to job redesign and quality of work life interventions. The worker's response to the work role should be studied in relation to her/his other life

roles. Champoux (1980) regrets the absence of non-work variables in job redesign literature.

Loscocco and Roschelle (1991: 212), in their review of two decades of research, state that "... research on the quality of work life has failed to assess adequately the influences of non-work life". They suggest that far more attention be given to linking research on the quality of work life and the quality of non-work life, respectively, by following an interdisciplinary approach taking advantage of the theory, methods and knowledge of various disciplines. Additionally, models of the relation between work and non-work should be developed more fully; for example, by identifying and specifying certain environment and person characteristics which reflect the reciprocal influence of work and non-work. Cunningham and Eberle (1990: 57) report that the elements which exert relevant influence on the quality of work life of a worker are the task, the social and work environment, the administrative system and the relationship between life on and off the job. Kopelman, Greenhaus and Connolly (1983) report that work behaviour should not be studied in isolation from family and personal concerns.

Rice, Frone and McFarlin (1992) illustrate the value of viewing organizational behaviour from a broad, ecological perspective. Their results, based on a nation-wide probability sample of United States workers, suggest that traditional work variables, such as job satisfaction, are influenced by non-work considerations. Such a perspective suggests that events and conditions in the family and other spheres of non-work life influence behaviour at work and vice versa. Swanson (1992: 132) also calls for the acknowledgement of the reciprocal influence of the work and non-work domains. Levine, Taylor and Davis (1984) present the results of a Delphi analysis to develop a definition and measurement of specific work and personal outcomes. Their results show a set of seven significant predictors of quality of work life. More than half of these predictors extend beyond the content of the job itself. This study shows that an analysis of the factors which predict outcomes like motivation and satisfaction in the workplace should thus include the characteristics of jobs, work environment characteristics and the extent to which life outside of work affects life at work.

The results of a study by Frone, Russel and Cooper (1992), based on data obtained from a randomly drawn community sample of 631 employed adults, suggest

that work and family boundaries are asymmetrically permeable, with family boundaries being more permeable than work boundaries. Adler, Skov and Salvemini (1985) demonstrate that workers may develop positive or negative feelings about their work owing to factors wholly unrelated to any set of work characteristics. Hawkes, Guagnano, Smith and Forest (1984) conducted a study to examine the influence of non-work factors on job satisfaction. A sample of 245 male workers was drawn to test the spillover effect of non-work satisfaction on job satisfaction. Sense of control over life, satisfaction with employment opportunities, family life, spouse, leisure time, standard of living and community all proved to be important determinants of job satisfaction. Workers who are satisfied with the non-work aspects of their lives seem also to report job satisfaction. The frame of reference which the worker thus brings to the work setting is a determinant of job satisfaction. Schmitt and Mellon (1980) also conclude that life satisfaction causes job satisfaction. These results support the use of non-work domains in studies of work behaviour and advocate the formulation of personnel policies which also consider factors outside of the work domain in order to maintain high employee motivation, satisfaction and morale.

Participation by employees in non-work activities such as family, recreation and community has historically been viewed as robbing the work domain of commitment and time. Consequently, the influence of non-work factors on the work situation was regarded in a negative light. To the contrary, Kirchmeyer (1992) reports that participation in non-work domains enriches the human resources who constitute the workforce. Both job satisfaction and organizational commitment correlated positively with the hours spent in, and the personal enrichment provided by, specific non-work activities. By implication, managers are thus urged to encourage and support non-work activities.

Sloboda, Hopkins, Turner, Rogers and McLeod (1993) evaluated an employee assistance programme and also focussed on the type of problems employees presented for counselling. Counsellors were asked to indicate the initial presenting problem of workers according to 24 predefined categories (12 related to personal life and 12 job-related). The results show that the most frequently reported problems are as likely to be related to the personal life of employees as to their work life. Responses to questions put to clients show that the majority of workers judge their problems to affect their work behaviour,

regardless of whether the problem is work or non-work-related. This can be seen as a significant justification of the stance of employee assistance programme (EAP) services which accept non-work and work problems without distinction.

Rain, Lane and Steiner (1991) provide a comprehensive review of the literature relating to the relationship between satisfaction at work and life satisfaction. This review cites the spillover hypothesis as the most supported theoretical position in the literature. The spillover hypothesis suggests that the non-work domain will spill over into the work domain and that a reciprocal relationship exists. The theoretical explanations offered range from conditioning of a specific response pattern, generalization of attitudes, behaviours and beliefs from one domain to the other, to cognitive dissonance. The above-mentioned authors suggest that various alternative theoretical rationales be considered in order to shed light on the relationship between life at work and life in general. More specifically, the conceptualization and measurement of non-work influences need to be investigated. Judge and Watanabe (1993) support this view of spillover between work and non-work. Liou, Sylvia and Brunk (1990: 79) find the relationship between work and other life situations to be reciprocal. They furthermore point out that workers do not live according to unrelated, discreet categories, but rather adopt an integrated approach. This co-incides with the findings of Higgins, Duxbury and Irving (1992), which show that the work and family domains cannot be considered as separate, independent entities.

Loscocco (1989) suggests that the strength of people's commitment to work is determined in response to the whole configuration of their work and non-work experiences. This researcher furthermore suggests that we need more sophisticated models of the relationship between the personal and the work role that account for the interplay between person and job characteristics (1989: 370). Burke and Greenglass (1987) advocate a more comprehensive picture of the worker by using an open systems approach, thereby assuming interdependence between domains and an integration of the individual's life experiences. A call is also made for more research on the interactive effects of work and family on relevant outcome variables. Lounsbury and Hoopes (1986) also propose an open systems viewpoint whereby behaviour and experiences in either a work or non-work domain are affected by behaviour and experiences in the other domain.

Lounsbury, Gordon, Bergermaier and Francesco (1982: 287) indicate that the bulk

of empirical findings seems to favour a spillover interpretation of work and non-work relations. These authors emphasize a holistic, open-systems approach to the study of work behaviour, with reactions to the job viewed as influenced by, and influencing, extra-job phenomena. Elizur (1991) suggests that a multivariate pattern of links exists between work and non-work. Crohan, Antonucci, Adelman and Coleman (1989: 232) also claim that working in satisfying and fulfilling jobs influences not only productivity and performance, but the non-work spheres of life as well. Winnubst (1984: 564) concludes that the employee's functioning at work is influenced by the nature of support provided by the domestic situation.

In conclusion, the above-mentioned studies show that it would be unreasonable to expect that a person's psychological functioning on the job would be unaffected by such "outside factors" as, for example, opportunity for leisure, family situation, living conditions and financial concerns.

More appropriate and comprehensive worker and work environment variables need to be identified, defined and operationalized in job redesign research in order to explain fully variance in work motivation and job satisfaction, with both work-related and non-work-related influences taken into consideration.

3.6 GUIDELINES FOR A REVISION OF THE JOB CHARACTERISTICS MODEL

A study of the literature indicates the necessity of addressing the shortcomings of the Job Characteristics Model by formulating a more comprehensive Job Characteristics Model to elucidate the circumstances under which workers will experience motivation and satisfaction. Algera (1990: 98) states in a review of literature pertaining to the Job Characteristics Model that the model has not been refuted totally, but that modifications to the model will play a major role in research on job redesign in the future. Remm (1989: 76) stresses the need for modifications to the original model and for the measurement of its components. O'Brien (1982: 398) indicates that the model has stimulated a large volume of research, but that the research evidence contradicting the propositions of the model has not led to constructive alterations to the model. The current study purposes to address this deficiency.

Robertson and Smith (1985: 59) indicate that although the criticisms of the model are important, they do not, however, destroy the practical value of the

model. Even though growth-need strength, the psychological states, and the work environment characteristics do not adequately represent the causal link specified by Hackman and Oldham (1974, 1975, 1976, 1980), the direct relationships which do exist between the job characteristics and the outcome variables are, in fact, the focus of job redesign interventions, and remain unaffected by the model's shortcomings.

Wall and Martin (1987) indicate that the time is now ripe for a wider perspective with regard to variables utilized in job redesign research. They propose an expansion of current boundaries by taking on board ideas and propositions from separate areas of inquiry, for example personality theory and clinical psychology. Such a wider theoretical integration will be especially relevant regarding moderator research in job redesign.

The following guidelines emanate from the literature exposing shortcomings of the model, and serve as directing principles to facilitate modifications to the model:

- (a) Motivation and satisfaction are to be retained as dependent variables and the job characteristics as independent variables. The relationships between the job characteristics and personal outcomes are empirically validated.
- (b) Comprehensive person and environment factors, in interaction with one another, must be identified, defined, operationalized and included as moderators/mediators of the relationships between the job characteristics and personal outcomes. The current worker and work environment characteristics proposed by the Job Characteristics Model as moderators and mediators of the relationships between job characteristics and outcomes are inappropriate and untenable.
- (c) Moderator/mediator variables in a refined model should include both work-related and non-work-related person and environment factors. The Job Characteristics Model considered only work-related person and environment factors.

The above-mentioned guidelines are incorporated in the proposed refinement of the Job Characteristics Model. A more comprehensive philosophy is thus submitted whereby workers' motivation and satisfaction are viewed as influenced by work and non-work person and environment characteristics. Life functioning is suggested as a moderator variable in a revised model in order to establish a

more parsimonious Job Characteristics Model.

3.6.1 Life functioning as a unifying construct in the revised Job Characteristics Model

The need has been highlighted for future research on the combined influence of work-related and non-work-related worker characteristics and environment characteristics on the relationships between job characteristics and work behaviour.

This study proposes the work of Heimler (1967, 1975) as an explanation of the interaction between worker characteristics and environment characteristics. Heimler explains problematic work behaviour by focussing on the individual's total life conditions and experience as a possible explanation for negative symptoms within the work situation. According to Heimler, the individual must maintain a specific balance between satisfactions and frustrations within the chief domains of her/his life in order to function "well" within the community and work situation. Heimler refers to the balance between satisfactions and frustrations as the level of social functioning, otherwise referred to as life functioning, of the individual.

This study proposes life functioning as a unifying construct which reflects worker characteristics, both work-related and non-work-related, and environment characteristics, including work environment and external environment characteristics, in interaction with one another, as a moderator of the relationships between the job characteristics (independent variables) and motivation and satisfaction (dependent variables). Life functioning is a comprehensive individual difference variable representing the collective experience which the individual brings to the work setting and which ultimately affects work behaviour. Life functioning is a product of the interaction between the characteristics of the individual and her/his total environment. Problems with regard to life functioning and/or the characteristics of the job thus affect behaviour at work. In terms of the Job Characteristics Model, it is therefore postulated that the relationships between job characteristics and outcomes are moderated by life functioning. The revised Job Characteristics Model specifies that life functioning accounts for significant amounts of variance in motivation and satisfaction beyond the influence of the job characteristics. Motivation and satisfaction in the workplace are thus a function of the characteristics of the job and the life functioning of the

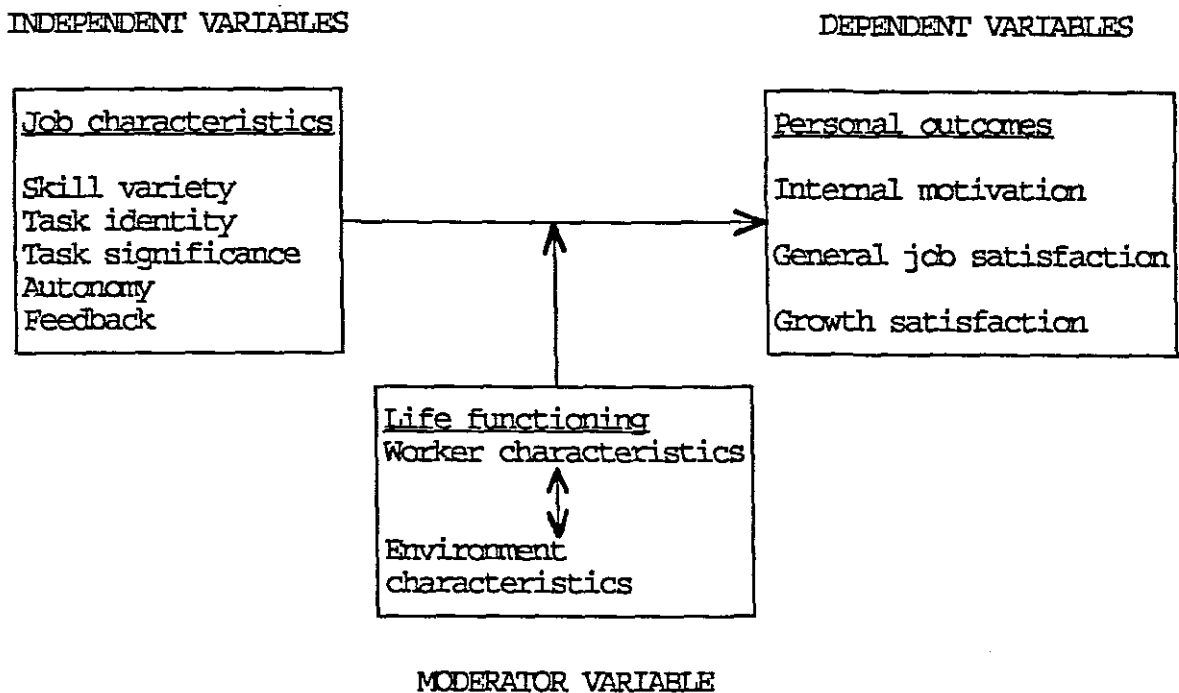


Figure 3.1 The revised Job Characteristics Model

worker. The model depicted in Figure 3.1 is thus proposed for empirical scrutiny.

3.6.2 Variables in the revised Job Characteristics Model

The revised model submits that the relationships between job characteristics and work behaviour are moderated by both worker and environment characteristics in interaction with one another. Life functioning, as a moderator variable in this revised Job Characteristics Model, refers to the interaction between worker characteristics and the worker's total environment. Worker characteristics refer here to work-related as well as non-work-related worker characteristics, and environment factors include both job environment and external environment characteristics.

The dependent and independent variables are adopted from the Job Characteristics Model of Hackman and Oldham (1974, 1975, 1976, 1980), with the

same definitions of internal motivation, general job satisfaction, growth satisfaction, skill variety, task identity, task significance, autonomy, and feedback as provided in Section 2.2.3.2.

With reference to the term "social functioning", this designation is considered by the author as too narrow to do justice to the full meaning of the variable. What Heimler terms "social functioning" will be referred to as "life functioning" in order to reflect the full scope of the concept. The concept encompasses the concurrent functioning of the worker in varied domains of life: for example the family, community and work. The functioning of the worker in the chief domains of life is thus included in the concept, hence the adoption of the designation "life functioning".

The individual's level of life functioning can be viewed as the product of the interaction between the individual and her/his environment (Heimler, 1975: 19; Butrym, 1976, cited in Van Zyl, 1989: 15). Life functioning thus refers to the interplay between the worker and the environment within which (s)he operates. Boehm (1959, cited in Van Zyl, 1989: 11) states that life functioning designates the activities considered essential for the performance of the several roles which individuals, by virtue of their membership of groups, are called to carry out. The level of the individual's **life functioning** is determined by the balance between satisfaction and frustration. Satisfactions are represented by the five chief domains of life within which success or failure manifests (work and related activities, financial security, friendships, family, and personal) while frustrations manifest within the following domains: energy, health, personal influence, moods, and habits (Van Zyl, 1989: 15).

People learn how to lead relatively positive lives, how to experience satisfactions which make life worth living, and how to turn frustrations and problems into useful motivating forces. Often, one aspect of an individual's life more than compensates for difficulties encountered in other domains. A worker, for example, can experience frustrations at work, but family and leisure activities provide satisfactions which enable the person to cope with these frustrations.

However, many workers either find it difficult to make constructive use of the frustrations in one or more domains of their lives, or such a lack of

satisfactions exists in the other domains that compensation for these difficulties is problematic. These emotions, difficulties and frustrations tend to overwhelm them and they experience a lack of motivation to work, to mix with people and to handle the decisions of everyday life. In the workplace, symptoms of a lack of motivation, job dissatisfaction and marginal performance manifest. Heimler (1967: 2) refers to this dilemma as problems relating to an imbalance between satisfactions and frustrations. The frustrations of life so outweigh the satisfactions that the individual is temporarily defeated. These workers are also unable to distance themselves from their difficulties in order to address the crux of the problem in a positive manner.

The revised Job Characteristics Model proposes that problems with regard to demotivation and dissatisfaction be addressed by enriching both the characteristics of the job and the issues pertaining to the life functioning of the worker. In proposing a revised model, the following relationships are implied:

- (a) Significant relationships exist between the job characteristics and personal outcomes.
- (b) Life functioning moderates the relationships between the job characteristics and personal outcomes.

At this juncture it is necessary to subject the proposed revised Job Characteristics Model to empirical testing. More specifically, the following questions need to be answered with regards to the revised model:

- (a) Do the job characteristics account for significant amounts of variance in internal work motivation, growth satisfaction and general job satisfaction?
- (b) Does life functioning account for significant amounts of variance in internal work motivation, growth satisfaction and general job satisfaction beyond the influence of the job characteristics?

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

In this chapter the methodology of the study is presented and discussed. Attention is given to the research design, the sampling and data collection procedures, the nature of the sample, the research ethics adhered to, the instruments and measures employed, and the techniques utilized for analysing the data.

The **first objective** of the study, namely to examine the validity of the Job Characteristics Model and determine its shortcomings, has been addressed in Chapters 2 and 3. The **second objective**, namely to formulate a refinement of the model, was also dealt with in Chapter 3. The **remaining objective**, to test the proposed revision of the model, requires empirical inspection, and is the focus of Chapter 4.

The data needed to resolve null hypotheses 1 and 2, namely that the job characteristics do not account for significant amounts of variance in the personal outcomes, and that life functioning does not account for significant amounts of variance in the personal outcomes beyond the influence of the job characteristics, are those responses by employees to questions relating to their job characteristics, work motivation and job satisfaction, and their life functioning. Internal work motivation, general job satisfaction and growth satisfaction (personal outcomes) constitute the dependent variables whilst skill variety, task identity, task significance, autonomy, and feedback (the job characteristics) are the independent variables. Life functioning is tested as a possible moderator variable of the relationships between the independent and dependent variables.

A systematic stratified random sample of 201 workers positioned in organized commerce and industry in the greater Cape Town area (South Africa) was drawn. Respondents provided data based on two questionnaires, namely the Job Diagnostic Survey (JDS) and the Life Functioning Questionnaire (LFQ). These questionnaires, when completed, represent satisfactory valid and reliable measures to test the null hypotheses.

Data was secured by trained field-workers conducting structured interviews with respondents whereby the JDS was filled in for each employee and respondents afterwards completed the LEQ themselves.

Multiple regression procedures were applied in analysing the data. The research methodology, with its subsequent results and conclusions, makes it possible for human sciences technologists and managers to determine whether both the nature of workers' jobs and their life functioning need to be considered when addressing work motivation and job satisfaction problems in the workplace. In so doing, a refinement of the Job Characteristics Model was tested empirically.

4.2 RESEARCH DESIGN

The study focusses on revising the Job Characteristics Model to provide a conceptual basis for solving motivation and satisfaction problems in the workplace, and is classified as a combination of basic and applied research. Data reflects the relationships between employees' current experience of the nature of their jobs, their life functioning, and their work motivation and job satisfaction. Each unit of analysis was randomly selected and subjected to the measurement of various variables at approximately the same time, indicating a non-experimental correlational research design.

The methodology relies on the measurement of specific phenomena by means of questionnaires and a statistical investigation of the data, categorizing it as quantitative research. The study is essentially an investigative revision of the Job Characteristics Model.

4.3 SAMPLING AND DATA COLLECTION PROCEDURE

Individual workers form the unit of analysis. A representative sample of workers was drawn by firstly obtaining a computer-generated list of 3723 companies registered with the Cape Town Chamber of Commerce. The member organizations are situated in the greater metropolitan Cape Town which includes areas like Hout Bay, Fish Hoek, Sea Point, Cape Town, Durbanville, Stellenbosch and Strand.

This population, representing organized industry in the greater Cape Town area, was firstly stratified into commercial and manufacturing sectors. The populations within these two strata were furthermore stratified according to

size of company (number of employees); companies were allocated to one of 18 different size categories ranging from one employee to over 1200 employees. Thereafter companies were arranged alphabetically within the respective strata. Substantiating this stratification is Vecchio's (1980: 480) criticism that samples used in most investigations of this nature have been "nested" within specific job types or within a specific company. In further support, research has shown that the structure and characteristics of the organization influence the level of motivation and satisfaction experienced by employees (Walsh, Taber & Beehr, 1980; Thierry & Koopman-Iwema, 1984; Repetti & Cosmas, 1991). The current stratification was thus necessary in order to provide a balanced heterogeneity to the selected group of workers. Table 4.1 indicates the stratification according to company type with the corresponding population and sample sizes.

Table 4.1

Stratification according to company type

Company type	Population size	Sample size
Commercial	3180	428
Manufacturing	543	72
Total	3723	500

A systematic random sample of 500 companies was consequently proportionately chosen by computer from these strata to ensure equalization of the different strata included in the sample. Randomization was furthermore maximized by allocating two companies, only one of which had to be approached (with preference to alphabetical order), to each of the 235 field-workers, who were also arranged alphabetically. Some field-workers approached only the first company allocated, others the second allocation once the first option had proved fruitless, and another small group required a third allocation as some companies were non-existent (owing to, for example, relocation, liquidation, or closure) at the time of the survey. When the specific company was identified, field-workers had to gain the necessary authority to enlist the first respondent on the payroll whose surname started with a random letter of the

alphabet. (Seven random letters of the alphabet were allocated to each field-worker by employing a grid format of distributing the letters.) If such a worker was not suitable or available for enlistment, the second random letter had to be used, etcetera. Each field-worker had to enlist one respondent for the sample.

The data was secured by 235 field-workers who had completed 18 months training towards a three-year (full-time) human resources management specialist diploma course. As part of their prior training in industrial psychology research, trainees had had to, firstly, conduct and document a basic research project. With a view to developing interviewing skills, and gaining exposure to the job enrichment concept, trainees were, secondly, enlisted to act as field-workers for this research project.

To maximize commitment and professionalism, field-workers' performance in the project contributed to their course mark. Field-workers were evaluated by respondents according to specific criteria known to field-workers before commencing with the project (refer to Appendix E for the field-worker evaluation form).

During the training and preparation of field-workers for participation in this study, attention was given to a thorough understanding of the purpose of this research and research design, the selection of respondents by field-workers, how to complete the JDS as part of conducting a structured interview, the filling in of the LFQ, and research ethics. The importance of stating questions to respondents exactly as worded was emphasized and field-workers were advised on how to deal with questions relating to the scales. Attention was furthermore given to completing basic demographic data. Contact between the researcher and field-workers was maintained on a weekly basis to assess progress and handle queries. Data collection was conducted during June, July and August 1999.

Field-workers were asked to ensure that the enlisted worker or respondent met with the following criteria:

- (a) At least 18 years old (the LFQ items relate specifically to individuals of 18 years or older).
- (b) In possession of a grade 8 or higher qualification and able to read and understand English or Afrikaans (both instruments require respondents to be moderately literate).

After choosing respondents at allocated companies by using random letters of the alphabet and employing the above-mentioned criteria, field-workers adhered to the following guidelines when interacting with respondents:

- (a) Introduced herself/himself and explained why respondent was approached.
- (b) Handed to respondent a letter of introduction endeavouring to gain commitment to participation. This letter to request the co-operation of respondents was compiled for the purpose of establishing rapport between field-workers and respondents (refer to Appendix D for an example of this letter).
- (c) Scheduled an appointment for the interview.
- (d) Conducted the structured interview.
- (e) Conveyed the procedure for completing the confidential LFQ and left a copy of the LFQ, the answer sheet, the field-worker evaluation form and a uniquely identifiable envelope with the respondent.
- (f) Collected the completed answer sheet and the field-worker evaluation form in the sealed envelope at the appointed time and delivered it to the researcher.

Of the 235 answer sheets distributed, 214 (91,1%) were returned in sealed envelopes. Of those returned, 13 (5,5%) were discarded because of missing data, leaving 201 (85,6%) usable answer sheets.

4.4 NATURE OF THE SAMPLE

With a view to better understanding the structure of the sample, frequencies and cross-tabulations were computed for the demographic variables. Each of the demographic variables, namely gender, age, qualification, home language and years of service was presented to the respondents in categorical ranges to ensure anonymity. Refer to Tables 4.2 - 4.6 for the categorical ranges of the respective demographic variables.

These analyses reveal the following characteristics of the sample:

- (a) Table 4.2 indicates that there were 98 (49%) men and 101 (50%) women in the sample (2 participants did not respond to the gender question).
- (b) According to Table 4.3, the largest percentage of respondents (42%) indicated that they were 20 to 29 years old. The median age for the sample, however, is 32,1 years and the mean age is 33,9 years.
- (c) Table 4.4 shows that the majority of the sample (90%) have a grade 12 or higher qualification. Cross-tabulation of the age and qualification

variables furthermore reveals that 73% of the sample have a grade 12 or higher qualification and are 20-39 years of age. The sample can thus be considered as relatively young and well qualified. The fact that the sample is well qualified is attributed to the requirements set for inclusion in the sample. A moderate literacy level is desirable in order for respondents to understand the content of the two instruments used in this study.

Table 4.2

Gender as a sample characteristic

Gender	Frequency	Percent
Male	98	48,8
Female	101	50,2
Total	199	99

Table 4.3

Age as a sample characteristic

Age	Frequency	Percent
Under 20	1	0,5
20-29	84	41,8
30-39	73	36,3
40-49	26	12,9
50-59	14	7,0
60 and more	3	1,5
Total	201	100

- (d) According to Table 4.5, there were 66% English-speaking and 19% Afrikaans-speaking individuals in the sample.
- (e) Table 4.6 shows that 39% of the sample have less than four years of service.

Table 4.4

Qualification as a sample characteristic

Qualification	Frequency	Percent
< Grade 10	5	2,5
Grade 10	15	7,5
Grade 12	70	34,8
Dipl.\Degree	88	43,8
H.Dipl.\Hons.	17	8,4
M. or higher	6	3,0
Total	201	100

Table 4.5

Language as a sample characteristic

Language	Frequency	Percent
Eng.	132	65,7
Afr.	38	18,9
Other	31	15,4
Total	201	100

Table 4.6

Years of service as a sample characteristic

Tenure	Frequency	Percent
< 4	79	39,3
4-10	63	30,0
> 10	59	30,7
Total	201	100

4.5 ETHICS

Field-workers were trained to take cognizance of ethical principles when conducting research. The following ethical considerations governed the current research activities:

- (a) The right of privacy, protection from harm, and dignity of treatment are acknowledged.
- (b) The respondent must indicate an informed willingness to participate voluntarily and has the right to withdraw at any stage of the research.
- (c) The reason for the research, intentions and methods employed by field-workers and what participation in the project entails are supplied to respondents in writing at the first contact between field-worker and respondent.
- (d) Confidentiality of information is guaranteed.
- (e) Data obtained by field-workers and analysed by the researcher is presented without distortion and information sources and assistance are acknowledged.

4.6 MEASURES

The data collection instruments were the Job Diagnostic Survey (Idaszak & Drasgow, 1987) and the Life Functioning Questionnaire (Van Zyl, 1986), both presented in English or Afrikaans, according to the respondent's preference. An amended format of the original JDS (Hackman & Oldham, 1974) was used, restructured parallel to the revision of the Job Characteristics Model, thus embodying corrections and deletions in accordance with empirical evidence as discussed in Chapters 2 and 3. In finalizing the amended JDS, a refinement of

Graham's (1978) Afrikaans translation of the JDS was utilized; a refinement of Brand's (1991) Afrikaans translation of the LFQ was used.

The Job Diagnostic Survey (JDS) and Life Functioning Questionnaire (LFQ) were administered to measure the independent, dependent and moderator variables as depicted in the revised Job Characteristics Model, Figure 3.1. Boonzaier and Boonzaier (1994) found the JDS to satisfy the basic requirements of reliability and validity for utilization in South Africa, and Van Zyl (1986) conducted an affirming validation study, with accompanying norms, of the LFQ within the South African context. The JDS is also the most frequently cited instrument in the **Social Sciences Citation Index** for assessing worker perceptions of job characteristics (Taber & Taylor, 1990: 468).

The JDS was previously administered by Boonzaier and Boonzaier (1994: 104) to more than 6000 employees in 130 job categories ranging from semi-skilled to highly-skilled managerial and professional workers. Two problems were experienced during this administration of the JDS where respondents were given a copy of the JDS to complete:

- (a) The reverse-score items of the JDS caused a measure of uncertainty in the interpretation of questions by respondents. Idaszak and Drasgow (1987), Kulik, Oldham and Langner (1988), and Cordery and Sevastos (1993) also make mention of this phenomenon.
- (b) The JDS, as a questionnaire, was experienced as an impersonal probe when administered to groups in excess of 50 respondents. Hackman and Oldham (1980: 308) recommend administering the JDS to groups of two or three (with a maximum of 15; thereafter the JDS becomes cumbersome).

These problems were overcome in this study by:

- (a) Using the revised version of the JDS as proposed by Idaszak and Drasgow (1987) with further amendments commensurate with the findings of the model's assessment in Chapter 3.
- (b) Administering the questionnaire on a one-to-one basis as a structured interview.

The LFQ was used extensively in South Africa by Van Zyl (1986) and Brand (1991). Van Zyl's field-workers were social workers who interviewed their clients and completed the scales. These field-workers encountered resistance from respondents to answering some of the questions in the LFQ during

interviews, more specifically those relating to sexuality. This problem was circumvented in the current study by instructing field-workers to supply the LFQ and its answer sheet to respondents, along with a specially stamped envelope. After completion, field-workers collected these responses, now sealed by respondents, for delivery to the researcher, in order to ensure privacy, confidentiality and anonymity.

The following sections focus on the specific independent, dependent, moderator and demographic variables measured in this study.

4.6.1 Independent variables: job characteristics

Job characteristics refer to the five core job characteristics in the Job Characteristics Model (skill variety, task identity, task significance, autonomy, and feedback) as set out and defined in Section 2.2.3.2. The revised JDS includes 15 items presented in the form of questions and statements, and asks subjects to respond in terms of their perceptions of their own jobs. Seven-point response scales are used throughout (1=low, 7=high). Items measuring each of the five job characteristics appear randomly in Sections One and Two of the instrument. Each job characteristic is scored as the average response on three specific items of the JDS.

The job characteristics are scored across the following items in each respective section of the revised JDS, according to the following scheme:

- Skill variety: Section One, question 3; Section Two, statements 1 and 4.
- Task identity: Section One, question 2; Section Two, statements 2 and 7.
- Task significance: Section One, question 4; Section Two, statements 5 and 10.
- Autonomy: Section One, question 1; Section Two, statements 6 and 9.
- Feedback: Section One, question 5; Section Two, statements 3 and 8.

Refer to Appendices A and C for the amended JDS and accompanying answer sheet displaying the items and their format in measuring the five job characteristics. Table 4.7 provides a summary of studies compiled to show the acceptable reliability coefficients for the job characteristics scales of the JDS when compared with Nunnally's (1967) standard of 0,5 to 0,6. Additionally, Fried (1991: 691), in reviewing nearly 200 studies and including 79 of these studies in his meta-analysis, reports that "reliability estimates of the JDS scales are sufficiently high for research purposes".

Table 4.7

Reliability coefficients of the job characteristics

Researchers	SV	TI	TS	AT	FJ
Bhagat & Chassie (1980)	0,68	0,78	0,72	0,66	0,73
Birnbaum, Farh & Wong (1986)	0,79	0,72	0,81	0,84	0,71
Brief & Aldag (1976)	0,47	0,47	0,60	0,55	0,30
Champoux (1992)	0,78	0,67	0,54	0,70	0,64
Cordery & Sevastos (1993)	0,72	0,65	0,69	0,72	0,73
Cordery & Sevastos (1993)*	0,80	0,77	0,75	0,79	0,78
Dunham (1976)	0,76	0,72	0,72	0,73	0,75
Dunham, Aldag & Brief (1977)	0,68	0,70	0,68	0,69	0,69
Evans, Kiggundu & House(1979)	0,53	0,52	0,50	0,53	0,38
Forshaw (1985)	0,64	0,60	0,58	0,60	0,48
Fried (1991); Fried & Ferris (1987)**	0,69	0,69	0,67	0,69	0,70
Hackman & Oldham (1975)	0,71	0,59	0,66	0,66	0,71
Hogan & Martell (1987)	0,68	0,66	0,64	0,61	0,81
Johns, Xie & Fang (1992)	0,64	0,77	0,61	0,67	0,74
Kiggundu (1980)	0,78	0,62	0,59	0,63	0,70
Kim & Schuler (1979)	0,80	0,69	0,73	0,67	0,73
Munz, Huelsman, Konold & McKinney (1996)	0,77	0,74	0,72	0,77	0,81
Oldham, Hackman & Stepina (1979)	0,68	0,61	0,58	0,64	0,68
Renn & Vandenberg (1995)*	0,76	0,76	0,77	0,79	0,74
Spector & Jex (1991)*	0,70	0,81	0,74	0,87	0,83
Xie & Johns (1995)	0,76	0,67	0,64	0,74	0,73
Yeh (1996)	0,68	0,64	0,63	0,66	0,74

* Studies which used the revised JDS items of Idaszak and Drasgow (1987)

**The studies of Fried (1991) and Fried and Ferris (1987) shared the same JDS data set and both studies are meta-analyses

SV Skill variety
 TI Task identity
 TS Task significance
 AT Autonomy
 FJ Feedback from job

The MPS additive index was used as an overall indication of job complexity, with a scale range of 1 to 35, as set forth in Section 3.2.1.4.

4.6.2 Dependent variables: personal outcomes

Personal outcomes refer to internal work motivation, general job satisfaction, and growth satisfaction as portrayed in the Job Characteristics Model and set out and defined in Section 2.2.3.2. The JDS includes 15 items presented in the form of statements, and asks subjects to respond how they personally feel about their jobs. Seven-point response scales are used throughout (1=low, 7=high). Items measuring each of the three personal outcomes appear in Sections Three, Four and Five of the instrument. Internal work motivation is scored as the average response on six specific items of the JDS, and growth satisfaction and general job satisfaction on four and five specific items of the JDS respectively.

The personal outcomes are scored across the following items in respective sections of the revised JDS according to the following scheme:

- Internal work motivation: Section Three, statements 1, 3, 5 and 7;
Section Five, statements 1 and 4.
- General job satisfaction: Section Three, statements 2, 4 and 6;
Section Five, statements 2 and 3.
- Growth satisfaction: Section Four, statements 1, 2, 3 and 4.

Refer to Appendices A and C for the amended JDS and answer sheet displaying the items and their format for the measurement of the three personal outcomes.

Table 4.8 provides a summary of studies compiled to show acceptable reliability coefficients for the personal outcomes scales of the JDS when compared with Nunnally's (1967) standard of 0,5 to 0,6. Again Fried's (1991: 691) conclusion that the "reliability estimates of the JDS scales are sufficiently high for research purposes" is pertinent at this juncture.

4.6.3 Moderator variable: life functioning

Measurements for determining the level of a worker's life functioning are contained in the LFQ of Heimler for which international norms have been determined (Van Zyl, 1986). Life functioning is included as an embellishment to the Job Characteristics Model as depicted in Figure 3.1 and a definition of the concept is supplied in Section 3.6.2.

Table 4.8

Reliability coefficients of the personal outcomes

Researchers	Internal motivation	General job satisfaction	Growth satisfaction
Champoux (1992)	0,60	0,78	0,77
Forshaw (1985)	0,68	0,74	0,70
Fried & Ferris (1987)	0,73	0,82	0,86
Hackman & Oldham (1975)	0,76	0,76	0,84
Hogan & Martell (1987)	0,61	0,82	0,24
Johns, Xie & Fang (1992)	0,60	0,75	0,84
Munz, Huelsman, Konold & McKinney (1996)	0,67	0,77	0,85
Renn and Vandenberg (1995)	0,90	0,85	0,81

Van Zyl (1986: 224-225) prefers the term social functioning (as opposed to life functioning) and recommends the following operational definition for use in future research:

Social [life] functioning refers to those activities essential for: (a) deriving satisfaction and dealing with frustration in five main areas of life, viz. work or related activities, financial security, friendship, family, and personal; and (b) deriving meaning out of life. The level of an individual's social [life] functioning is determined by the relationship between satisfaction [the individual's subjective perception that (s)he is making good use of her/his potential] and frustration [her/his inability to utilize such potential]. While satisfaction is reflected in the main areas of life in which success or failure manifest themselves (work, finance, friendship, family, and personal), frustration is expressed in the following areas of the individual's life: energy flow, health, personal influence, affect, and habits. (Words in brackets added.)

The LFQ includes 50 items presented in the form of questions, and asks subjects to respond to how they personally feel about their functioning in different domains of their life. Five questions are posed with respect to each area of life functioning in which success or failure manifests, that is work, financial, friendship, family, and personal (a total of 25 items). These

25 items represent the satisfaction scale. Five questions are also asked with regard to each area of life within which frustration manifests, namely energy, health, personal influence, moods, and habits, respectively (a total of 25 items). These 25 items represent the frustration scale. Respondents can either respond "yes", "perhaps" or "no" to each question (yes=4, perhaps=2 and no=0).

For each area or domain of life, ten in total, a base score (sum of 4's) and a gross score (sum of 4's + 2's) are calculated. Thereafter, a total base score for the satisfaction scale is computed, by adding the five relevant base scores, and a total gross score for the satisfaction scale is computed, by adding the five relevant gross scores. A mean satisfaction index is calculated by averaging the total base score for the satisfaction scale and the total gross score for the satisfaction scale. Furthermore, a total base score for the frustration scale is computed, by adding the five relevant base scores, and a total gross score for the frustration scale is computed, by adding the five relevant gross scores. A mean frustration index is also calculated by averaging the total base score for the frustration scale and the total gross score for the frustration scale.

Van Zyl (1986: 169) provides two norms to differentiate between functional and dysfunctional workers, based on their life functioning. The first criterion serves as a premise to differentiate between individuals who display competence in life functioning and those experiencing a lack of competence. According to the first criterion, a mean satisfaction index of 60 or more is indicative of the individual's deriving sufficient satisfaction from life to be likely to function independently without the need of professional or other support. A mean satisfaction score of less than 60, on the other hand, represents unsatisfactory competence in life functioning.

According to the **second** norm, functional workers have a mean frustration index of 20% to 33,3% of their mean satisfaction index. If, however, the mean frustration index is less than 20% of the mean satisfaction index, the individual is seen to experience too little frustration in life which may lead to stagnation, or it may be an indication of denial of frustration; the individual is thus regarded as dysfunctional with regard to competence in life functioning. If the mean frustration index is more than 33% of the mean satisfaction index, the individual is seen to experience an above-average level of frustration, which may give rise to a paralysis of life functioning or

breakdown in some areas of functioning; the individual is thus regarded as dysfunctional with regard to competence in life functioning.

Refer to Appendices B and C for the LFQ and answer sheet displaying the items and their format for the measurement of life functioning.

Van Zyl (1986: 213-214), in a review of several studies, reports a satisfactorily high reliability for the satisfaction and frustration scales of the LFQ. Results of the afore-mentioned study also show an internal consistency reliability coefficient of 0,76 for the satisfaction scale and 0,85 for the frustration scale. The sample group of 281 included three of the four dominant race groups in South Africa, namely Black, White and Indian. Reliability coefficients reported for the satisfaction and frustration scales of the LFQ are therefore acceptable when compared with Nunnally's (1967) standard of 0,5 to 0,6.

4.6.4 Demographic variables

Several demographic variables were included in this study as Gerhart (1987) has shown that dispositional factors are important determinants of job satisfaction. Additionally, Fried and Ferris (1986) found that person variables influence the ability to differentiate among job characteristics. The following demographic variables were thus included to facilitate a reasonable description of the respondents:

- (a) Gender
- (b) Age
- (c) Qualification
- (d) Home language
- (e) Years service.

Refer to Appendices B and C for the demographic information and the answer sheet for recording responses.

4.7 DATA ANALYSIS

Both questionnaires were marked using LOTUS, for which purpose a customized programme was written. Multivariate statistical techniques were used to analyse the data as they provide a flexible system for analysis in studies with several independent variables and many dependent variables all correlated with one another to varying degrees, as is the case in this study. The SAS multivariate programme was utilized to analyse the data.

Examining whether life functioning moderates the relationships between the job characteristics and the personal outcomes implies that the relationships between the job characteristics and the personal outcomes change as a function of life functioning. The appropriate statistical analysis for the testing of moderator influences should thus measure and test this differential effect of the independent variable on the dependent variable owing to the influence of the moderator variable. Arnold (1982: 171) refers specifically to the technique which must be applied when testing for moderator variables in the Job Characteristics Model:

Such hypotheses are clearly interpretable as hypotheses that the form of the relationship between two variables depends upon some third variable, i.e., that a dependent variable of interest is a joint function of two causal variables. Such hypotheses are substantively meaningful and can be tested straightforwardly employing the hierarchical multiple regression procedure.

Stone and Hollenbeck (1989), in clarifying some controversial issues surrounding statistical procedures for detecting moderator variables, also recommend the use of hierarchical regression to detect moderator effects. They, however, discourage researchers from paying attention to the **form** versus the **degree** of relationship moderator variable analysis distinction as proposed by Arnold (1982). Hierarchical multiple regression is regarded as a type of multiple regression in which the contribution toward prediction of each dependent variable is assessed in a predetermined hierarchical order (Tabachnick & Fidell, 1983: 53). The differential effect of life functioning (as a continuous variable when employing norm one and norm two) on the relationships between the job characteristics (continuous variables) and personal outcomes (continuous variables) is tested by using hierarchical multiple regression procedures.

The research hypotheses require testing whether significant amounts of variance in the personal outcomes are due to the influence of the job characteristics. Furthermore, the research hypotheses require testing whether life functioning accounts for significant amounts of outcome variance beyond the influence of the job characteristics. For **each** of the dependent variables (that is, internal work motivation, general job satisfaction and growth satisfaction) the variance due to the subset of independent variables (skill variety, task identity, task significance, autonomy, and feedback) is firstly determined.

Life functioning (moderator variable) is then added to this subset of independent variables to determine whether it adds significantly to the variance already explained by the initial subset of independent variables.

The incremental variance is subsequently calculated with the following formula (Tabachnick & Fidell, 1983: 113):

$$F \text{ (Incremental)} = \frac{[R^2 \text{ (with)} - R^2 \text{ (without)}] / M}{[1 - R^2 \text{ (with)}] / df \text{ residual}}$$

Where

R^2 (with): Multiple R^2 achieved with the added moderator variable in the equation.

R^2 (without): Multiple R^2 achieved without the added moderator variable in the equation.

M: The number of variables in the added subset.

df residual: (N-k-1) residual degrees of freedom.

Further justification for the utilization of regression analysis to answer the research question is supplied by Tabachnick and Fidell (1983: 86-88) as:

- (a) the influence of any combination of independent variables on any dependent variable can be determined and illuminated;
- (b) the predictive power of two sets of independent variables can be compared;
- (c) regression techniques permit intercorrelations between the independent variables and correlations between the independent and dependent variables;
- (d) it can readily be applied to practical problems that cannot always be meaningfully reduced to orthogonal designs in experimental research;
- (e) a mix of continuous and dichotomous independent and dependent variables can be processed; and
- (f) the relative importance of the contribution of independent variables to a regression solution can be determined.

A limitation of regression analysis, however, is a minimum requirement with regard to number of cases in relation to number of variables. Twenty times more cases than variables are regarded as ideal, with a suggested minimum requirement of at least four to five times more cases than independent variables (Tabachnick & Fidell, 1983: 91-92). The question posed by this study encompasses specifying relationships between nine variables and thus ideally

requires a minimum of 180 respondents in order to neutralize the limitation inherent in regression analysis. The sample chosen for this study comprises 201 respondents.

The results of the study are reported in Chapter 5.

CHAPTER 5

RESULTS

5.1 INTRODUCTION

The purpose of the results section is to report statistical analyses of the raw data in order to better understand the nature and structure of the sample and to resolve the research hypotheses. These hypotheses firstly require testing whether significant amounts of variance in the personal outcomes are due to the influence of the job characteristics. Secondly, the research hypotheses require testing whether life functioning accounts for significant amounts of outcome variance beyond the influence of the job characteristics. The statistical analyses include:

- (a) the computation of descriptive statistics, namely the means and standard deviations of the variables and the correlation coefficients of the relationships between the variables in order to highlight the nature and structure of the sample, and
- (b) the application of hierarchical multiple regression procedures to test abovementioned research hypotheses.

The results are presented in the following format:

- (a) The means and standard deviations of the independent, dependent and moderator variables.
- (b) The relationships between the demographic variables and the independent, dependent and moderator variables.
- (c) The relationships within the independent, dependent and moderator variables.
- (d) The relationships between the independent, dependent and moderator variables.
- (e) Answering the research questions:
 - (i) Do the job characteristics account for significant amounts of variance in the personal outcomes?
 - (ii) Does life functioning account for significant amounts of outcome variance beyond the influence of the job characteristics?

5.2 MEANS AND STANDARD DEVIATIONS OF THE INDEPENDENT, DEPENDENT AND MODERATOR VARIABLES

Table 5.1 displays the means and standard deviations of the job

characteristics, personal outcomes and life functioning variables.

The mean scores of the job characteristics and personal outcomes variables are consistently high. These averages are marginally higher than the means of the corresponding variables as reported by Hackman and Oldham (1980: 105) in their study of 6930 employees representing 876 different jobs in 56 organizations. The means of the job characteristics and personal outcomes reported in Table 5.1 are also consistently marginally higher than the means reported by Boonzaier and Boonzaier (1994: 105) in their study of 4012 employees at a community service organization with 46 organizational units spread throughout South Africa and Namibia. They are furthermore generally higher than the means reported by the same authors for two other South African studies (Boonzaier & Boonzaier, 1994: 105).

Table 5.1

Means and standard deviations of the job characteristics,
personal outcomes and life functioning

Variables	Mean	Standard deviation
<u>Job characteristics</u>		
Skill variety	5,32	1,32
Task identity	5,28	1,34
Task significance	5,75	1,07
Autonomy	5,51	1,17
Feedback	5,54	1,17
(MPS)	27,40	4,40
<u>Personal outcomes</u>		
Internal work motivation	5,62	0,79
General job satisfaction	5,30	1,03
Growth satisfaction	5,45	1,28
<u>Life functioning</u>		
Positive mean score	74,14	14,07
Neg./Pos. ratio index	38,07	27,79

n = 201

The average of the first life functioning variable, namely the positive mean score depicted in Table 5.1, is higher than the mean reported by Van Zyl (1986: 180). This finding could possibly be attributed to the fact that the mean compiled by Van Zyl (1986) is based on individuals receiving welfare support of some kind. On the other hand, the mean negative/positive ratio index, which is the second life functioning variable displayed in Table 5.1, is lower than the average reported by Van Zyl (1986: 201). This could be attributed to the fact that the sample group of Van Zyl (1986) experienced a high level of frustration due to their welfare status. The standard deviation of the negative/positive ratio index is predictably high owing to the fact that a ratio inherently contains high variability.

Pearson Product Moment Correlation Coefficients were employed throughout to calculate the strength of the relationships between all the variables. Two levels of significance or confidence are offered, the 0,01 level and the 0,05 level. The 99% level of significance states that there is less than one in a hundred times probability that the given statistical result would occur owing to chance. (Likewise, the 95% level indicates less than 5% probability.) Sample results can thus be generalized to the population in question with specific levels of certainty.

5.3 RELATIONSHIPS BETWEEN THE DEMOGRAPHIC VARIABLES AND THE INDEPENDENT, DEPENDENT AND MODERATOR VARIABLES

Table 5.2 displays the correlation coefficients between the demographic variables and the job characteristics, personal outcomes and life functioning. Each of the demographic variables, namely, gender, age, qualification (Qual.), home language (Lang.) and years of service (Service) were included in the analysis.

No significant correlations exist between gender and any of the job characteristics, personal outcomes or life functioning.

There are significant positive correlations ($p < 0,01$) between age and skill variety, autonomy and feedback as well as between age and internal work motivation, general job satisfaction and growth satisfaction. In other words, as age in the sample group increases, employees perceive more of these specific job characteristics present in their jobs, and they experience higher levels of motivation and job satisfaction. An increase in age is therefore associated

Table 5.2

Correlations between the demographic variables and the job characteristics, personal outcomes and life functioning

	Demographic variables				
	Gender	Age	Qual.	Lang.	Service
<u>Job characteristics</u>					
Skill variety	-0,01	0,27**	0,09	0,00	0,21**
Task identity	0,09	0,05	0,02	-0,09	0,00
Task significance	0,01	0,08	-0,00	0,00	0,12
Autonomy	-0,03	0,32**	0,05	-0,23**	0,21**
Feedback	-0,10	0,23**	-0,11	-0,14*	0,11
<u>Personal outcomes</u>					
Internal work motivation	-0,01	0,23**	-0,07	-0,10	0,06
General job satisfaction	0,03	0,21**	-0,00	-0,07	0,05
Growth satisfaction	-0,04	0,23**	0,05	-0,08	0,10
<u>Life functioning</u>					
Positive mean score	-0,08	0,08	0,05	-0,14	0,11
Neg./Pos. ratio index	0,12	-0,17*	-0,06	0,23**	-0,14

n = 201

** p < 0,01

* p < 0,05

with a heightened perception and experience of the following dimensions:

- (a) the degree to which the job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee;
- (b) the degree to which the job provides substantial freedom, independence and discretion by the employee in scheduling the work and in determining the procedures to be used in carrying it out;
- (c) the degree to which performing the work activities required by the job results in the employee's obtaining direct and clear information about the effectiveness of her or his performance;

- (d) the degree to which the employee is self-motivated to perform effectively on the job; that is, the employee experiences positive internal feelings when working effectively on the job, and negative internal feelings when doing poorly;
- (e) the overall degree to which the employee is satisfied and happy with the job; and
- (f) the degree to which the individual is satisfied with opportunities for growth in the job.

These significant positive relationships between age and specific job characteristics, as well as between age and the personal outcomes can possibly be accounted for by cognitive consonance. What this means is that as employees' age increases, any state of unpleasant tension regarding the characteristics of their jobs and consequent work motivation and job satisfaction is resolved by accommodating or adjusting their current belief system; workers thus report increases in job satisfaction and motivation and the extent to which the job characteristics are experienced.

With regard to the relationships between age and life functioning, a significant negative correlation ($p < 0,05$) exists between age and the negative/positive ratio index. As age in the sample group increases, employees experience fewer frustrations relative to satisfactions within the different domains of their worklife and non-worklife. In other words, the ratio between the level of frustrations experienced by employees in the areas of health, energy flow, personal influence, affect, and habits, and the level of satisfactions which they derive from the areas of work or related activities, financial security, friendship, family, and personal, decreases as age increases. This finding could possibly be ascribed to an increase in maturity and life coping skills associated with increased age and an increased level of acceptance of the circumstances (work and otherwise) in which the older person finds herself/himself.

No significant relationships exist between qualification and job characteristics, personal outcomes or life functioning.

The categorical nature of the language variable (namely English, Afrikaans and "Other") renders a correlation analysis between it and the independent, dependent and moderator variables meaningless.

Significant positive correlations ($p < 0,01$) also exist between years of service and two specific job characteristics, namely skill variety and autonomy. As tenure in the sample group increases, workers in general perceive more skill variety and autonomy present in their work. Increased tenure is thus associated with a positive increase in the following dimensions:

- (a) the extent to which the execution of the job requires a variety of different activities, involving the use of a number of different skills and talents of the employee, and
- (b) the extent to which the job provides the employee with substantial freedom, independence, and discretion in scheduling activities and determining work procedures.

5.4 RELATIONSHIPS WITHIN THE INDEPENDENT, DEPENDENT AND MODERATOR VARIABLES

Table 5.3 depicts the relationships between the job characteristics. Significant positive correlations ($p < 0,01$) exist between all the job characteristics. This could be ascribed to the fact that "enriched" jobs often are good in a number of ways and "impoverished" jobs are often generally bad. Increases in any one job characteristic are thus associated with an increase in the other job characteristics.

Table 5.3

Correlations between the job characteristics

Job characteristics	1	2	3	4	5
1. Skill variety	-				
2. Task identity	0,32**	-			
3. Task significance	0,38**	0,24**	-		
4. Autonomy	0,52**	0,45**	0,37**	-	
5. Feedback	0,44**	0,48**	0,33**	0,53**	-

$n = 201$

** $p < 0,01$

* $p < 0,05$

Table 5.4 depicts the relationships between the personal outcomes. Significant positive correlations ($p < 0,01$) exist between all the personal outcomes. Increases in any one of the personal outcomes are associated with an increase

in the other personal outcomes. A positive correlation thus exists between motivation and satisfaction for the sample group.

Table 5.4

Correlations between the personal outcomes

Personal outcomes	1	2	3
1. Internal work motivation	-		
2. General job satisfaction	0,69**	-	
3. Growth satisfaction	0,50**	0,72**	-

n = 201

** p < 0,01

* p < 0,05

With regard to the relationship between the two life functioning variables, the positive mean score forms part of the negative/positive ratio index, and the expression of a correlation between the two variables would therefore be meaningless.

5.5 RELATIONSHIPS BETWEEN THE INDEPENDENT, DEPENDENT AND MODERATOR VARIABLES

Table 5.5 displays, firstly, the correlation coefficients between the job characteristics and personal outcomes, and secondly, the correlation coefficients between life functioning and the personal outcomes.

There are significant positive correlations ($p < 0,01$) between all the job characteristics (skill variety, task identity, task significance, autonomy, and feedback) and all three personal outcomes (internal work motivation, general job satisfaction and growth satisfaction). As employees in the sample group perceive more of the job characteristics present in their jobs, higher levels of motivation and satisfaction are reported. Increased levels of motivation and satisfaction are thus associated with a heightened perception of the following dimensions:

- (a) the extent to which the job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the employee;

Table 5.5

Correlations between the job characteristics and personal outcomes, and between life functioning and the personal outcomes

	Personal outcomes		
	Internal work motivation	General job satisfaction	Growth satisfaction
<u>Job characteristics</u>			
Skill variety	0,40**	0,39**	0,50**
Task identity	0,32**	0,30**	0,30**
Task significance	0,24**	0,24**	0,24**
Autonomy	0,46**	0,55**	0,65**
Feedback	0,52**	0,46**	0,45**
<u>Life functioning</u>			
Positive mean score	0,23**	0,31**	0,39**
Neg./Pos. ratio index	-0,14	-0,26**	-0,35**

n = 201

** p < 0,01

* p < 0,05

- (b) the degree to which the job requires the completion of a "whole" and identifiable piece of work - that is, doing a job from beginning to end with a visible outcome;
- (c) the capacity of the job to substantially impact the lives or work of other people, whether in the immediate organization or in the external environment;
- (d) the degree to which the job provides the employee with substantial freedom, independence and discretion in scheduling the work and in determining the procedures to be used in carrying it out; and
- (e) the extent to which performing the work activities required by the job results in the worker's obtaining direct and clear information about the effectiveness of her or his performance.

Conversely, as the presence of the above-mentioned job characteristics increases for the sample group, the employee:

- (a) is more self-motivated to perform effectively on the job; that is, experiences positive internal feelings when working effectively on the job, and negative internal feelings when doing poorly;
- (b) is more satisfied and happy with the job; and
- (c) is more satisfied with opportunities for growth in the job.

With regard to the relationships between the life functioning variables and the personal outcomes, significant positive correlations ($p < 0,01$), firstly, exist between the positive mean score and all three personal outcomes (internal work motivation, general job satisfaction and growth satisfaction). As employees derive more satisfaction from the five main areas of life (namely work or related activities, financial security, friendship, family, and personal), higher levels of internal work motivation, general job satisfaction and growth satisfaction are experienced. Increased levels of the positive mean score are thus associated with increases in the following dimensions, namely:

- (a) the degree of self-motivation to perform effectively on the job; in other words, positive internal feelings are experienced when working effectively on the job, and negative internal feelings when doing poorly;
- (b) the extent of overall satisfaction with the job; and
- (c) the level of satisfaction with opportunities for growth in the job.

Secondly, significant negative correlations ($p < 0,01$) exist between the negative/positive ratio index and two of the personal outcomes, namely general job satisfaction and growth satisfaction. As the negative/positive ratio index decreases, employees in general report higher levels of general job satisfaction and growth satisfaction. As the level of frustration relative to the level of satisfaction experienced within the different domains of worklife and non-worklife decreases, employees experience a positive increase in:

- (a) the overall degree of satisfaction with the job, and
- (b) the measure of satisfaction with opportunities for growth in the job.

The results displayed in Table 5.5 indicate the possibility of a spill-over effect between motivation and satisfaction, and life functioning. This concept is elaborated upon in Section 6.4.

Table 5.6 displays the correlation coefficients between the job characteristics

Table 5.6

Correlations between the job characteristics and life functioning

	Life functioning	
	Positive mean score	Neg./Pos. ratio index
<u>Job characteristics</u>		
Skill variety	0,23**	-0,20**
Task identity	0,22**	-0,23**
Task significance	0,13	-0,03
Autonomy	0,35**	-0,35**
Feedback	0,24**	-0,20**

n = 201

** p < 0,01

* p < 0,05

and the life functioning variables. According to Table 5.6, significant positive correlations ($p < 0,01$) exist between four of the five job characteristics (namely skill variety, task identity, autonomy, and feedback) and the positive mean score. As employees perceive more of these job characteristics present in their jobs, more satisfactions are derived from the five main areas of life, namely work or related activities, financial security, friendship, family, and personal. Increased levels of the positive mean score are thus associated with an increased perception of the following dimensions:

- (a) the extent to which the job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee;
- (b) the degree to which the job requires the completion of a "whole" and identifiable piece of work - that is, doing a job from beginning to end with a visible outcome;
- (c) the degree to which the job provides the employee with substantial freedom, independence, and discretion in scheduling the work and in determining the procedures to be used in carrying it out; and
- (d) the degree to which performing the work activities required by the job results in the worker's obtaining direct and clear information about the

effectiveness of his or her performance.

According to Table 5.6, significant negative correlations ($p < 0,01$) exist between four of the job characteristics (namely skill variety, task identity, autonomy, and feedback) and the negative/positive ratio index. As employees perceive more of these job characteristics present in their jobs, fewer frustrations relative to satisfactions within the different domains of their worklife and non-worklife are experienced. In other words, the ratio between the level of frustrations experienced by employees in the areas of health, energy flow, personal influence, affect, and habits, and the level of satisfactions derived from the areas of work or related activities, financial security, friendship, family, and personal, decreases as more of the four job characteristics are perceived.

The results displayed in Table 5.6 thus also indicate the possibility of a spill-over effect between the job characteristics and life functioning. Section 6.4 will expand upon this concept.

5.6 ANSWERING THE RESEARCH QUESTIONS

Hierarchical multiple regression procedures (Tabachnick & Fidell, 1983: 86-145) were employed to determine:

- (a) whether significant amounts of variance in the personal outcomes (internal work motivation, general job satisfaction and growth satisfaction) are due to the influence of the job characteristics; and
- (b) whether life functioning (the positive mean score and the positive/negative ratio index) accounts for significant amounts of variance in the personal outcomes beyond the influence of the job characteristics.

Table 5.7 displays, in the first place, the multiple regressions predicting the personal outcomes using the job characteristics as the predictor variables (Step 1). Secondly, Table 5.7 shows the multiple regressions predicting the personal outcomes using the job characteristics and life functioning as the predictor variables (Steps 2A and 2B).

Focussing firstly on internal work motivation as dependent variable, Table 5.7 indicates that after Step 1, with job characteristics in the equation, R squared equals 0,3307; $F(5; 195)$ equals 19,2720**; $p < 0,0001$. The job characteristics account for 33,1% of the variance in internal work motivation.

The job characteristics thus significantly predict internal work motivation.

After Step 2A, with job characteristics and life functioning (positive mean score) in the equation, R squared equals 0,3327; FI(1; 194) equals 0,5815; $p < 0,01$. Life functioning (positive mean score) accounts for 0,2% increase in the variance in internal work motivation associated with the job characteristics. Therefore, adding life functioning (positive mean score) to the equation results in an insignificant increment in R squared. Given the existing significant predictive power of the job characteristics, life functioning as measured by the positive mean score does not add to the prediction of internal work motivation.

Table 5.7

Hierarchical multiple regression analyses predicting personal outcomes using job characteristics and life functioning

		Personal outcomes		
		Internal work motivation	General job satisfaction	Growth satisfaction
Step 1	Predictor variables: job characteristics	$R^2 = 0,3307$ $F = 19,2720^{**}$	$R^2 = 0,3437$ $F = 20,421^{**}$	$R^2 = 0,4703$ $F = 34,629^{**}$
Step 2A	Predictor variables: job characteristics & life functioning /pos. mean score	$R^2 = 0,3327$ $FI = 0,5815$	$R^2 = 0,3560$ $FI = 3,7054$	$R^2 = 0,4956$ $FI = 9,7308^{**}$
Step 2B	Predictor variables: job characteristics & life functioning (Neg./Pos. ratio index)	$R^2 = 0,3321$ $FI = 0,4067$	$R^2 = 0,3478$ $FI = 1,2196$	$R^2 = 0,4857$ $FI = 5,8091^*$

FI = Incremental explanatory value
(Tabachnick & Fidell, 1983: 113)

n = 201

After Step 2B, with job characteristics and life functioning (negative/positive ratio index) in the equation, R squared equals 0,3321; $FI(1; 194)$ equals 0,4067; $p < 0,01$. Life functioning (negative/positive ratio index) accounts for 0,14% increase in the variance in internal work motivation associated with the job characteristics. Therefore, adding life functioning (negative/positive ratio index) to the equation results in an insignificant increment in R squared. Given the existing significant predictive power of the job characteristics, life functioning as measured by the negative/positive ratio index does not add to the prediction of internal work motivation.

Focussing, secondly, on **general job satisfaction** as dependent variable, Table 5.7 indicates that after Step 1, with job characteristics in the equation, R squared equals 0,3437; $F(5; 195)$ equals 20,4210**; $p < 0,0001$. The job characteristics account for 34,4% of the variance in general job satisfaction. The job characteristics thus significantly predict general job satisfaction.

After Step 2A, with job characteristics and life functioning (positive mean score) in the equation, R squared equals 0,3560; $FI(1; 194)$ equals 3,7054; $p < 0,01$. Life functioning (positive mean score) accounts for 1,2% increase in the variance in general job satisfaction associated with the job characteristics. Therefore, adding life functioning (positive mean score) to the equation results in an insignificant increment in R squared. Given the existing significant predictive power of the job characteristics, life functioning as measured by the positive mean score does not add to the prediction of general job satisfaction.

After Step 2B, with job characteristics and life functioning (negative/positive ratio index) in the equation, R squared equals 0,3478; $FI(1; 194)$ equals 1,2196; $p < 0,01$. Life functioning (negative/positive ratio index) accounts for 0,41% increase in the variance in general job satisfaction associated with the job characteristics. Therefore, adding life functioning (negative/positive ratio index) to the equation results in an insignificant increment in R squared. Given the existing significant predictive power of the job characteristics, life functioning as measured by the negative/positive ratio index does not add to the prediction of general job satisfaction.

Focussing on **growth satisfaction** as the third dependent variable, Table 5.7 indicates that after Step 1, with job characteristics in the equation, R

squared equals 0,4703; $F(5; 195)$ equals 34,6290**; $p < 0,0001$. The job characteristics account for 47% of the variance in growth satisfaction. The job characteristics thus significantly predict growth satisfaction.

After Step 2A, with job characteristics and life functioning (positive mean score) in the equation, R squared equals 0,4956; $FI(1; 194)$ equals 9,7308**; $p < 0,01$. Life functioning (positive mean score) accounts for 2,5% increase in the variance in growth satisfaction associated with the job characteristics. Therefore, adding life functioning (positive mean score) to the equation results in a significant increment in R squared. Given the existing significant predictive power of the job characteristics, life functioning as measured by the positive mean score thus adds to the prediction of growth satisfaction.

After Step 2B, with job characteristics and life functioning (negative/positive ratio index) in the equation, R squared equals 0,4857; $FI(1; 194)$ equals 5,8091*; $p < 0,05$. Life functioning (negative/positive ratio index) accounts for 1,5% increase in the variance in growth satisfaction associated with the job characteristics. Therefore, adding life functioning (negative/positive ratio index) to the equation results in a significant increment in R squared. Given the existing significant predictive power of the job characteristics, life functioning as measured by the negative/positive ratio index does add to the prediction of growth satisfaction. This finding indicates the possibility of a spill-over effect between non-work variables and growth satisfaction. This concept is elaborated upon in Section 6.4.

In **conclusion**, hierarchical multiple regression analyses of the data reveal the following:

- (a) significant amounts of variance in the personal outcomes (internal work motivation, general job satisfaction and growth satisfaction) are due to the influence of the job characteristics;
- (b) life functioning (the positive mean score and the positive/negative ratio index) accounts for significant amounts of variance in growth satisfaction beyond the influence of the job characteristics; and
- (c) life functioning (the positive mean score and the positive/negative ratio index) accounts for insignificant amounts of variance in both internal work motivation and general job satisfaction beyond the influence of the job characteristics.

Specifically, what this means is that significant amounts of variance in the following three personal outcomes are due to the influence of the job characteristics:

- (a) the extent to which the employee is self-motivated to perform effectively on the job; that is, the employee experiences positive internal feelings when working effectively on the job, and negative internal feelings when doing poorly;
- (b) the degree to which the employee is satisfied and happy with the job; and
- (c) the degree to which an individual is satisfied with opportunities for growth in the job.

The five job characteristics which significantly predict the above-mentioned three personal outcomes are:

- (a) skill variety: the degree to which the job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee;
- (b) task identity: the degree to which the job requires the completion of a "whole" and identifiable piece of work - that is, doing a job from beginning to end with a visible outcome;
- (c) task significance: the degree to which the job has a substantial impact on the lives or work of other people, whether in the immediate organization or in the external environment;
- (d) autonomy: the degree to which the job provides the employee with substantial freedom, independence and discretion in scheduling the work and in determining the procedures to be used in carrying it out; and
- (e) feedback: the degree to which performing the work activities required by the job results in the worker obtaining direct and clear information about the effectiveness of her or his performance.

Beyond the significant predictive value of the job characteristics, life functioning (the positive mean score and the positive/negative ratio index) significantly predicts growth satisfaction (that is, the degree to which the employee is satisfied with opportunities for growth in the job). Significant amounts of variance in growth satisfaction are thus due to the influence of the two life functioning variables:

- (a) the positive mean score (that is, the extent to which employees derive satisfaction from the five main areas of life, namely work or related activities, financial security, friendship, family, and personal); and

(b) the negative/positive ratio index (the level of frustrations relative to satisfactions within the different domains of the employees' worklife and non-worklife. In other words, the ratio between the level of frustrations experienced by employees in the areas of health, energy flow, personal influence, affect, and habits, and the level of satisfactions which they derive from the areas of work or related activities, financial security, friendship, family, and personal).

However, beyond the significant predictive value of the job characteristics, life functioning as measured by both the positive mean score and the positive/negative ratio index does not further contribute significantly to the prediction of internal work motivation or general job satisfaction.

The results displayed in Table 5.7, firstly, thus reject null hypothesis 1, namely that the job characteristics do not account for significant amounts of variance in the personal outcomes. Secondly, the findings accept null hypothesis 2, namely that life functioning does not account for significant amounts of variance in the personal outcomes beyond the influence of the job characteristics.

CHAPTER 6

DISCUSSION OF RESULTS

6.1 INTRODUCTION

Having specified and delineated the research problem in Chapter 1, with concomitant hypotheses, Chapters 2 and 3 provided an examination of empirical findings relating to the variables and the relationships that exist between them as set forth in the Job Characteristics Model, and consequently formulated shortcomings of this model (Objective 1). In addition, Chapter 3 proposed a refinement of the model (Objective 2), while Chapters 4 and 5 focussed on testing the proposed revision of the model (Objective 3). Chapter 6 highlights the most salient findings and conclusions relating to this empirical inspection.

The following revised model was subjected to empirical evaluation:

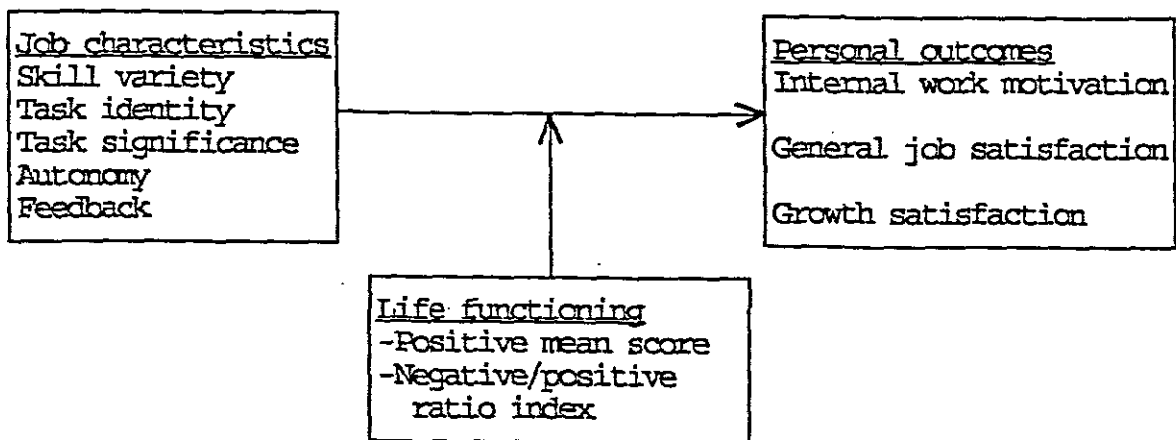


Figure 6.1 A revision of the Job Characteristics Model

Specifically, Chapter 6 juxtaposes the results of this empirical study with the outcomes of other published works. Specific conclusions will be drawn from the current findings viewed against the background of other relevant research. The results, conclusions and implications of this study for management and human

resources practitioners will also be discussed. Finally, an evaluation of the study and accompanying implications for future research will be presented as well as a summary of the study.

6.2 DISCUSSION OF RESULTS AND CONCLUSION

6.2.1 Means and standard deviations of the variables

The means of the job characteristics and personal outcomes, as reported in Table 5.1, are, in general, marginally higher than the values for the same variables reported by Graham (1978), Hackman, Pearce and Wolfe (1978), Hackman and Oldham (1980), Forshaw (1985), Hogan and Martell (1987), Champoux (1992), Bloemhoff (1993), Barnabe and Burns (1994), Boonzaier and Boonzaier (1994), Remm and Vandenberg (1995), and Xie and Johns (1995).

Considering the marginal difference between the means reported in Table 5.1 and the afore-mentioned studies, viewed in conjunction with the standard deviations reported for the current sample group, no significant differences exist between the averages of the variables in this study compared with other studies. It can thus be concluded that the means reported in Table 5.1 for the job characteristics and personal outcomes variables, in general, correspond with the means of the same variables for other studies.

This conclusion needs to be viewed in the context of an important difference between the current study and the published studies used for comparative purposes. The above-mentioned researchers used the job characteristics measures developed by Hackman and Oldham (1974, 1975, 1980) whilst the current study employed the revised version of Idaszak and Drasgow (1987) to measure the job characteristics, thus rendering the results with regard to the means of the job characteristics in Table 5.1 without any "true" comparison.

Also, the afore-mentioned findings by these researchers, specifically with regard to the personal outcomes, are based on the initial personal outcomes measures developed by Hackman and Oldham (1974, 1975, 1980). Subsequently the original JDS was revised (Idaszak & Drasgow, 1987), but this revised JDS still measures the personal outcomes in exactly the same way as the original JDS compiled by Hackman and Oldham (1974, 1975, 1980). In the current study, however, the personal outcomes measures were revised commensurate with refinements to the Job Characteristics Model, and thereafter utilized in the

empirical evaluation. These additional refinements to the previously revised JDS (elaborated upon in Section 3.2.2) thus render the results relating to the means of the personal outcomes in Table 5.1 also without any appropriate comparison.

With regard to the indices of life functioning, the average positive mean score of the sample group (74,14) is significantly higher than the international norm of 60 established by Heimler (1975) and Van Zyl (1986). This mean satisfaction score of the sample is indicative of deriving sufficient satisfaction from the five main areas of life (namely from work or related activities, financial security, friendship, family, and personal) in order to function independently without the need of professional or other support. The sample group thus, in general, displays sufficient competence in life functioning.

The average negative/positive ratio index of the sample group (38,07) is also higher than the norm of 20 - 33 developed by Heimler (1975) and Van Zyl (1986). The sample therefore experiences an above-average level of frustration within the different domains of worklife and non-worklife (namely the ratio between the satisfaction derived from the five main areas of life; that is, from work or related activities, financial security, friendship, family, and personal, on the one hand; and the level of frustration expressed in other areas of the individual's life, namely health, energy flow, personal influence, affect, and habits, on the other).

This above-average level of frustration (negative/positive ratio index) of the sample group may give rise to a paralysis of life functioning or breakdown in some areas of functioning. This finding should be further interpreted in conjunction with the means of internal work motivation, general job satisfaction and growth satisfaction. Because the sample group reports acceptable levels of motivation and satisfaction, the cause of the above-average frustration levels can possibly be ascribed to non-work variables, such as the greater Cape Town community variables (for example, crime) and economic variables (for example, fuel price increases).

However, caution should prevail when making these deductions for the sample group with regard to life functioning (for both the positive mean score and the negative/positive ratio index), as the Life Functioning Questionnaire (LFQ) was specifically designed for diagnosing individual functioning and not for

group analysis *per se*.

The only study reporting the application of the LFQ in the workplace is the study of Brand (1991). Unfortunately, the means and standard deviations for the sample group of 276 are not reported and could thus not be utilized for comparative purposes.

6.2.2 Relationships between the demographic variables and the job characteristics, personal outcomes and life functioning

Table 5.2, depicting the relationships between the demographic variables and the job characteristics, personal outcomes and life functioning, were included in the results section with the sole purpose of further highlighting the nature and structure of the sample. Tables 4.2 to 4.6 present frequencies and cross-tabulations in support of the same purpose. Tables 4.2 to 4.6 and 5.2 and their accompanying sample descriptions should thus suffice for purposes of this study, as they do not pertain to specific hypotheses or other published studies and thus warrant no further attention.

6.2.3 Relationships within the job characteristics and the personal outcomes

Table 5.3 displays the relationships between the job characteristics, namely skill variety, task identity, task significance, autonomy, and feedback. Significant relationships exist between all the job characteristics. An increase in any one job characteristic relates to increases in all the other job characteristics. These findings coincide with the results reported by Hackman and Oldham (1975), Hogan and Martell (1987), Champoux (1991), Cordery and Sevastos (1993), Barnabe and Burns (1994), and Remm and Vandenberg (1995) for the relationships between the same variables.

The significant intercorrelations between the job characteristics furthermore replicate the findings of the South African studies of Graham (1978), Forshaw (1985) and Bloemhoff (1993). However, all afore-mentioned studies utilized the original version of the Job Diagnostic Survey (JDS). Cordery and Sevastos (1993) administered both the original version by Hackman and Oldham (1974, 1975, 1980) and the revised version of the JDS by Idaszak and Drasgow (1987) to measure the job characteristics. As the current study also utilized the revised version of the JDS to measure the job characteristics, the results in Table 5.3 replicate the significant intercorrelations reported by Cordery and Sevastos (1993) for the job characteristics measured with the revised JDS. However,

comparisons of the results of the current study with studies other than that of Cordery and Sevastos (1993) should of necessity be viewed against the background of utilizing different forms of the JDS.

The significant intercorrelations found between the job characteristics imply that, in general, when jobs are high on any one job characteristic, they are also high on the other job characteristics. Jobs high in motivating potential are thus often "good" in a number of ways, and conversely, jobs low in motivating potential usually possess a number of "bad" dimensions. Jobs requiring a variety of skills, for example, usually also possess greater task significance and task identity and offer more autonomy and feedback.

Table 5.4 reveals significant positive correlations between the three personal outcomes, namely internal work motivation, general job satisfaction and growth satisfaction. Increases in any one of internal work motivation, general job satisfaction or growth satisfaction will be associated with increases in the two remaining personal outcomes. In general, increases in work motivation are thus associated with increases in job satisfaction and vice versa. These results confirm the findings of Hackman and Oldham (1975), Graham (1978), Forshaw (1985), Hogan and Martell (1987), Champoux (1991), Bloemhoff (1993), Barnabe and Burns (1994) and Remm and Vandenberg (1995), all of which indicate significant positive relationships between the personal outcomes, and all of which are based on the personal outcomes measures originally developed by Hackman and Oldham (1974, 1975, 1980). The subsequent revision of the JDS (Idaszak & Drasgow, 1987) measures the personal outcomes in exactly the same way as the original JDS compiled by Hackman and Oldham (1974, 1975, 1980). In the current study, however, the personal outcomes measures were revised commensurate with proposed refinements of the Job Characteristics Model and thereafter utilized in the empirical assessment. These further refinements to the previously revised JDS are discussed in Section 3.2.2, and render the results in Table 5.4 without any exact comparison.

With regard to the relationship between the two life functioning variables, the fact that the positive mean score forms part of the negative/positive ratio index renders any correlation between the two meaningless and not worthy of discussion.

6.2.4 Relationships between the job characteristics, personal outcomes and life functioning

Table 5.5, firstly, displays significant positive correlations between the job characteristics (namely, skill variety, task identity, task significance, autonomy, and feedback) and the personal outcomes (that is, internal work motivation, general job satisfaction and growth satisfaction). An increase in any one of the job characteristics is associated with increases in internal work motivation, general job satisfaction and growth satisfaction.

Furthermore, Table 5.7 (Step 1) indicates that the job characteristics significantly predict internal work motivation, general job satisfaction and growth satisfaction. These findings (Tables 5.5 and 5.7) support the results by Oldham, Hackman and Pearce (1976), Hackman, Pearce and Wolfe (1978), Wall, Clegg and Jackson (1978), Oldham and Brass (1979), Hackman and Oldham (1980), Roberts and Glick (1981), Caldwell and O'Reilly (1982), Hunt, Head and Sorensen (1982), Terborg and Davis (1982), Algera (1983), Lee, McCabe and Graham (1983), Orpen (1983), Loher, Noe, Moeller and Fitzgerald (1985), Ondrack and Evans (1986), Fried and Ferris (1987), Gerhart (1987), Champoux (1991), Spector and Jex (1991), Boonzaier and Boonzaier (1994) and Remm and Vandenberg (1995) which conclude that job characteristics influence personal and work outcomes.

This conclusion needs to be viewed in the context of an important difference between the current study and the afore-mentioned published studies used for comparative purposes. Said researchers used the job characteristics measures developed by Hackman and Oldham (1974, 1975, 1980), while the revised version of Idaszak and Drasgow (1987) was used for the purposes of this study. Also, the afore-mentioned findings by these researchers are based on the measurement of the personal outcomes using the original JDS compiled by Hackman and Oldham (1974, 1975, 1980), whereas in the current study the revised personal outcomes measures were used commensurate with refinements to the Job Characteristics Model (elaborated upon in Section 3.2.2).

These findings from Tables 5.5 and 5.7 thus reject null hypothesis 1, namely that the job characteristics do not account for significant amounts of variance in the personal outcomes. The fact that significant amounts of variance in the personal outcomes are due to the influence of the job characteristics, has specific implications for managers of human resources and for future research regarding the model. Worker motivation and satisfaction can be enhanced by

increasing the extent of the five job characteristics present in a job. This result and the accompanying implications will be elaborated upon in Section 6.3 dealing with the implications of the study for management and human resources practitioners as well as in Section 6.4 dealing with guidelines for future research.

Table 5.5, secondly, also indicates significant positive correlations between the positive mean score of life functioning and the three personal outcomes (that is, internal work motivation, general job satisfaction and growth satisfaction). Increased levels of the positive mean score are associated with increases in the three personal outcomes. The relationships between life functioning (positive mean score) and the personal outcomes are further elaborated upon in Table 5.7, Step 2A. This table shows that life functioning, as measured by the positive mean score does not, **beyond the significant predictive value of the job characteristics**, predict internal work motivation and general job satisfaction. Life functioning (positive mean score), does however, significantly predict, **beyond the significant predictive value of the job characteristics**, growth satisfaction. Life functioning (positive mean score) is therefore not a moderator of the relationships between the job characteristics and internal work motivation, or between the job characteristics and general job satisfaction. Life functioning (positive mean score) is, however, a moderator of the relationships between the job characteristics and growth satisfaction. In other words, growth satisfaction is more accurately predicted when life functioning, in addition to the job characteristics, is considered.

These relationships between life functioning and the three personal outcomes (that is, internal work motivation, general job satisfaction and growth satisfaction) should, however, not be compared with studies where the **main effects** between non-work and work variables were tested positively (Schmitt & Mellon, 1980; Hawkes, Guagnano, Smith & Forest, 1984; Frone, Russel & Cooper, 1992; Rice, Frone & McFarlin, 1992; Judge & Watanabe, 1993). The results of this study pertain only to whether or not life functioning significantly predicts, **beyond the significant predictive value of the job characteristics**, the personal outcomes. Only **moderator effects** were thus tested in this instance, and only when further replica studies are conducted within the confines of the model, are comparisons between studies possible.

Table 5.5 furthermore indicates significant negative correlations between the negative/positive ratio index of life functioning and two of the personal outcomes (namely general job satisfaction and growth satisfaction). Increased levels of the negative/positive ratio index are associated with decreases in these two personal outcomes. The relationships between life functioning (negative/positive ratio index) and the personal outcomes are further elaborated upon in Table 5.7, Step 2B. This table shows that life functioning, negative/positive ratio index, does not, **beyond the significant predictive value of the job characteristics**, predict internal work motivation or general job satisfaction. As is the case with the positive mean score, the negative/positive ratio index of life functioning does, however, significantly predict, **beyond the significant predictive value of the job characteristics**, growth satisfaction. Life functioning (negative/positive ratio index) is therefore not a moderator of the relationships between the job characteristics and internal work motivation, or between the job characteristics and general job satisfaction, but it is a moderator of the relationships between the job characteristics and growth satisfaction.

As mentioned previously, the relationships between life functioning (using either the positive mean score or the negative/positive ratio index), and the three personal outcomes, should not be compared to studies investigating the **main effects** between non-work and work variables, as the current study sought only to ascertain whether or not life functioning significantly predicts, **beyond the significant predictive value of the job characteristics**, the personal outcomes. In other words, life functioning was only tested as a possible moderator in the revised Job Characteristics Model.

The results show that, in general, life functioning is **not** a comprehensive moderator of the relationships between the job characteristics and the personal outcomes. With one exception, life functioning as a unifying construct (refer to Section 3.6.1 and Figure 6.1) in the revised model accounts for no significant amounts of outcome variance beyond the influence of the job characteristics. Life functioning, as measured by **both** the positive mean score and the negative/positive ratio index, in combination with the job characteristics, does offer an enhanced prediction of growth satisfaction. In other words, an enriched job (high skill variety, task identity, task significance, autonomy, and feedback) predicts higher growth satisfaction. And, an "enriched life" (increased satisfactions and decreased frustrations derived

from the main areas of life) offers additional opportunities for growth in the non-work domains of life, which effect spills over and impacts positively in the workplace. This spill-over effect enhances the prediction of growth satisfaction in the workplace, beyond the contribution of the job characteristics.

The findings from Tables 5.5 and 5.7 thus **accept null hypothesis 2**, namely that life functioning does not account for significant amounts of variance in the personal outcomes beyond the influence of the job characteristics. The fact that life functioning is not a moderator of all the relationships between the job characteristics and the personal outcomes, has specific implications for managers of human resources and for future research regarding the model. This result and the accompanying implications will be elaborated upon in Section 6.3 dealing with the implications of the study for management and human resources practitioners as well as in Section 6.4 dealing with guidelines for future research.

Table 5.6 displays significant positive correlations between four of the job characteristics (namely, skill variety, task identity, autonomy, and feedback) and life functioning (positive mean score). An increase in any one of these four job characteristics is associated with an increase in life functioning, or general satisfaction with life (positive mean score). However, a spill-over hypothesis between job characteristics and life functioning (positive mean score) can only be considered if an appropriate regression analysis is conducted. Table 5.6 furthermore reveals significant negative correlations between four of the job characteristics (namely, skill variety, task identity, autonomy, and feedback) and the negative/positive ratio index of life functioning. An increase in any one of these four job characteristics is associated with a decrease in the overall frustrations experienced in everyday living (negative/positive ratio index). However, the intimation of causal relationships or a spill-over hypothesis between job characteristics and life functioning is inappropriate at this stage as it would require alternative statistical procedures (regression analyses) which are beyond the scope of the current study.

Table 5.6 displays insignificant correlations between the remaining job characteristic, namely task significance, and life functioning. How important the task is to the organization as perceived by the employee (internal

significance) and how proud employees are to tell relatives and friends where they work and what they do (external significance) are not significantly related to the individual's overall satisfaction with life.

6.2.5 Conclusion

In proposing a revision of the Job Characteristics Model (Figure 6.1), a more comprehensive philosophy of work behaviour is suggested whereby work motivation and job satisfaction are viewed as influenced by both work and non-work person and environment characteristics. In testing this revision of the model empirically, this philosophy was not validated. Strong support was found for the relationships between the job characteristics and the personal outcomes. Life functioning, however, does not account for significant amounts of outcome variance beyond the influence of the job characteristics. Life functioning is not a comprehensive moderator of the relationships between the job characteristics and the personal outcomes. The proposed revision of the model is thus not empirically confirmed.

6.3 IMPLICATIONS OF THE STUDY FOR MANAGEMENT AND HUMAN RESOURCE PRACTITIONERS: A TECHNOLOGY FOR JOB ENRICHMENT

The results show that the basic characteristics of a job significantly predict internal work motivation, general job satisfaction and growth satisfaction. This finding impacts on the role and functions of managers and human resource practitioners as motivation and satisfaction in the workplace can be increased by enhancing the extent of the five job characteristics present in a job. Efforts to enrich the characteristics of jobs in organizations thus lead to desirable motivation and satisfaction increases and associated organizational performance improvements. Job enrichment as a technology should therefore be implemented in organizations to enhance desirable work behaviours.

6.3.1 Management practice to facilitate change in work motivation, job satisfaction and performance

The Job Characteristics Model, its attendant JDS and norms, the set of action steps and implementing concepts serve collectively as a technology for job enrichment. The JDS is a management tool for diagnosing jobs and employees' reactions to their jobs. This instrument provides direct measures of the job characteristics and personal outcomes. Any manager can use this diagnostic tool to evaluate the jobs in her/his organizational unit as well as employees' reactions to their jobs by pinpointing those aspects of specific jobs which

deviate from the norms (refer Boonzaier & Boonzaier, 1994: 105) and which require management action. Where problems with regard to motivation, satisfaction and performance do exist, job enrichment strategies can be employed to enhance the presence of specific job characteristics.

Diagnosis of jobs is a vital activity in any job enrichment effort. Hackman, Oldham, Janson and Purdy (1991: 80) indicate that job enrichment often fails because of inadequate diagnosis of the target job and employees' reaction to it. The following paragraphs outline the steps to be followed by managers when diagnosing jobs prior to changing them, and focus on how diagnostic conclusions can be translated into specific job enrichment strategies.

Based on the framework of Hackman, Oldham, Janson and Purdy (1991: 81) and incorporating the guidelines for the utilization of the Job Characteristics Model and the JDS as presented in Section 3.4, the following steps are proposed for managers to follow and the corresponding questions which they must answer when diagnosing work systems:

Step 1: Are motivation and satisfaction central to the problem? The manager must examine the scores of employees within a specific department or job category on the motivation and satisfaction scores of the diagnostic instrument. For those departments/job categories where motivation and satisfaction are problematic when compared with the norm, the manager would continue to step 2.

Step 2: Is the job low in motivating potential? The manager would examine the motivating potential score (MPS) of the target job and compare it to the norms as well as to the motivating potential score of other jobs in the organization to determine whether the characteristics of the target job are a probable cause of the motivation and satisfaction problems. If the MPS is low, the manager would continue to step 3; if not, attention should be given to other possible reasons in the immediate work environment, for example dissatisfaction with pay, job security, co-workers or supervision.

Step 3: What specific aspects of the job are causing the problem? This involves examining the target job with respect to each of the job characteristics to identify the specific strengths and weaknesses of the job and then compiling a profile which would illustrate the main causes of problems

compared with the norms.

Diagnostic conclusions should next be formulated and attention be given to the planning of specific action steps for introducing change. The profile and diagnostic conclusions indicate which job characteristics need remedial attention. The manager can use the following implementing concepts as a guideline in formulating a specific change strategy for certain problem target jobs. Each one of the following implementing concepts enriches the characteristics of a job as indicated in Figure 6.2.

- (a) **Combining tasks:** Both the skill variety and the task identity of a job can be increased by putting together existing, fractionalized tasks to form new and larger modules of work. When tasks are combined, the various tasks required to complete a given piece of work are performed by one person, rather than by a few individuals who do separate, smaller parts of a job. The job thus requires the application of a wider variety of skills and the worker identifies more strongly with a meaningful whole task.

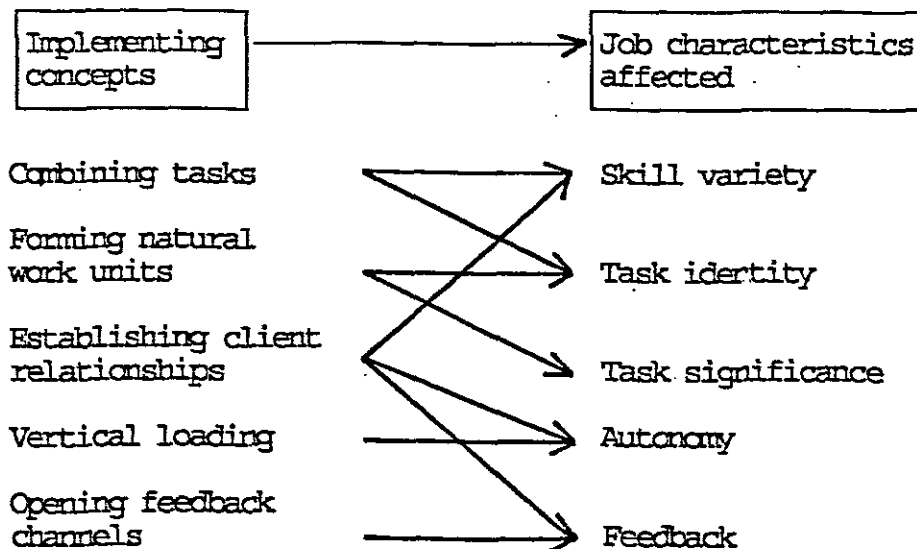


Figure 6.2 Relationships between the implementing concepts and the job characteristics (Hackman, Oldham, Janson & Purdy, 1999: 308)

- (b) **Forming natural work units:** When work is divided into natural work units, the various basic tasks given to workers are grouped into different meaningful categories. Ownership of a category or natural work unit is established and a specific worker thus accepts continuing responsibility for that unit. Even workloads need to be assigned. Under this arrangement, employees experience their tasks as a meaningful whole (task identity) and workers tend to develop a growing sense of how the completion of a natural work unit affects other people (task significance).
- (c) **Establishing client relationships:** Natural work units can often be formed around specific groups of clients of the work. It may be possible to put an employee in direct contact with those clients and give him or her continuing responsibility for managing relationships with them. Creating client relationships is a three-step process. First, the client must be identified. Second, the most direct contact possible between the worker and the client must be established. Third, criteria must be set up by which the client can judge the quality of the product or service (s)he receives. The client should have a means of relaying her/his judgements directly to the worker. Contact between worker and client should be as close as possible - face-to-face contact is highly desirable - and as frequent as necessary.

By enabling employees to establish direct relationships with the clients of their work, skill variety increases because of the need to exercise interpersonal skills in maintaining the client relationship as well as skills in completing the task itself. Autonomy increases because individuals have personal responsibility for deciding how to manage their relationships with the clients. Feedback increases because of additional opportunities for workers to obtain direct and immediate praise or criticism of their work outputs from the persons who receive the work.

- (d) **Vertical loading:** When a job is vertically loaded, autonomy increases. Workers are given increased control over the work as a result of managers delegating responsibility and authority that formerly were reserved for higher levels of management.

There are several ways to load a job vertically. Jobholders can be given discretion in setting schedules, determining work methods and deciding

when and how to check on the quality of the work produced. Employees can make their own decisions about when to start and stop work, when to take breaks, and how to assign priorities. Workers can also benefit from knowing something about the costs of their jobs and the potential effect upon profits. They should be encouraged to seek solutions to problems on their own, rather than always relying on the manager. The net effect of such changes should be an increase in workers' feelings of personal responsibility for their work and, ultimately, an improvement in their personal and work outcomes.

- (e) **Opening feedback channels:** In virtually all jobs there are ways to open channels of feedback to employees to help them learn whether their performance is improving, deteriorating or remaining at a constant level. It is better for a worker to receive feedback about her/his performance from the job itself, as it is more immediate and private than manager-supplied feedback. It increases the worker's feelings of personal control over the work and avoids many of the potentially disruptive interpersonal problems that can develop through feedback from the manager.

This change simply involves removing existing blocks that isolate the worker from naturally occurring data about performance. This includes establishing direct client relationships and making the worker, rather than external individuals, responsible for quality checks. Quality control should be placed close to the worker so that the worker does not regard it as someone else's concern. Performance records should not only be transmitted up in the organization, but feedback should be given to workers in order that they know how well they are performing and what possible improvements they need to make. As workers gain more knowledge of results, employee motivation, satisfaction and productivity should increase.

With the aid of the JDS and norms, managers can thus diagnose jobs in a specific organizational unit and introduce changes where remedial action is required. By utilizing the above-mentioned guidelines, managers can formulate action plans for change unique to the specific organizational circumstances with which they are faced.

6.3.2 Evidence of the validity and necessity of the proposed strategy

An application of this job enrichment technology offers evidence of increased

desirable performance and satisfaction results (Anthony, Perrewe, & Kacmar, 1999: 308-309). In this application of the Job Characteristics Model technology, sales jobs were redesigned in the following manner during a training session:

- A. **Skill variety.** The salespeople were asked to try to think of and use:
 - (a) different selling approaches,
 - (b) new merchandising displays, and
 - (c) better ways of recording sales and keeping records.
- B. **Task identity.** The salespeople were asked to:
 - (a) keep a personal record of daily sales volume,
 - (b) keep a daily record of number of sales/customers, and
 - (c) mark off an individual display area that they considered their own and keep it complete and orderly.
- C. **Task significance.** The salespeople were reminded that:
 - (a) selling a product was the basic overall objective of the store,
 - (b) the appearance of the display area was important to selling, and
 - (c) that they are "the store" to customers; they were told that courtesy and pleasantness help build the store's reputation and set the stage for future sales.
- D. **Autonomy.** The salespeople were:
 - (a) encouraged to develop and use their own unique approach and sales pitch,
 - (b) allowed freedom to select their own breaks and lunch times, and
 - (c) encouraged to make suggestions for improvements in any phase of policy or operations.
- E. **Feedback from the job itself.** Salespeople were:
 - (a) encouraged to keep personal records of their own sales and performance,
 - (b) encouraged to keep a sales/customer ratio, and
 - (c) reminded that establishing a good rapport with customers is also a success; they were told that if the potential customer leaves with a good feeling about the store and its employees, the salesperson has been successful.

Both the salespeople's functional (conversing with customers, showing products, handling returns, and so forth) and dysfunctional (socializing with co-workers or visitors, idly standing around, being gone for no legitimate reason) performance behaviours moved in the desired directions. Job satisfaction for this group also increased. A control group of salespeople, with everything else

the same except that they did not have their jobs redesigned, showed no change in their performance behaviours. Thus, there is evidence that the job characteristics technology can be applied practically with desirable performance and satisfaction results.

Job redesign technology has furthermore been implemented in a variety of work settings. Hospital nurses (Joiner & Marram van Servellen, 1984) and paraprofessionals in psychiatric facilities (Pommer & Streedback, 1974; Quilitch, 1975; Kreitner, Reif & Morris, 1977; Shook, Johnson & Uhlmann, 1978; Prue, Krapfl, Noah, Cannon & Maley, 1980) have shown gains in satisfaction and productivity following job redesign interventions. Goodstein (1988) stresses the desperate need for job redesign interventions specifically in the banking sector and Barnabe and Burns (1994) advocate the use of the Job Characteristics Model and interventions in the field of education.

Griffin (1991) investigated the long-term effects of job redesign on a number of perceptual, attitudinal and behavioural variables in the financial sector. For 526 bank tellers, the job redesign intervention significantly altered employee perceptions of job characteristics in the predicted and desired directions. These altered perceptions remained at their new level for the duration of the study. Attitudinal variables (satisfaction and commitment) also increased initially, but then diminished to their initial levels. Performance showed no change after six months, but significant improvements after 24 and 48 months. Kelly (1992) also shows that where employees did perceive an improvement in job content, they were likely to experience an increase in job satisfaction.

The results of the current study thus re-affirm the important role of managers and human resource practitioners in applying the afore-mentioned job enrichment technology. In so doing, the characteristics of jobs are changed in order to address problems related to employee demotivation, job dissatisfaction and marginal performance.

6.3.3 Life functioning and employee assistance programmes

The results of the study also show that life functioning does not account for significant amounts of outcome variance beyond the influence of the job characteristics. Life functioning is thus not a comprehensive moderator of all the relationships between the job characteristics and the personal outcomes.

This finding, however, does not imply that life functioning does not predict internal work motivation, general job satisfaction and growth satisfaction.

This study focussed on testing the moderator effects of life functioning on the relationships between the job characteristics and the personal outcomes and did not focus on the direct or main effects of life functioning on the personal outcomes. The result in essence means that it is not possible to significantly and meaningfully enhance the prediction of motivation and satisfaction by incorporating the influence of life functioning into the existing set of five job characteristics. This furthermore implies that the above-mentioned job enrichment technology should not be "redesigned" to accommodate measures to enhance the life functioning of the individual. This finding, however, does not negate the possible direct effect of life functioning on motivation, satisfaction and work performance.

Over and above the positive correlations reported in the current study (Table 5.5) between life functioning and the personal outcomes, the direct effects of life functioning on the personal outcomes and especially on work performance are well documented. Watson and Slack (1993: 199), for example, report that job satisfaction is not only a function of various characteristics related to jobs and organizations, but also reflects more broadly the ongoing lives of individuals. They furthermore indicate that the best prediction of personal and work outcomes is achieved when both dispositional and environmental variables are included.

An existing strategy employed by managers and human resource practitioners to enhance the quality of life functioning of workers entails introducing employee assistance programmes (EAPs) in the workplace. According to Park (1992: 15) EAPs are "a method of intervention designed to assist employees with declining work performance and to help restore them back to productive workers". EAPs are based on the philosophy that:

- (a) poor performance, job dissatisfaction and a lack of motivation in the workplace are due to problems relating to the individual's life functioning originating in both work and non-work domains, for example, alcohol or drug abuse, family or other personal problems, and;
- (b) if these problems are dealt with, performance, satisfaction and motivation will be restored and workers will enjoy a quality of worklife that will benefit both the individual and the organization.

Employee assistance programmes were originally developed in response to the growing problem of alcohol and drug abuse in the workplace. Today EAPs have a much broader and more comprehensive approach in order to help employees address other intra- and interpersonal problems, regardless of their origin, which may impact workers' performance on the job. According to Carrell, Elbert and Hatfield (1995: 597), the general philosophy of an EAP is the belief that while the employer has no right to interfere in an employee's personal life, it does have the right to set performance standards and to introduce sanctions when those standards are not met. It is for this very reason that employers offer a greater incentive for employees to seek treatment than a spouse, family or friends (Schultz & Schultz, 1994: 387).

Beach and Martin (1995: 23) indicate that professionals concerned with EAPs must consider the mental and physical health of employees within the broader context of the social influences and patterns of social relationships that stem from work and home. They state that EAP professionals need to confront the information about the potentially complex way that family experiences, work experiences and other psycho-social factors can influence workers and suggest new expanded intervention and prevention strategies that will benefit both employees and employers. Rivers' (1993) investigation of traumatic incidents within a metropolitan police force provides an example of such an EAP.

The current growth in company EAPs stems from the fact that they improve company profitability by reducing tardiness, accidents, absenteeism, turnover and medical claims. The recovery rate of EAP participants is three times that of the general public (Carrell, et al., 1995: 597). This could be attributed to:

- (a) the identification of problems early in their development;
- (b) the use of positive and negative employer reinforcement to motivate employees to continue EAP participation; and
- (c) EAP follow-up monitoring to minimize relapse problems.

The above references reflect the positive contribution of EAPs in enhancing the overall life functioning of individual workers, with associated organizational and personal benefits.

6.3.4 Conclusion

The results of this study and other published research highlight the importance

of utilizing job enrichment technology to remedy problems in the world of work relating to marginal performance, employee demotivation and job dissatisfaction. This technology offers:

- (a) A model (the Job Characteristics Model) that enables the manager to understand which conditions in the workplace will get workers to experience work motivation and job satisfaction, and render productive performance.
- (b) The JDS (Job Diagnostic Survey), which represents a comprehensive set of measurements with which the manager can diagnose the status quo of his/her organizational unit; job enrichment is done on the basis of data about jobs.
- (c) The results of studies which serve as normative data (Boonzaier & Boonzaier, 1994). This enables managers to compare their diagnoses with norms and to identify critical discrepancies.
- (d) A set of action steps based on the model and accompanying JDS which enables managers to formulate action plans to address discrepancies and guide the redesign of work, as well as strategic guidelines for selecting which implementing concepts are likely to be most beneficial in a given situation.

The evidence presented indicates that this technology is not merely defensible but a priority in order to address contemporary management issues in the workplace. In fact, trade unions ought to welcome the implementation of this technology as their members benefit first and foremost by personally experiencing their jobs as more satisfying and meaningful. However, the results of this study indicate that until the direct effects of life functioning on personal and work outcomes are empirically clarified, the inclusion of measures to enhance the life functioning of workers cannot be justified as part of job enrichment technology.

6.4 EVALUATION OF THE STUDY AND IMPLICATIONS FOR FUTURE RESEARCH

Several methodological aspects of the present study distinguish it from other studies on job redesign and merit emphasis.

Firstly, an evaluation of all the variables and the relationships between the variables of the Job Characteristics Model was conducted based on available empirical studies. Shortcomings of the model were subsequently collated. Previous studies (refer Chapters 2 and 3), however, focussed on a limited range of variables and/or relationships between variables of the model.

Secondly, the accumulated empirical evidence relating to the model includes no effort to revise the model comprehensively. This study purposed to revise the model in accordance with all the noted drawbacks and to test the proposed refinement empirically.

Thirdly, the model itself and studies relating to the model focus only on work-related person and environment factors as moderators of the specified relationships. The current investigation empirically tested a comprehensive moderator variable encompassing both work-related and non-work-related person and environment characteristics.

Fourthly, previous studies utilized the original format of the JDS or the partial revision as proposed by Idaszak and Drasgow (1987). The present analysis yielded a total revision of the JDS based on the dimensionality of the revised model and the guidelines from previous research.

Fifthly, a systematic stratified random sample was drawn from organized industry in the broader Cape Town area, thus representing a heterogeneous sample. This is contrary to many other job redesign studies where samples were clustered within specific companies or even within a specific cluster of job categories.

This study purposed to revise the Job Characteristics Model. In so doing, certain shortcomings and limitations of the study surfaced and consequently directions for future research are suggested:

- (a) The model was revised commensurate with available data from existing empirical studies. This revision of the model was then itself tested empirically. Consideration could also, however, have been given to a methodology whereby the proposed model could be evaluated statistically against the original model. Wall, Clegg and Jackson (1978) applied such a methodology by subjecting two alternative versions of the Job Characteristics Model to path analysis. Munz, Huelsman, Konold and McKinney (1996) also assessed different model improvements in like manner by calculating chi-square differences between competing models. Additionally, comparative fit indices (CFIs) and root mean squared residuals (RMSRs) were calculated and compared to specific standards for acceptable fit. Future researchers could explore the merits of these methodologies when exploring further revisions of the Job Characteristics Model.

A further methodological shortcoming is contained in the empirical studies on which the current revision of the model was based. In substantiation, Baron and Kenny (1986) refined the distinction between moderator and mediator methodologies in social psychological research because many studies were using these two terms and corresponding statistical techniques interchangeably with confusing consequences. As the current revision of the model is based on such possible confounding studies, future studies should possibly refocus on the mediating effect of psychological states and the moderating effect of growth-need strength when testing the variables and the relationships between the variables of the model.

- (b) Interrelationships among variables of the revised model were tested at a specific time. This cross-sectional or "snapshot" analysis does not grant the opportunity for the dynamic influence of a change in any one or more of the job characteristics to in fact manifest over time in the worker's experienced satisfaction with her/his job. By assessing the different variables and relationships between variables of the model over an extended period of time, researchers may learn more about causal patterns among the variables. Griffin (1991) did, however, make a contribution to addressing this gap in the research literature by examining the effects of job changes on specified outcomes over intervals of 6, 24 and 48 months. Wright and Staw (1999) also conducted two longitudinal field studies, one over four time periods and the second over two time periods. These latter studies focussed on the relationships between measures of affect and supervisory performance ratings. Barring these afore-mentioned studies though, further longitudinal and experimental research should be conducted relating to Job Characteristics Model development. Investigations of interactions, over time, between person and situation characteristics and their relationship to work outcomes are important for future research endeavours.
- (c) The five-factor subjective self-report job characteristics measures of the revised JDS were used as independent variables in this study. Researchers like Zaccaro and Stone (1988) indicate support for an expanded set of empirically-based measures of the job characteristics, thus not relying only on a priori formulations as was the case with the current study. Taber and Taylor (1990: 495) recommend as follows: "Additional measures should be developed that assess more job characteristics, that assess them more objectively, more reliably, and more specifically." Further enquiry into

the factor structure of the job characteristics (using the LISREL programme suggested by Harvey, Billings & Nillan, 1985), the nature of the MPS, and the subjectivity of the job characteristics are indicated and could benefit current job enrichment technology.

- (d) Internal work motivation, general job satisfaction and growth satisfaction were included in this study as dependent variables. Evidence cited in Section 6.3.3 indicates a direct link between problematic life functioning (which necessitates EAP interventions) and specifically work performance. Further studies relating to Job Characteristics Model development should include the influence of performance measures as a dependent variable. Also, the direct influence of employee assistance programmes on work behaviour needs to be further explored. These developments will naturally lead to the direct testing of the non-work/work spillover hypothesis suggested by Cohen (1997: 1515) within the confines of the Job Characteristics Model.
- (e) The impact of life functioning on the three dependent variables (internal work motivation, general job satisfaction and growth satisfaction) was only viewed in conjunction with the influence of the five job characteristics. Life functioning was introduced into the regression equation only after the five job characteristics. Interesting findings might come to the fore if life functioning were to be entered first. Also, studies on the influence of the separate direct effects of life functioning and the job characteristics on motivation and satisfaction could further clarify whether a worker's intention to resign can be better predicted by assessing non-work sources of satisfaction in addition to job satisfaction variables. This would, for example, impact on job selection, placement and transfers in that non-job features like satisfaction with recreational outlets, local lifestyles, housing arrangements, day-care centres for children and medical services would need to be considered in conjunction with job-related issues. The methodology employed by Morrison (1996), in examining the effect of a five-factor model of personality, subjective well-being, and various job characteristics on franchisee job satisfaction, may prove useful in guiding future research in this regard.
- (f) A paucity of studies exists where the impact of actual changes to job characteristics on work motivation, job satisfaction and work performance

are evaluated. In South-Africa, Boonzaier and Boonzaier (1994: 104) administered the JDS to more than 6000 employees and implemented enrichment principles in organizational change projects, but without assessing the subsequent impact of these changes. No other empirical research exists which deals specifically with the measured success of job enrichment interventions on personal and work outcomes within South African organizations.

- (g) Future research should also focus on affective states (for example positive and negative affect, and moods) within the confines of the model. Affective states may influence the way in which workers perceive work environments and dominant mood states may influence how workers describe their jobs. Also, affective states originating outside the domain of work could possibly directly influence how job characteristics are perceived and also influence more global perceptions of work, for example job satisfaction and work motivation. It is plausible that individuals may thus have successfully adjusted to the negative aspects of their work experiences by compensating in the non-work domains of life. Attempts at redesigning these jobs based on their perceptions of job characteristics only may be an unnecessary expense.
- (h) Further worker and work environment variables need to be identified, defined and examined as possible mediators and moderators of the relationships between the job characteristics and outcomes. These variables should be chosen on a sound theoretical basis. Efforts should also include the re-examination and modification of current Job Characteristic Model variables, for example psychological states, GNS and work environment characteristics. Relationships between personality and motivation could also be established. Current research relating to the effect of a five factor model of personality (Morrison, 1996), positive affect (Munz, Huelsman, Konold & McKirney, 1996), negative affectivity (Hochwarter, Zellars, Perrewe & Harrison, 1999) and dispositional affect (Wright & Staw, 1999) on job characteristics and work motivation and satisfaction provides examples of such developments.

6.5 SUMMARY OF THE STUDY

The Job Characteristics Model is widely accepted as a conceptual tool for addressing problems related to employee demotivation, dissatisfaction and

marginal performance. The validity of the Job Characteristics Model (Hackman & Oldham, 1980) was assessed by reviewing relevant studies of the model. The review and evaluation are based on studies testing the variables and the relationships between the variables as contained in the model.

The reviewed evidence confirmed that the dimensionality of the job characteristics is best represented by the five-factor solution as proposed by the model. The subjective self-report measures of the five job characteristics as formulated by the theory and measured by the revised Job Diagnostic Survey (JDS) were also supported. No evidence was found for the multiplicative Motivating Potential Score (MPS), and as a result the use of a simple additive index of job complexity is recommended as the predictor of personal and work outcomes. Strong empirical support emerged for the relationships between the job characteristics and the personal outcomes. Much weaker relationships between the job characteristics and the work outcomes, however, materialized. Results fail to support the mediating effect of psychological states on the job characteristics/outcomes relationships as specified by the model. The postulated relationships between job characteristics and psychological states were also not confirmed by empirical evidence. The role of growth-need strength, knowledge and skill, and work environment characteristics, as moderators of the relationships between job characteristics and psychological states, as well as of the relationships between psychological states and personal and work outcomes, was seriously questioned.

A more parsimonious Job Characteristics Model is consequently suggested and a commensurate revision of the JDS proposed. The construct life functioning was extrapolated from prior research conclusions and recommendations, and included in the revised model as a moderator of the relationships between the independent and dependent variables. The revised Job Characteristics Model proposes internal work motivation, general job satisfaction and growth satisfaction as dependent variables and the five job characteristics (skill variety, task identity, task significance, autonomy, and feedback) as independent variables. Furthermore, the revised model postulates that the presence of the five job characteristics determines the experience of the three personal outcomes. The effectiveness of this revision of the Job Characteristics Model was tested empirically by determining:

- (a) whether significant amounts of variance in the dependent variables were due to the job characteristics, and

(b) whether life functioning accounted for significant amounts of outcome variance beyond the influence of the job characteristics.

A systematic stratified random sample of 201 employees positioned in organized commerce and industry in the greater Cape Town area was drawn. Respondents provided data based on two questionnaires, namely the revised JDS and the Life Functioning Questionnaire (LFQ). Trained field-workers conducted structured interviews with respondents whereby the JDS was completed for each employee and respondents afterwards completed the LFQ themselves.

Hierarchical multiple regression analyses of the data confirmed strong support for the relationships between the job characteristics and the personal outcomes. Life functioning, however, did not account for significant amounts of outcome variance beyond the influence of the job characteristics, and is thus not a comprehensive moderator of the relationships in the revised Job Characteristics Model. The implications of the study for management and human resource practitioners are discussed and a human sciences technology for job enrichment interventions is presented as a priority in order to address contemporary management issues in the workplace related to employee demotivation, dissatisfaction and marginal performance.

REFERENCES

- Abdel-Halim, A.A. 1979. Individual and interpersonal moderators of employee reactions to job characteristics: A re-examination, *Personnel Psychology*, **32**: 121-137.
- Adler, S., Skov, R.B. & Salvemini, N.J. 1985. Job characteristics and job satisfaction: When cause becomes consequence, *Organizational Behavior and Human Decision Processes*, **35**: 266-278.
- Algera, J.A. 1983. Objective and perceived task characteristics as a determinant of reactions by task performers, *Journal of Occupational Psychology*, **56**: 95-107.
- Algera, J.A. 1984. Task characteristics. In Drenth, P.J.D., Thierry, H.K., Willems, P.J. & De Wolff, C.J. (Eds.), *Handbook of Work and Organizational Psychology*. New York: John Wiley.
- Algera, J.A. 1990. The job characteristics model of work motivation revisited. In Kleinbeck, H., Quast, H., Thierry, H. & Häcker, H. (Eds.), *Work Motivation*. London: Lawrence Erlbaum.
- Amos, T., Scott, J. & Scott, R. 1996. Perceptions of affirmative action: An empirical study, *South African Journal of Business Management*, **27**(3): 50-57.
- Anthony, W.P., Perrewe, P.L. & Kacmar, K.M. 1999. *Human Resource Management*. 3rd ed. Fort Worth: Dryden Press.
- Argyris, C. 1957. *Personality and Organization*. New York: Harper and Row.
- Armstrong, M. 1996. *A Handbook of Personnel Management Practice*. London: Kogan Page.
- Arnold, H.J. 1982. Moderator variables: a classification of conceptual, analytic and psychometric issues, *Organizational Behavior and Human Performance*, **29**: 143-174.
- Arnold, H.G. & House, R.J. 1980. Methodological and substantive extensions to the job characteristics model of motivation, *Organizational Behavior and Human Performance*, **25**: 161-183.

- Arvey, R.D., Bouchard, T.J., Segal, N.L. & Abraham, L.M. 1989. Job satisfaction: Environmental and genetic components, *Journal of Applied Psychology*, 74(2): 187-192.
- Arvey, R.D., Carter, G.W. & Buerkley, D.K. 1991. Job satisfaction: Dispositional and situational influences. In Cooper, C.L. & Robertson, I.T. (Eds.), *International Review of Industrial and Organizational Psychology*, 6: 359-383.
- Barnabe, C. & Burns, M. 1994. Teachers' job characteristics and motivation, *Educational Research*, 36(2): 171-185.
- Barney, J.B. & Wright, P.M. 1998. On becoming a strategic partner: The role of human resources in gaining competitive advantage, *Human Resources Management*, 37(1): 31-46.
- Baron, R.M. & Kenny, D.A. 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology*, 6: 1173-1182.
- Beach, S.R.H. & Martin, J.K. 1995. Work, family and health: The expanding role of EAP professionals, *Employee Counselling Today*, 7(4): 23-26.
- Becherer, R.C., Morgan, F.W. & Richard, L.M. 1982. The job characteristics of industrial salespersons: Relationship to motivation and satisfaction, *Journal of Marketing*, 46: 125-135.
- Bhagat, R.S. & Chassie, M.B. 1980. Effects of changes in job characteristics on some theory-specific attitudinal outcomes: Results from a naturally occurring quasi-experiment, *Human Relations*, 33: 297-313.
- Birnbaum, P.H., Farh, J. & Wong, G.Y.Y. 1986. The Job Characteristics Model in Hong Kong, *Journal of Applied Psychology*, 71(4): 598-605.
- Bloemhoff, H.J. 1993. 'n Diagnostiese opname van die werkbevrediging van rekreasiesentrum= personeel, S.A. *Journal for Research in Sport, Physical Education and Recreation*, 16(2): 1-12.
- Blood, M.R. & Hulin, C.L. 1967. Alienation, environmental characteristics, and worker responses, *Journal of Applied Psychology*, 51: 284-290.

- Boonzaier, B. 1995. The challenge of enhancing quality of work life, *CSD Bulletin*, July/August: 6-7.
- Boonzaier, B. & Boonzaier, M. 1994. The job diagnostic survey: a functional tool for South African managers, *South African Journal of Business Management*, 25(3): 101-109.
- Bouchard, T.J., Arvey, R.D., Keller, L.M. & Segal, N.L. 1992. Genetic influences on job satisfaction: A reply to Cropanzano and James, *Journal of Applied Psychology*, 77(1): 89-93.
- Brand, D. 1991. *Die effek van huwelikstatus op aspekte van geestesgesondheid van 'n groep mans*. Unpublished MA thesis. Stellenbosch: University of Stellenbosch.
- Brayfield, A.H. & Crockett, W.H. 1955. Employee attitudes and employee performance, *Psychological Bulletin*, 25(5): 396-424.
- Brief, A.P. & Aldag, R.J. 1975. Employee reactions to job characteristics: A constructive replication, *Journal of Applied Psychology*, 60: 182-186.
- Brief, A.P. & Aldag, R.J. 1976. Correlates of role indices, *Journal of Applied Psychology*, 61: 468-472.
- Britt, M.A. & Teevan, R.C. 1989. The relationship of fear of failure to growth need strength and the job characteristics model, *Psychological Reports*, 64: 899-905.
- Brousseau, K.R. 1983. Toward a dynamic model of job-person relationships: Findings, research questions, and implications for work system design, *Academy of Management Review*, 8(1): 33-45.
- Buchanan, D.A. 1979. *The Development of Job Design Theories and Techniques*. Westmead: Saxon House.
- Burke, B.G. 1999. Item reversals and response validity in the job diagnostic survey, *Psychological Reports*, 85: 213-219.

- Burke, R.J. & Greenglass, E.R. 1987. Work and family. In Cooper, C.L. & Robertson, I.T. (Eds.), *International Review of Industrial and Organizational Psychology*, 273-320.
- Caldwell, D.F. & O'Reilly, C.A. 1982. Task perceptions and job satisfaction: A question of causality, *Journal of Applied Psychology*, 67(3): 361-369.
- Carrell, M.R., Elbert, N.F. & Hatfield, R.D. 1995. *Human Resource Management: Global Strategies for Managing a Diverse Workforce*. 5th ed. Englewood Cliffs, N.J.: Prentice Hall.
- Cellar, D.F., Keman, M.C. & Barrett, G.V. 1985. Conventional wisdom and ratings of job characteristics: Can observers be objective?, *Journal of Management*, 11(3): 131-138.
- Champoux, J.E. 1980. A three sample test of some extensions to the job characteristics model of work motivation, *Academy of Management Journal*, 23: 466-478.
- Champoux, J.E. 1981. The moderating effect of work context satisfactions on the curvilinear relationship between job scope and affective responses, *Human Relations*, 34: 503-515.
- Champoux, J.E. 1991. A multivariate test of the job characteristics theory of work motivation, *Journal of Organizational Behavior*, 12: 431-446.
- Champoux, J.E. 1992. A multivariate analysis of curvilinear relationships among job scope, work context satisfactions and affective outcomes, *Human Relations*, 45(1): 87-109.
- Champoux, J.E. & Howard, P.D. 1989. Job design and work context reactions among medical technologists, *Journal of Applied Health*, 18: 177-187.
- Cherrington, D.J. & England, J.L. 1980. The desire for an enriched job as a moderator of the enrichment-satisfaction relationship, *Organizational Behavior and Human Performance*, 25: 139-159.
- Cohen, A. 1997. Nonwork influences on withdrawal cognitions: An empirical examination of an overlooked issue, *Human Relations*, 50(12), 1511-1536.

- Cordery, J.L. & Sevastos, P.P. 1993. Responses to the original and revised job diagnostic survey: Is education a factor in responses to negatively worded items?, *Journal of Applied Psychology*, 78(1): 141-143.
- Cox, D. & Sharp, K.M.D. 1951. Research on the unit of work, *Occupational Psychology*, 25(2): 90-108.
- Crohan, S.E., Antonucci, T.C., Adelman, P.K. & Coleman, L.M. 1989. Job characteristics and well-being at midlife, *Psychology of Women Quarterly*, 13: 223-235.
- Cropanzano, R. & James, K. 1990. Some methodological considerations for the behavioral genetic analysis of work attitudes, *Journal of Applied Psychology*, 75(4): 433-439.
- Cunningham, J.B. & Eberle, T. 1990. A guide to job enrichment and redesign, *Personnel*, February: 56-61.
- Davis, L.E. & Canter, R.R. 1956. Job design research, *Journal of Industrial Engineering*, 7: 275-282.
- Dessler, G. 1997. *Human Resource Management*. 7th ed. Upper Saddle River, N.J.: Prentice Hall.
- Dubinsky, A.J. & Skinner, S.J. 1984. Impact of job characteristics on retail salespeople's reaction to their jobs, *Journal of Retailing*, 60(2): 35-57.
- Dunham, R.B. 1976. The measurement and dimensionality of job characteristics, *Journal of Applied Psychology*, 61(4): 404-409.
- Dunham, R.B. 1977. Relationship of perceived job design characteristics to job ability requirements and job value, *Journal of Applied Psychology*, 62: 760-763.
- Dunham, R.B., Aldag, R.I. & Brief, A.P. 1977. Dimensionality of task design as measured by the Job Diagnostic Survey, *Academy of Management Journal*, 20: 209-223.

Elizur, D. 1991. Work and nonwork relations: The conical structure of work and home life relationship, *Journal of Organizational Behavior*, **12**: 313-322.

Elliot, J.D. 1953. Increasing office productivity through job enlargement, *The Human Side of the Office Manager's Job*, AMA Office Management Series, **134**: 5-15.

Evans, M.G., Kiggundu, M.N. & House, R.J. 1979. A partial test and extension of the job characteristics model of motivation, *Organizational Behavior and Human Performance*, **24**: 354-381.

Evans, M.G. & Ondrack, D.A. 1991. The motivational potential of jobs: Is a multiplicative mode necessary?, *Psychological Reports*, **69**: 659-672.

Ferris, G.R. & Gilmore, D.C. 1984. The moderating role of work context in job design research: A test of competing models, *Academy of Management Journal*, **27**: 885-892.

Ferris, G.R. & Gilmore, D.C. 1985. A methodological note on job complexity indexes, *Journal of Applied Psychology*, **70**: 225-227.

Forshaw, K.L. 1985. *Growth Need Strength as a Moderator Variable in Job Design*. MSocSc thesis. Cape Town: University of Cape Town.

Fox, S. & Feldman, G. 1988. Attention state and critical psychological states as mediators between job dimensions and job outcomes, *Human Relations*, **41**(3): 229-245.

Fried, Y. 1991. Meta-analytic comparison of the job diagnostic survey and job characteristics inventory as correlates of work satisfaction and performance, *Journal of Applied Psychology*, **76**(5): 690-697.

Fried, Y. & Ferris, G.R. 1986. The dimensionality of job characteristics: Some neglected issues, *Journal of Applied Psychology*, **71**(3): 419-426.

Fried, Y. & Ferris, G.R. 1987. The validity of the job characteristics model: A review and meta-analysis, *Personnel Psychology*, **40**: 287-322.

Frone, M.R., Russel, M. & Cooper, M.L. 1992. Prevalence of work – family conflict: Are work and family boundaries asymmetrically permeable?, *Journal of Organizational Behavior*, 13: 723-729.

Ganster, D.C. 1980. Individual differences and task design: A laboratory experiment, *Organizational Behavior and Human Performance*, 26: 131-148.

Gerber, P.D., Nel, P.S. & Van Dyk, P.S. 1995. *Human Resources Management*. 3rd ed. Halfway House: Southern.

Gerber, P.D., Nel, P.S. & Van Dyk, P.S. 1998. *Human Resources Management*. 4th ed. Halfway House: Thomson.

Gerhart, B. 1987. How important are dispositional factors as determinants of job satisfaction? Implications for job design and other personnel programs, *Journal of Applied Psychology*, 72(3): 366-373.

Global Advantage of South Africa Project Report. 1995. Cape Town: Monitor Company.

Goodstein, H. 1988. Redesigning work systems to enhance productivity, *The Bankers Magazine*, July/August: 64-67.

Graen, G., Novak, M.A. & Sommerkamp, P. 1982. The effects of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model, *Organizational Behavior and Human Performance*, 30: 109-131.

Graen, G.B., Scandura, T.A. & Graen, M.R. 1986. A field experimental test of the moderating effects of growth need strength on productivity, *Journal of Applied Psychology*, 71(3): 484-491.

Graham, A. 1978. *'n Ondersoek na die invloed van sekere taakeienskappe en individuele eienskappe op werkgedrag*. MCom thesis. Stellenbosch: University of Stellenbosch.

Griffeth, R.W. 1985. Moderation of the effects of job enrichment by participation: A longitudinal field experiment, *Organizational Behavior and Human Decision Processes*, 35: 73-93.

- Griffin, R.W. 1981. A longitudinal investigation of task characteristics relationships, *Academy of Management Journal*, **24**: 99-113.
- Griffin, R.W. 1983. Objective and social sources of information in task redesign: A field experiment, *Administrative Science Quarterly*, **28**: 184-200.
- Griffin, R.W. 1991. Effects of work redesign on employee perceptions, attitudes, and behaviors: A long-term investigation, *Academy of Management Journal*, **34**(2): 425-435.
- Guest, R.H. 1957. Job enlargement - a revolution in job design, *Personnel Administration*, **20**(2): 9-16.
- Hackman, J.R. 1980. Work redesign and motivation, *Professional Psychology*, **11**(3): 445-455.
- Hackman, J.R. & Lawler, E.E. 1971. Employee reactions to job characteristics, *Journal of Applied Psychology Monograph*, **55**: 259-286.
- Hackman, J.R. & Oldham, G.R. 1974. *The Job Diagnostic Survey: An Instrument for Diagnosing the Motivational Potential of Jobs*. Technical Report no. 4. Department of Administrative Sciences. Yale University.
- Hackman, J.R. & Oldham, G.R. 1975. Development of the Job Diagnostic Survey, *Journal of Applied Psychology*, **60**(2): 159-170.
- Hackman, J.R. & Oldham, G.R. 1976. Motivation through the design of work: Test of a theory, *Organizational Behavior and Human Performance*, **16**(2): 250-279.
- Hackman, J.R. & Oldham, G.R. 1980. *Work Redesign*. Philippines: Addison-Wesley.
- Hackman, J.R., Oldham, G.R., Janson, R. & Purdy, K.A. 1991. A new strategy for job enrichment. In Staw, B.M. *Psychological Dimensions of Organizational Behavior*. New York: Macmillan.
- Hackman, J.R., Oldham, G.R., Janson, R. & Purdy, K.A. 1999. In Anthony, W.P., Perrewe, P.L. & Kacmar, K.M., *Human Resource Management*. 3rd ed. Fort Worth: Dryden Press.

Hackman, J.R., Pearce, J.L. & Wolfe, J.C. 1978. Effects of changes in job characteristics on work attitudes and behaviors: A naturally occurring quasi-experiment, *Organizational Behavior and Human Performance*, **21**: 289-304.

Harding, D.W. 1931. A note on the subdivision of assembly work, *Journal of the National Institute of Industrial Psychology*, **5**(5): 261-264.

Harvey, R.J., Billings, R.S. & Nilan, K.J. 1985. Confirmatory factor analysis of the job diagnostic survey: Good news and bad news, *Journal of Applied Psychology*, **70**: 461-468.

Hawkes, G.R.; Guagnano, G.A., Smith, J. W. & Forest, M.K. 1984. The influence of work and nonwork factors on job satisfaction for Mexican-American male workers, *Rural Sociology*, **49**(1): 117-126.

Heimler, E. 1967. *Mental Illness and Social Work*. Harmondsworth: Penguin.

Heimler, E. 1975. *Survival in Society*. London: Weidenfeld and Nicholson.

Herzberg, F. 1968. One more time: How do you motivate employees?, *Harvard Business Review*, **46**(1): 53-62.

Herzberg, F. 1972. In Davis, L.E. & Taylor, J.C. (Eds.), *Design of Jobs*. Harmondsworth: Penguin.

Higgins, C.A. & Duxbury, L.E. 1992. Work-family conflict: A comparison of dual-career and traditional-career men, *Journal of Organizational Behavior*, **13**: 389-411.

Higgins, C.A., Duxbury, L.E. & Irving, R.H. 1992. Work-family conflict in the dual-career family, *Organizational Behavior and Human Decision Processes*, **51**: 51-75.

Hinton, M. & Biderman, M. 1995. Empirically derived job characteristics measures and the motivating potential score, *Journal of Business and Psychology*, **9**(4): 355-363.

Hochwarter, W.A., Zellars, K.L. Perrewe, P.L. & Harrison, A.W. 1999. The interactive role of negative affectivity and job characteristics: Are high-NA employees destined to be unhappy at work?, *Journal of Applied Social Psychology*, **29**(10): 2203-2218.

- Hogan, E.A. & Martell, D.A. 1987. A confirmatory structural equations analysis of the job characteristics model, *Organizational Behavior and Human Decision Processes*, **39**: 242-263.
- Hulin, C.L. & Blood, M.R. 1968. Job enlargement, individual differences, and worker responses, *Psychological Bulletin*, **69**: 41-55.
- Hunt, M., Head, T.C. & Sorensen, P.F. 1982. Job characteristics, job satisfaction, motivation and the role of context variables: A study of hospital pharmacists, *Psychological Reports*, **51**: 394.
- Idaszak, J.R., Bottom, W.P. & Drasgow, F. 1988. A test of the measurement equivalence of the revised job diagnostic survey: Past problems and current solutions, *Journal of Applied Psychology*, **73**(4): 647-656.
- Idaszak, J.R. & Drasgow, F. 1987. A revision of the job diagnostic survey: Elimination of a measurement artifact, *Journal of Applied Psychology*, **72**: 461-468.
- Jackson, P.R., Paul, L.J. & Wall, T.D. 1981. Individual differences as moderators of reactions to job characteristics, *Journal of Occupational Psychology*, **54**: 1-8.
- James, L.R. & Tetrick, L.E. 1986. Confirmatory analytic tests of three causal models relating job perceptions to job satisfaction, *Journal of Applied Psychology*, **71**(1): 77-82.
- Johns, G., Xie, J.L. & Fang, Y. 1992. Mediating and moderating effects in job design, *Journal of Management*, **18**(4): 657-676.
- Joiner, C. & Marram van Servellen, G. 1984. *Job Enrichment in Nursing: A Guide to Improving Morale, Productivity, and Retention*. Rockville: Aspen.
- Judge, T.A. & Hulin, C.L. 1993. Job satisfaction as a reflection of disposition: A multiple source casual analysis, *Organizational Behavior and Human Decision Processes*, **56**: 388-421.
- Judge, T.A. & Watanabe, S. 1993. Another look at the job satisfaction - life satisfaction relationship, *Journal of Applied Psychology*, **78**(6): 939-948.

- Katerberg, R., Hom, P.W. & Hulin, C.L. 1979. Effects of job complexity on the reactions of part-time employees, *Organizational Behavior and Human Performance*, **24**: 317-332.
- Katz, R. 1978. The influence of job longevity on employee reactions to task characteristics, *Human Relations*, **31**(8): 703-725.
- Kelly, J. 1992. Does job re-design theory explain job re-design outcomes?, *Human Relations*, **45**(8): 753-774.
- Kemp, D.R. 1994. *Mental Health in the Workplace: An Employer's and Manager's Guide*. Westport: Greenwood.
- Kemp, N.J. & Cook, J.D. 1983. Job longevity and growth need strength as joint moderators of the task design - job satisfaction relationship, *Human Relations*, **36**(10): 883-898.
- Kiggundu, M.N. 1980. An empirical test of the theory of job design using multiple job ratings, *Human Relations*, **33**, 339-351.
- Kim, J.S. & Schuler, R.S. 1979. The nature of the task as a moderator of the relationship between extrinsic feedback and employee responses, *Academy of Management Journal*, **22**, 157-162.
- King, N. 1970. Clarification and evaluation of the two-factor theory of job satisfaction, *Psychological Bulletin*, **74**(1): 18-31.
- Kirchmeyer, C. 1992. Nonwork participation and work attitudes: A test of scarcity vs. expansion models of personal resources, *Human Relations*, **45**(8): 775-794.
- Kopelman, R.E., Greenhaus, J.H. & Connolly, T.F. 1983. A model of work, family and interrole conflict: A construct validation study, *Organizational Behavior and Human Performance*, **32**: 198-215.
- Kreitner, R., Reif, W.E. & Morris, M. 1977. Measuring the impact of feedback on the performance of mental health technicians, *Journal of Organizational Behavior Management*, **1**: 105-109.

- Kruger, S.J., Smit, E. & Le Roux, W.L.D. 1996. *Basic Psychology for Human Resources Practitioners*. Kenwyn: Juta.
- Kulik, C.T., Oldham, G.R. & Hackman, J.R. 1987. Work design as an approach to person - environment fit, *Journal of Vocational Behavior*, 31: 278-296.
- Kulik, C.T., Oldham, G.R. & Langner, P.H. 1988. Measurement of job characteristics: Comparison of the original and the revised job diagnostic survey, *Journal of Applied Psychology*, 73(3): 462-466.
- Lee, R. & Klein, A.R. 1982. Structure of the job diagnostic survey for public sector occupations, *Journal of Applied Psychology*, 67: 515-519.
- Lee, R., McCabe, D.J. & Graham, W.K. 1983. Multivariate relationships between job characteristics and job satisfaction in the public sector: A triple cross-validation study, *Multivariate Behavioral Research*, 18: 47-62.
- Levin, I. & Stokes, J.P. 1989. Dispositional approach to job satisfaction: Role of negative affectivity, *Journal of Applied Psychology*, 74(5): 752-758.
- Levine, M.F., Taylor, J.C. & Davis, L.E. 1984. Defining quality of working life, *Human Relations*, 37(1): 81-104.
- Liou, K., Sylvia, R.D. & Brunk, G. 1990. Non-work factors and job satisfaction revisited, *Human Relations*, 43(1): 77-86.
- Loher, B.T., Noe, R.A., Moeller, N.L. & Fitzgerald, M.P. 1985. A meta-analysis of the relation of job characteristics to job satisfaction, *Journal of Applied Psychology*, 70: 280-289.
- Loscocco, K.A. 1989. The interplay of personal and job characteristics in determining work commitment, *Social Science Research*, 18: 370-394.
- Loscocco, K.A. & Roschelle, A.R. 1991. Influences of the quality of work and nonwork life: Two decades in review, *Journal of Vocational Behavior*, 39: 182-225.

Lounsbury, J.W., Gordon, S.R., Bergermaier, R.L. & Francesco, A.M. 1982. Work and nonwork sources of satisfaction in relation to employee intention to turnover, *Journal of Leisure Research*, 14: 285-293.

Lounsbury, J.W. & Hoopes, L.L. 1986. A vacation from work: Changes in work and nonwork outcomes, *Journal of Applied Psychology*, 71(3): 392-401.

Luthans, F. 1995. *Organizational Behavior*. 7th ed. New York: McGraw - Hill.

Maillet, L.J. 1984. Influence of perceived job enrichment and goal characteristics on employees' satisfaction, motivation, and performance, *Psychological Reports*, 54: 131-137.

Maller, J. 1988. Employee assistance programmes - a new approach to workplace productivity?, *IPM Journal*, May: 21-24.

Maslow, A.H. 1943. A theory of human motivation, *Psychological Review*, 50: 370-396.

Maslow, A.H. 1954. *Motivation and Personality*. New York: Harper.

Mathieu, J.E., Hofmann, D.A. & Farr, J.L. 1993. Job perception - job satisfaction relations: An empirical comparison of three competing theories, *Organizational Behavior and Human Decision Processes*, 56: 370-387.

Milkovich, G.T. & Boudreau, J.W. 1997. *Human Resource Management*. 8th ed. Chicago: Irwin.

Miner, J.B. 1980. *Theories of Organizational Behavior*. Hinsdale: Dryden.

Mol, A.J. 1990. Motivating subordinates, *IPM Journal*, March: 19-23.

Morrison, K.A. 1996. An empirical test of a model of franchisee job satisfaction, *Journal of Small Business Management*, 27-41.

Morse, S.J. & Orpen, C. 1975. *Contemporary South Africa: Social Psychological Perspectives*. Cape Town: Juta.

Mullins, L.J. 1993. *Management and Organizational Behavior*. 3rd ed. Pitman.

Munz, D.C., Huelsman, T.J., Konold, T.R. & McKinney, J.J. 1996. Are there methodological and substantive roles for affectivity in job diagnostic survey relationships?, *Journal of Applied Psychology*, **81**(6): 795-805.

Nel, P.S., Gerber, P.D., Van Dyk, P.S., Haasbroek, G.D., Schultz, H.B., Sono, T. & Werner, A. 2001. *Human Resources Management*. 5th ed. Cape Town: Oxford University Press.

Nevid, J.S., Rathus, S.A. & Greene, B. 1997. *Abnormal Psychology in a Changing World*. 3rd ed. Englewood Cliffs, N.J.: Prentice Hall.

Noe, R.A., Hollenbeck, J.R., Gerhart, B. & Wright, P.M. 1997. *Human Resources Management*. Second Edition. Chicago: Irwin.

Nunnally, J.C. 1967. *Psychometric Theory*. New York: McGraw-Hill.

O'Brien, G.E. 1982. Evaluation of the job characteristics theory of work attitudes and performance, *Australian Journal of Psychology*, **34**(3): 383-401.

Oldham, G.R. 1976. Job characteristics and internal motivation: The moderating effect of interpersonal and individual variables, *Human Relations*, **29**(6): 559-569.

Oldham, G.R. & Brass, D.I. 1979. Employee reactions to an open-plan office: A naturally occurring quasi-experiment, *Administrative Science Quarterly*, **24**: 267-284.

Oldham, G.R., Hackman, J.R. & Pearce, J.L. 1976. Conditions under which employees respond positively to enriched work, *Journal of Applied Psychology*, **61**(4): 395-403.

Oldham, G.R., Hackman, J.R. & Stepina, L.P. 1979. Norms for the Job Diagnostic Survey. *Journal Supplement Abstract Service Catalog of Selected Documents in Psychology*, **9**: 14.

Ondrack, D.A. & Evans, M.G. 1986. Job enrichment and job satisfaction in quality of working life and nonquality of working life work sites, *Human Relations*, **39**(9): 871-889.

Orpen, C. 1979. The effects of job enrichment on employee satisfaction, motivation, involvement, and performance: A field experiment, *Human Relations*, **32**: 189-217.

Orpen, C. 1983. *Westernization as a moderator of the effect of job characteristics on employee reactions: An empirical study among black workers in South Africa*. Pretoria: HSRC.

Ostroff, C. 1993. The effects of climate and personal influences on individual behavior and attitudes in organizations, *Organizational Behavior and Human Decision Processes*, **56**: 56-90.

Pargament, K.I. 1986. Refining fit: Conceptual and methodological challenges, *American Journal of Community Psychology*, **14**(6): 677-683.

Park, D.A. 1992. Client satisfaction evaluation: University employee assistance program, *Employee Assistance Quarterly*, **8**(2): 15-25.

Pokorney, I., Gilmore, D. & Beehr, T. 1980. Job diagnostic survey dimensions: Moderating effect of growth needs and correspondence with dimensions of job rating form, *Organizational Behavior and Human Performance*, **26**: 222-237.

Pommer, D.A. & Streedback, D. 1974. Motivating staff performance in an operant learning program for children, *Journal of Applied Behavior Analysis*, **7**: 217-221.

Porter, L.W. & Lawler, E.E. 1968. *Managerial Attitudes and Performance*. Homewood: Irwin.

Prinsloo, R.J. 1993. *Human Sciences Technology: Ways of Solving Problems in the Human Domain*. Pretoria: HSRC.

Prue, D.M., Krapfl, J.E., Noah, J.C., Cannon, S. & Maley, R.F. 1980. Managing treatment activities of state hospital staff, *Journal of Organizational Behavior Management*, **2**: 165-181.

Quilitch, H.R. 1975. A comparison of three staff-management procedures, *Journal of Applied Behavior Analysis*, **8**: 59-66.

Rain, J.S., Lane, I.M. & Steiner, D.D. 1991. A current look at the job satisfaction / life satisfaction relationship: Review and future considerations, *Human Relations*, **44**(3): 287-304.

- Renn, R.W. 1989. *A Holistic Evaluation of the Job Characteristics Model: A Longitudinal Structural Equation Analysis*. DPhil thesis. Georgia State University.
- Renn, R.W. & Vandenberg, R.J. 1995. The critical psychological states: An underrepresented component in job characteristics model research, *Journal of Management*, **21**(2): 279-303.
- Repetti, R.L. & Cosmas, K.A. 1991. The quality of the social environment at work and job satisfaction, *Journal of Applied Social Psychology*, **21**: 840-854.
- Rice, R.W., Frone, M.R. & McFarlin, D.B. 1992. Work - nonwork conflict and the perceived quality of life, *Journal of Organizational Behavior*, **13**: 155-168.
- Rivers, K. 1993. Traumatic stress: An occupational hazard, *Employee Counselling Today*, **5**(1): 4-6.
- Roberts, K.H. & Glick, W.H. 1981. The job characteristics approach to task design: A critical review, *Journal of Applied Psychology*, **66**: 193-217.
- Robertson, I.T. & Smith, M. 1985. *Motivation and job design: Theory, research and practice*. Bradford on Avon: Dotesios.
- Roe, R.A. 1984. Individual characteristics. In Drenth, P.J.D., Thierry, H., Willems, P.J. & De Wolff, C.J. (Eds.), *Handbook of Work and Organizational Psychology*. New York: John Wiley.
- Rose, D. & Sullivan, O. 1996. *Introducing Data Analysis for Social Scientists*. 2nd ed. Bristol, Pa. : Open University Press.
- Salancik, G.R. & Pfeffer, J. 1977. An examination of need satisfaction models of job attitudes, *Administrative Science Quarterly*, **22**: 427-456.
- Schmitt, N. & Mellon, P.M. 1980. Life and job satisfaction: Is the job central?, *Journal of Vocational Behavior*, **16**: 51-58.
- Schultz, D.P. & Schultz, S.E. 1994. *Psychology and Work Today*. 6th ed. New York: Macmillan.

Schwab, K., Porter, M.E., Sachs, J.D., Warner, A.M. & Levinson, M. 1999. *The Global Competitiveness Report*. New York: Oxford University Press.

Shook, G.L., Johnson, C.M. & Uhlmann, W.F. 1978. The effect of response effort reduction, instructions, group and individual feedback, and reinforcement on staff performance. *Journal of Organizational Behavior Management*, 1: 206-215.

Sims, H.P., Szilagyi, A.D. & Keller, R.T. 1976. The measurement of job characteristics, *Academy of Management Journal*, 19(2): 195-212.

Sloboda, J.A., Hopkins, J.S., Turner, A., Rogers, D. & McLeod, J. 1993. An evaluated staff counselling programme in a public sector organization, *Employee Counselling Today*, 5(5): 4-12.

Smith, P.C. & Lem, C. 1955. Positive aspects of motivation in repetitive work: Effects of lot size upon spacing of voluntary work stoppages, *Journal of Applied Psychology*, 39(5): 330-333.

Spector, P.E. 1985. Higher-order need strength as a moderator of the job scope - employee outcome relationship: A meta-analysis, *Journal of Occupational Psychology*, 58: 119-127.

Spector, P.E. & Jex, S.M. 1991. Relations of job characteristics from multiple data sources with employee affect, absence, turnover intentions and health, *Journal of Applied Psychology*, 76(1): 46-53.

Staw, B.M. & Ross, J. 1985. Stability in the midst of change: A dispositional approach to job attitudes, *Journal of Applied Psychology*, 70: 469-480.

Steers, R.M. & Porter, L.W. 1991. *Motivation and Work Behavior*. Singapore: McGraw-Hill.

Stone, E.F. 1986. Job scope – job satisfaction and job scope – job performance relationships. In Locke, E.A. (Ed.), *Generalizing from laboratory to field settings*. Lexington, Mass.: Lexington.

Stone, E.F. & Hollenbeck, J.R. 1989. Clarifying some controversial issues surrounding statistical procedures for detecting moderator variables: Empirical evidence and related matters, *Journal of Applied Psychology*, 74(1): 3-10.

- Stone, E.F. & Porter, L.W. 1978. On the use of incumbent-supplied job characteristics data, *Perceptual and Motor Skills*, **46**: 751-758.
- Stoner, J.A.F. & Freeman, R.E. 1992. *Management*. 5th ed. Englewood Cliffs, N.J.: Prentice Hall.
- Swanson, J.L. 1992. Vocational behavior, 1989-1991: Life-span career development and reciprocal interaction of work and nonwork, *Journal of Vocational Behavior*, **41**: 101-161.
- Tabachnick, B.G. & Fidell, L.S. 1983. *Using Multivariate Statistics*. New York: Harper and Row.
- Taber, T.D., Beehr, T.A. & Walsh, J.T. 1985. Relationships between job evaluation ratings and self-ratings of job characteristics, *Organizational Behavior and Human Decision Processes*, **35**: 27-45.
- Taber, T.D. & Taylor, E. 1990. A review and evaluation of the psychometric properties of the Job Diagnostic Survey, *Personnel Psychology*, **43**: 467-500.
- Taylor, F.W. 1911. *The Principles of Scientific Management*. New York: Harper and Row.
- Teas, R.K. 1981. A test of a model of department store salespeople's job satisfaction, *Journal of Retailing*, **57**: 3-26.
- Teas, R.K. 1982. Performance – Reward Instrumentalities and the Motivation of Retail Salespeople, *Journal of Retailing*, **58**: 4-26.
- Terborg, J.R. & Davis, G.A. 1982. Evaluation of a new method for assessing change to planned job redesign as applied to Hackman and Oldham's job characteristic model, *Organizational Behavior and Human Performance*, **29**: 112-128.
- Thierry, H.K. & Koopman-Iwema, A.M. 1984. Motivation and satisfaction. In Drenth, P.J.D., Thierry, H.K., Willems, P.J. & De Wolff, C.J. (Eds.), *Handbook of Work and Organizational Psychology*. New York: John Wiley.
- Turner, A.N. & Lawrence, P.R. 1965. *Industrial Jobs and the Worker*. Boston: Harvard University Press.

- Turner, A.N. & Miclette, A.L. 1962. Sources of satisfaction in repetitive work, *Occupational Psychology*, 36(4): 215-231.
- Umstot, D.D., Bell, C.H. & Mitchell, T.R. 1976. Effects of job enrichment and task goals on satisfaction and productivity: Implications for job design, *Journal of Applied Psychology*, 61: 379-394.
- Van Assen, A. & Den Hertog, F.J. 1984. From job rotation to organizational design. In Drenth, P.J.D., Thierry, H.K., Willems, P.J. & De Wolff, C.J. (Eds.), *Handbook of Work and Organizational Psychology*. New York: John Wiley.
- Van Zyl, M.A. 1986. *The Validation of the Heimler Scale of Social Functioning (HSSF) for Client Groups in South Africa*. PhD thesis. Durban: University of Natal.
- Van Zyl, M.A. 1989. Towards an understanding of social functioning – An exercise in operationalizing a concept: Part one, *The Social Work Practitioner/Researcher*, June: 11-17.
- Vecchio, R.P. 1980. Worker alienation as a moderator of the job quality - job satisfaction relationship: The case of racial differences, *Academy of Management Journal*, 23(3): 479-486.
- Vecchio, R.P. & Keon, T.L. 1981. Predicting employee satisfaction from congruency among individual need, job design, and system structure, *Journal of Occupational Behavior*, 2: 283-292.
- Wahba, M.A. & Bridwell, L.G. 1983. Maslow reconsidered. In Steers, R.M. & Porter, L.W. (Eds.), *Motivation and Work*. New York: McGraw-Hill.
- Walker, C.R. 1950. The problem of the repetitive job, *Harvard Business Review*, 28(3): 54-58.
- Walker, C.R. & Guest, R.H. 1952. *The Man on the Assembly Line*. Cambridge, Mass.: Harvard University Press.
- Walker, J. & Marriot, R. 1951. A study of some attitudes to factory work, *Occupational Psychology*, 25(3): 181-191.

- Wall, T.D. & Clegg, C.W. 1981. A longitudinal field study of group work redesign, *Journal of Occupational Behavior*, 2: 31-49.
- Wall, T.D., Clegg, C.W. & Jackson, P.R. 1978. An evaluation of the job characteristics model, *Journal of Occupational Psychology*, 51: 183-196.
- Wall, T.D. & Martin, R. 1987. Job and work design. In Cooper, C.L. & Robertson, I.T. (Eds.), *International Review of Industrial and Organizational Psychology*. New York: John Wiley.
- Walsh, J.T., Taber, T.D. & Beehr, T.A. 1980. An integrated model of perceived job characteristics. *Organizational Behavior and Human Performance*, 25: 252-267.
- Walters, R.W. 1975. *Job Enrichment for Results: Strategies for Successful Implementation*. Reading, Mass.: Addison-Wesley.
- Warr, P.B. 1987. *Work, Unemployment and Mental Health*. Oxford: Oxford University Press.
- Watson, D. & Slack, A. 1993. General factors of affective temperament and their relation to job satisfaction over time, *Organizational Behavior and Human Decision Processes*, 54: 181-202.
- Wiesner, R. & Vermeulen, L.P. 1997. Revised job design practices for future South African organizations, *South African Journal of Economic and Management Sciences*, 21: 175-196.
- Willer, L.R. 1991. Identifying screening abilities to reduce the uncertainty of worker - task - environment fit, *Performance Improvement Quarterly*, 4(2): 2-10.
- Winnubst, J.A.M. 1984. Stress in organizations. In Drenth, P.J.D., Thierry, H.K., Willems, P.J. & De Wolff, C.J. (Eds.), *Handbook of Work and Organizational Psychology*. New York: John Wiley.
- Worthy, J.C. 1950. Organizational structure and employee morale, *American Sociological Review*, 15(2): 169-179.
- Wright, T.A. & Staw, B.M. 1999. Affect and favorable work outcomes: two longitudinal tests of the happy – productive worker thesis, *Journal of Organizational Behavior*, 20:1-23.

- Xie, J.L. & Johns, G. 1995. Job scope and stress: Can job scope be too high?, *Academy of Management Journal*, **38**(5): 1288-1309.
- Yeh, Q. 1996. Relating management practices to job characteristics of R & D: The case of Taiwan, *Asia Pacific Journal of Management*, **13**(1): 1-18.
- Zaccaro, S.J. & Stone, E.F. 1988. Incremental validity of an empirically based measure of job characteristics, *Journal of Applied Psychology*, **73**(2): 245-252.

APPENDIX A

The Revised Job Diagnostic Survey

The Job Diagnostic Survey is used to diagnose jobs and how people react to them. The questionnaire is useful in determining how jobs can be better designed, by obtaining information about how people react to different kinds of jobs.

On the following pages you will find several different questions relating to your job. Specific instructions are given at the start of each section. The questions are designed to obtain *your* perceptions of your job and *your* reactions to it. There are no trick questions. Your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your co-operation.

SECTION ONE

This part of the questionnaire asks you to describe your job, as *objectively* as you can.

Please do *not* use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and as objective as you possibly can.

A sample question is given below:

A. To what extent does your job require you to work with mechanical equipment?

1-----2-----3-----4-----5-----6-----7

Very little; the job requires almost no contact with mechanical equipment of any kind.

Moderately.

Very much; the job requires almost constant work with mechanical equipment.

If, for example, your job requires you to work with mechanical equipment a good deal of the time - but also requires some paperwork - you might indicate a number 6 on the separate answer sheet.

If you do not understand these instructions, please ask for assistance.

1 How much *autonomy* is there in your job? That is, to what extent does your job permit you to decide *on your own* how to go about doing the work?

1-----2-----3-----4-----5-----6-----7

Very little; the job gives me almost no personal "say" about how and when the work is done.

Moderate autonomy; many things are standardised and not under my control, but I can make some decisions about the work.

Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

2 To what extent does your job involve doing a "*whole*" and *identifiable piece of work*? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small *part* of the overall piece of work, which is finished by other people or by automatic machines?

1-----2-----3-----4-----5-----6-----7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.

My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

- 3 How much *variety* is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1-----2-----3-----4-----5-----6-----7

Very little; the job requires me to do the same routine things over and over again.

Moderate variety.

Very much; the job requires me to do many different things, using a number of different skills and talents.

- 4 In general, how *significant or important* is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1-----2-----3-----4-----5-----6-----7

Not very significant; the outcomes of my work are *not* likely to have important effects on other people.

Moderately significant.

Highly significant; the outcomes of my work can affect other people in very important ways.

- 5 To what extent does *doing the job itself* provide you with information about your work performance? That is, does the actual *work itself* provide clues about how well you are doing - aside from any "feedback" co-workers or supervisors may provide?

1-----2-----3-----4-----5-----6-----7

Very little; the job itself is set up so that I could work forever without finding out how well I am doing.

Moderately; sometimes doing the job provides "feedback" to me; sometimes it does not.

Very much; the job is set up so that I get almost constant "feedback" as I work about how well I am doing.

SECTION TWO

Listed below are a number of statements which could be used to describe a job.

Please indicate whether each statement is an *accurate* or an *inaccurate* description of *your* job.

Once again, please try to be as objective as you can in deciding how accurately each statement describes your job - regardless of whether you like or dislike your job.

Write a number on the separate answer sheet based on the following scale:

How accurate is the statement in describing your job?

1	2	3	4	5	6	7
Very	Mostly	Slightly	Uncertain	Slightly	Mostly	Very
Inaccurate	Inaccurate	Inaccurate		Accurate	Accurate	Accurate

1. The job requires me to use a number of complex or high-level skills.

2. The job is arranged so that I can do an entire piece of work from beginning to end.

3. Just doing the work required by the job provides many chances for me to figure out how well I am doing.

4. The job allows me to use a number of complex or high-level skills.
5. This job is one where a lot of other people can be affected by how well the work gets done.
6. The job gives me a chance to use my personal initiative and judgement in carrying out the work.
7. The job provides me with the chance to completely finish the pieces of work that I begin.
8. After I finish a job, I know whether I performed well.
9. The job gives me considerable opportunity for independence and freedom in how I do the work.
10. The job itself is very significant and important in the broader scheme of things.

SECTION THREE

Now please indicate *how you personally feel about your job*.

Each of the statements below is something that a person might say about his or her job. Please indicate your own personal *feelings* about your job by indicating to what extent you agree with each of the statements.

Write a number on the separate answer sheet based on this scale:

How much do you agree with the statement?

- | | | | | | | |
|----------|----------|----------|---------|----------|-------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Disagree | Disagree | Disagree | Neutral | Agree | Agree | Agree |
| Strongly | | Slightly | | Slightly | | Strongly |

1. My opinion of myself goes up when I do this job well.
2. Generally speaking, I am very satisfied with this job.
3. I feel a great sense of personal satisfaction when I do this job well.
4. I seldom think of quitting this job.
5. I feel good and happy when I discover that I have performed well on this job.
6. I am generally satisfied with the kind of work I do in this job.
7. My own feelings are generally affected by how well I do in this job.

SECTION FOUR

Now please indicate how *satisfied* you are with each aspect of your job listed below.

Once again, indicate on the separate answer sheet the appropriate number for each statement:

How satisfied are you with this aspect of your job?

1	2	3	4	5	6	7
Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Satisfied	Extremely Satisfied

1. The amount of personal growth and development I get in doing my job.

2. The feeling of worthwhile accomplishment I get from doing my job.

3. The amount of independent thought and action I can exercise in my job.

4. The amount of challenge in my job.

SECTION FIVE

Now please think of the *other people* in your organization who hold the same job that you do. If no one has exactly the same job as you, think of the job which is most similar to yours.

Please think about how accurately each of the statements describes the feelings of those people about the job.

It is quite all right if your answers here are different from when you described your *own* reactions to the job. Often different people feel quite differently about the same job.

Once again indicate on the separate answer sheet a number based on this scale:

How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

1. Most people in this job feel a great sense of personal satisfaction when they do the job well.

2. Most people in this job are very satisfied with the job.

3. People in this job seldom think of quitting.

4. Most people in this job feel good or happy when they find that they have performed the work well.

APPENDIX B

LIFE FUNCTIONING QUESTIONNAIRE

The following questions are designed to obtain your perceptions of your functioning as an individual. There are no "trick" questions. Your answers will be kept completely confidential. Only the researcher will have access to your answers. Please answer each item as honestly and frankly as possible.

Note that all answers must be indicated in the appropriate block on the SEPARATE ANSWER SHEET.

This questionnaire asks you questions about your work, family, friends and personal life.

Answer each question by *writing a number in the appropriate block on your answer sheet* based on the following scale:

YES	4
PERHAPS	2
NO	0

If, for example, your answer to a specific question is "perhaps", you must indicate a number "2" in the appropriate block on the separate answer sheet. Please answer all questions. Do not leave any blocks open.

Thank you.

.....

YES	4
PERHAPS	2
NO	0

WORK

- 1 Do you like the work you are doing?
- 2 On the whole, do you like the people you work with?
- 3 Do you feel you are doing the right kind of work?
- 4 Have you any really satisfying hobbies or interests outside work?
- 5 Have you enough opportunity for getting on in your work?

FINANCIAL

- 6 Do you live more comfortably than you did two years ago?
- 7 Are you able to save?
- 8 Do you feel at ease about spending?
- 9 Are you reasonably secure financially?
- 10 Do you *feel* financially secure?

FRIENDSHIP

- 11 Have you a close friend in whom you can confide?
- 12 Outside your family, do you feel there are people who care about you?
- 13 Do you enjoy making acquaintances?
- 14 Would you want your friends to turn to you with their problems?
- 15 Do you enjoy entertaining or treating people?

FAMILY

Fill in either section (a) or (b).

- (a) (Single, widowed, divorced, separated)

- 16 When you look back do you feel happy about your childhood?
- 17 Did you have a secure childhood?
- 18 Did you feel that there were people in your childhood who really cared?
- 19 On the whole, do you think your childhood was a good preparation for adult life?
- 20 Would you want your family to turn to you with their problems?

YES	4
PERHAPS	2
NO	0

(b) (Married or cohabiting)

- 16 Are you interested in your partner's hobbies and/or activities?
 17 Do you discuss your financial, work or other problems with your partner?
 18 Do you enjoy family life?
 19 Do you feel that your partner understands you?
 20 Do you feel that you understand your partner?

PERSONAL

Fill in either section (a) or (b).

(a) (Married or cohabiting)

- 21 Are you really satisfied with your marriage?
 22 Do you feel that your partner really cares about you?
 23 Does sex bring you much enjoyment in your marriage?
 24 Do you like to be with children?
 25 Can you relax?

(b) (Single, widowed, divorced, separated)

- 21 Do you like being single?
 22 Do you like the company of the opposite sex?
 23 Do you like children?
 24 Does sex bring you much enjoyment?
 25 Can you relax?

ENERGY

- 26 Do you feel overworked?
 27 Do you feel too tired to work?
 28 Do you find that your mind is under-active?
 29 Do you feel too tired to enjoy life?
 30 Do you feel frustrated because you are prevented from doing things properly?

YES	4
PERHAPS	2
NO	0

HEALTH

- 31 Do you have frequent headaches?
- 32 Do you suffer from aches and pains?
- 33 Is sex an unwelcome activity in your life?
- 34 Are you concerned about your health?
- 35 Is your imagination painful to you?

PERSONAL INFLUENCE

- 36 Do you often feel disappointed by people you trust?
- 37 Do you often find that people like being hurtful to you?
- 38 Do you feel that circumstances are often against you?
- 39 Do you find that people are often against you?
- 40 Would you like to have more power and influence?

MOODS

- 41 Are you at times very depressed?
- 42 Do you often feel vaguely insecure?
- 43 Do you feel unduly guilty at times?
- 44 Do you ever wish you were dead?
- 45 Do you find that people are often unappreciative of your efforts?

HABITS

- 46 Are you inclined to drink too much?
- 47 Do you take drugs or medicines to help you to relax?
- 48 Do you tend to get over-active or over-excited?
- 49 Do you tend to eat too much or too little?
- 50 Are you driven to do things which cause trouble to yourself or others?

BIOGRAPHICAL INFORMATION

For each question, choose the applicable alternative and write the corresponding code in the appropriate block on the separate answer sheet.

QUESTION NUMBER	ALTERNATIVES	CODE
1 (Gender)	Male	1
	Female	2
2 (Age)	Under 20	1
	20-29	2
	30-39	3
	40-49	4
	50-59	5
	60 or older	6
3 (Qualifications)	Below Standard 8/Grade 10	1
	Standard 8/Grade 10	2
	Standard 10/Grade 12	3
	Diploma/Degree	4
	Higher Diploma/Honours	5
	Masters or higher	6
4 (Home Language)	Eng	1
	Afr	2
	Other	3
5 (Years Service)	Less than 4 years	1
	4 to 10 years	2
	More than 10 years	3

JOB DIAGNOSTIC SURVEY / TAAK-DIAGNOSTIESE OPNAME																														
SECTION/AFDELING:	ONE/EEN					TWO/TWEE										THREE/DRIE							FOUR/VIJF				FIVE/VYF			
QUESTION NO./ VRAAG NR.:	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	1	2	3	4	1	2	3	4
ANSWER/ANTWOORD:																														

LIFE FUNCTIONING QUESTIONNAIRE / LEWENSFUNKSIONERINGS-VRAELYS																									
SECTION/AFDELING:	WORK/WERK					FINANCIAL/FINANSIES					FRIENDSHIP/VRIENDSKAP					FAMILY/GESIN					PERSONAL/PERSOONLIK				
QUESTION NO./ VRAAG NR.:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ANSWER/ANTWOORD:																									

LIFE FUNCTIONING QUESTIONNAIRE / LEWENSFUNKSIONERINGS-VRAELYS																									
SECTION/AFDELING:	ENERGY/AKTIWITEIT					HEALTH/GESONDHEID					INFLUENCE/INVLOED					MOODS/GEMOED					HABITS/GEWOONTES				
QUESTION NO./ VRAAG NR.:	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ANSWER/ANTWOORD:																									

SECTION/AFDELING:	BIOGRAPHICAL INFORMATION/BIOGRAFIESE INLIGTING				
QUESTION NO./ VRAAG NR.:	1	2	3	4	5
ANSWER/ANTWOORD:					

APPENDIX D

TO WHOM IT MAY CONCERN

Dear Sir/Madam

HUMAN RESOURCE SURVEY : FIELD-WORK PROJECT

The student from the Cape Technikon who has approached you is currently doing the second year of the course in Human Resource Management. This course specifically facilitates the development of expertise and practical skills associated with human resource management functions. The learning objectives of this human resource survey field-work assignment are:

- * To develop interpersonal and interviewing skills;
- * To gain exposure to psychometric instruments and the administration thereof.

Through a process of random selection, both your organization (by way of a computer-generated random sample) and yourself (by virtue of the first letter of your surname) were chosen to participate in this survey.

The Cape Technikon is dedicated to training skilled human resources for the benefit of commerce and industry, the community, and the state. By affording this student the opportunity to develop job-related skills, you will meaningfully contribute to the relevant and practical training of our diplomats and graduates.

Specifically, you are requested to:

- * Grant the student an opportunity to conduct a structured interview whereby questions will be posed with regards to your job and the way you feel about your job. (The questionnaire used is internationally the most widely-administered index of job satisfaction.)
- * Complete a confidential life functioning questionnaire in your own time.
- * Evaluate the student on the field-worker feedback form, according to specific criteria.
- * Place the completed answer sheet, life functioning questionnaire, and field-worker evaluation form in the sealed envelope to be collected by the student at an appointed time (and to be given to the lecturer concerned).

Your right to privacy, protection from any form of abuse, and dignity of treatment are acknowledged and confidentiality of information is guaranteed. No names are requested on either questionnaire. Your responses will only be tabulated by the researchers piloting the survey. No one within your company will see your commentary. The data is only as valid as you make it, and your candour in responding is sincerely appreciated. The Cape Technikon researchers will gain an improved understanding of employee needs in the Western Cape and how to enhance the levels of motivation and satisfaction of employees. Do have the liberty to direct any queries regarding this survey to the above address.

Thank you for the courtesy of your assistance.

Billy Boonzaier
Lecturer: Human Resources Management
JUNE 1999

PO Box 652 Cape Town 8000
Keizersgracht, District Six
Telephone 27 21 460 3911
Facsimile 27 21 460 3695
e-mail postmaster@ctech.ac.za

FIELD-WORKER FEEDBACK FORM

NAME OF FIELD-WORKER: _____ STUDENT NUMBER: _____ DATE: _____

To be completed confidentially by the respondent and returned in the sealed envelope provided to the field-worker when (s)he collects the confidential questionnaire.

Please rate the field-worker according to the following criteria by placing a ✓ in the appropriate box.

INTRODUCTION

		Outstanding	Good	Fair	Unsatisfactory	Weak
1.	Was punctual					
2.	Introduced him/herself					
3.	Explained why you specifically were approached					
4.	Handed you a letter of introduction					
5.	Emphasized your anonymity in the research process					
6.	Explained the procedure clearly (i.e. the structured interview as well as the confidential questionnaire)					
7.	Was successful in gaining your commitment to participation					
8.	Made arrangements to personally collect the confidential questionnaire					
9.	Thanked you for participating in the survey.					

STRUCTURED INTERVIEW

10.	Was well-prepared					
11.	Displayed a professional attitude					
12.	Presented a professional appearance					
13.	Did not waste your time					
14.	Spoke clearly					
15.	Could answer any questions that you had					

RELEVANT PERSONAL QUALITIES

6.	Polite					
7.	Friendly					
8.	Understandable					
9.	Organized					
0.	Competent					