JOB INSECURITY, COPING AND HEALTH-RELATED BEHAVIOUR

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COMMENTS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA) were followed in this dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University to use APA style in all scientific documents as from January 1999.

- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the *South African Journal of Industrial Psychology* (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.
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ABSTRACT

Title: Job insecurity, coping and health-related behaviour.

Key terms: Coping, job insecurity, work-related stressors, stress, consequences of job insecurity, health-related behaviour, gold mine company.

Across the world, job insecurity plays a critical role in organisations. This insecurity affects not only the individual, but also the organisation. In South Africa, the Employment Equity Act (No. 55 of 1998), and the Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry (Mining Charter), brought changes to the mining industry policies and decision-making process in terms of selection and recruitment, which could in turn lead to feelings of job insecurity. Other factors such as the availability of gold left to be mined, restructuring and strikes increase work-related stress.

The objectives of this study were to investigate the role of job insecurity in predicting health-related behaviours, and to determine whether coping moderates the effect of job insecurity on health behaviours for a group of managers in a South African gold mining company. A cross-sectional design was used. The study population \((n = 206)\) consisted of managers in a gold mining company in South Africa. The Job Insecurity Scale, Cybernetic Coping Scale and Health Complaints Questionnaire were used as measuring instruments. Descriptive statistics (e.g. means, standard deviations and kurtosis) were used to analyse the data. Hierarchical multiple regression analysis was used to test for the hypothesized moderating effect of coping on the relation between job insecurity and health-related behaviours.

The results of the regression analyses showed that qualitative job insecurity was a significant predictor of health complaints. Qualitative job insecurity was also a significant predictor of health complaints in employees who smoked cigarettes and drank alcohol, and exercised at least once a week. Quantitative job insecurity did not play a role in predicting health-related behaviour. Coping did not moderate the effects of job insecurity for employees with health complaints. Rather, it is suggested that using negative coping behaviours may actually contribute to health complaints.
Recommendations for future research are made.
**OPSOMMING**

**Titel:** Werksonsekerheid, coping en gesondheidsverwante gedrag.

**Sleutelbegrippe:** Coping, werksonsekerheid, goudmynmaatskappy, werksverwante stressors, stres, gevolge van werksonsekerheid, gesondheidsverwante gedrag.

Werksonsekerheid speel regoor die wêreld 'n kritiese rol in organisasies. Hierdie onsekerheid affekteer nie net die individu nie, maar ook die organisasie. In Suid-Afrika het die Wet op Gelyke Indiensneming (Nr. 55 van 1998) en die Breë-Gebaseerde Sosio-Ekonomiese Bemagtigings Handves vir die Suid-Afrikaanse Mynwese (Handves vir Mynwese) veranderinge in die mynbedryf se beleid en besluitnemingsproses tydens selektering en werwing teweeg gebring. Hierdie veranderinge kan weer aanleiding tot gevoelens van werksonsekerheid gee. Ander faktore soos die hoeveelheid goud wat nog beskikbaar is om te ontgin, herstrukturering en stakings kan ook werksverwante stres tot gevolg hê.

Die doel van hierdie studie was eerstens om die rol van werksonsekerheid in die voorspelling van klagtes in verband met gesondheid te ondersoek, en tweedens om vas te stel of coping die effek van werksonsekerheid op klagtes in verband met gesondheid vir 'n groep bestuurders in 'n Suid-Afrikaanse goudmynmaatskappy moderer. 'n Dwarssnee opname-ontwerp is gebruik. Die studiepopulasie ($n = 206$) het bestaan uit bestuurders in 'n goudmynmaatskappy in Suid-Afrika. Die Werksonsekerheidskaal, *Cybernetic Coping*-skaal, en Gesondheidsklagtesvraelys is afgeneem. Beskrywende statistiek (gemiddeldes, standaard afwykings en kurtose) is gebruik in die analise van data. Hiërargiese veelvoudige regressieanalyse is gebruik om te toets vir die voorgestelde modererende effek van coping op die verhouding tussen werksonsekerheid en gesondheidsverwante gedrag.

Die resultate van die regressie-analise het daarop gedui dat kwalitatiewe werksonsekerheid wel met gesondheidsklagtes verband hou. Daar is ook 'n direkte verband gevind tussen kwalitatiewe werksonsekerheid en individue wat meer rook en drink, en oefening doen. Kwantitatiewe werksonsekerheid het nie 'n beduidende rol in die voorspelling van gesondheidsklagtes gespeel nie. Coping het nie die effek van werksonsekerheid op gesondheidsklagtes vir individue met sulke klagtes gemodereer nie. Inteendeel, die
teenoorgestelde word voorgestel, naamlik dat die gebruik van negatiewe copinggedrag aanleiding tot gesondheidsklagtes gee.

Aanbevelings vir toekomstige navorsing word aan die hand gedoen.
CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on the role of job insecurity in predicting health-related behaviours, and attempts to determine whether coping reduces and eliminates the stress of job insecurity and improve worker wellness for a group of managers in a South African gold mining company.

In this chapter, the problem statement and the research objectives (including the general and specific objectives) are discussed. Following this, the research method is discussed.

1. PROBLEM STATEMENT

During the 20th century, humanity has witnessed the most dramatic changes, and these changes have an impact on all contexts in which we function (Siegal et al., 1996; Williams, Crafford, & Fourie, 2003). The nature of work has also changed dramatically with global change, economic recessions, restructuring, technological changes and global competition, to name but a few, acting as catalysts for change. These changes brought about the fundamental need to reduce labour costs or increase productivity to improve competitiveness (Howard, 1995). According to several authors (Burke & Nelson, 1998; Cascio, 1998; Cameron, Freeman, & Mishra, 1991; Howard, 1995; Kozlowski, Chao, Smith, & Hedlund, 1993), most organisations opt for restructuring, lay-offs and mergers to cut costs, thereby increasing their global competitiveness. Organisations facing fast changing internal and external environments may suffer from increased levels of work stress that can cause both personal and job strain (Cartwright & Cooper 1996; Terry & Callan, 1997).

Working life has also been subject to dramatic changes over the past decades and as work plays a central role in the lives of many people, the impact of occupational stress is an important issue for both individual employees and the organisation for which they work (Bradley & Sutherland, 1994; Hartley, Jacobson, Klandermans, & Van Vuuren, 1991; Howard, 1995). In this context, job insecurity has emerged as an important construct (Gowing, Kraft, & Campbell Quick, 1998; Pfeffer, 1998; Rifkin, 1995). In post-1994 South
Africa, a large amount of transformation has taken place in political, economic, social and technological environments (Bainbridge, 1996; Brill & Worth, 1997). A case in point is the Employment Equity Act (No. 55 of 1998) and the Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry (2004) that brought changes to the mining industry policies and decision-making process in terms of selection and recruitment.

The Mining Charter (2004) states that South African mining companies should establish targets for employment equity, particularly in the junior and senior management categories. Companies agree to spell out their plans for employment equity at management level. The stakeholders aspire to a baseline of 40 percent Historically Disadvantaged South Africans (HDSA) forming part of management within 5 years. The term Historically Disadvantaged South Africans (HDSA) in the charter refers to any person, category of persons or community, disadvantaged by unfair discrimination before the Constitution of the Republic of South Africa, 1993 (Act 200 of 1993) came into operation. This tremendous drive for transformation could lead to job insecurity for managers, as companies should aspire to accommodate 40 percent HDSA managers by 2009.

Very recently, the South African Competition Tribunal has approved a South African gold mine’s bid to a hostile takeover of another South African gold mining company (http://www.miningmx.com). According to Arnolds and Boshoff (2004), mergers and take-overs of companies often result in lay-offs. Against this background, previous research has shown that lay-offs have a detrimental influence on the organisational commitment of the survivors of these downsizings and retrenchments (Clark & Koonee, 1995; Robbins, 1998). During the last decade retrenchments, restructuring, mergers and hostile take-overs have become outstanding characteristics of the South African mining industry.

With the current Rand/Dollar exchange rate and the price of gold, mining houses may focus particularly on production and cost cuts, which could in turn lead to work-related stress. This could greatly affect the employee’s life outside the working environment. Despite increased productivity and reduced costs, organisations realise they cannot achieve their goals without the cooperation and effort of employees. Therefore, there is a growing recognition of the fundamental importance of work-life and its effects on the health and well-being of people across the world (Baker & Green, 1991; Cooper & Cartwright, 1994).
South Africans are currently experiencing high levels of stress due to a number of reasons. For instance, increased demands inside and outside of the work situation and the lack of ability to handle these demands, have been cited by Van Zyl (1997). A popular newspaper summarises the situation in the following headline: “We are in a mess, over stress” (McGarvey, 1995). The impact of stress is an important issue both for individual employees and for the organisation for which they work. There are several different models and definitions of stress, but for the purpose of this study, we adhere to a widely accepted definition of stress, which describes stress as an interaction between the individual and their environment (Katz & Kahn, 1978; Lazarus, 1966). Lazarus and Folkman (1984) and Trumbull and Appley (1986) defined stress as a feeling experienced by an individual when the perceived demands exceed their resources to meet these demands, if the demands pertain to something important to the individual. Therefore, stress will only occur when the individual perceives an imbalance between demands and available resources. Jacobs (2001, p.1) offers a pragmatic definition: “Stress is a reality of life; it is unavoidable, good and bad, constructive and destructive.”

Job insecurity has been defined as an individual’s “expectations of continuity in a job situation” (Davy, Kinicki, & Scheck, 1997, p. 323), “overall concern about the future existence of the job” (Rosenblatt & Ruvio, 1996, p. 587), “perception of a potential threat to continuity in his or her current job” (Heany, Israel, & House, 1994, p. 1431), and “powerlessness to maintain desired continuity in a threatened job situation” (Greenhalgh & Rosenblatt, 1984, p. 438). Borg and Elizur (1992) differentiated between cognitive job insecurity (likelihood of job loss) and affective job insecurity (fear of job loss). On the other hand, Dekker and Schaufeli (1995), and Heaney et al. (1994) articulate job insecurity as the discrepancy between the preferred and experienced levels of job security. Based on the work of Hellgren, Sverke, and Isaksson (1999), this study divides job insecurity into two different aspects: quantitative and qualitative insecurity. Whereas quantitative job insecurity is similar to the global conceptualisations of the construct, qualitative job insecurity pertains to perceptions of potential loss of quality in the employment relationship, for example a deterioration of working conditions, demotion, a lack of career opportunities, decreasing salary or the development of concerns about person-organisation fit. The significance of job
insecurity as a workplace stressor is well researched (Dekker & Schaufeli, 1995; Mak & Mueller, 2000; Lim, 1997; Roskies & Louis-Guerin, 1990).

Coping is defined as the cognitive (by reframing and re-evaluation) and behavioural attempts (by engagement in recreation and self-care activities or the seeking of social support) to master, reduce and eliminate the effect of stress on the well-being of individuals (Edwards & Baglioni, 1999; Folkman, 1984; Osipow & Spokane, 1987). Therefore, the purpose of coping strategies is to resolve discrepancies between the perceived state and the desired state. Israel, House, Schurman, Heaney, & Mero, (1989), Lazarus and Folkman (1984) and Parkes (1994) believe individuals use a range of coping strategies and tools to deal with stress and that it varies greatly among individuals. Research (Ashford, 1988; Kirkmeyer, 1988; Mak & Meuller, 2000; Osipow et al., 1985; Parkes, 1990, 1994) has emphasized the importance of coping strategies and tools in reducing the negative effects of stress.

The ability of individuals to employ these coping strategies and tools could have an affect on their life outside work – failure to employ the necessary strategies and tools will carry the increased demands and accompanying high stress over to the non-work situation (Van Zyl, 2002). Kruger (1988, p. 92) explains it as follows: “It is acknowledged that work stress creates an emotional climate that can be transmitted to the home and affect the dynamics of family life.” If companies want to achieve outstanding business results, they have to realise the importance of employee effort, and emphasis should be placed on work-life and its effects on the well-being of people (Baker & Green 1991; Cooper & Cartwright, 1994).

The ultimate goal of this research is therefore to investigate the effect of work-related stressors (qualitative and quantitative job insecurity) on life outside work (as indicated by exercise, tobacco and alcohol use), with individual coping as main and interactive variable for managers in a South African gold mining company.

2. RESEARCH OBJECTIVES

The research objectives can be divided into a general objective and specific objectives.
2.1 General objective

The general objective of this study was to look at the effect of job insecurity on managers’ life outside work, and determine whether coping reduces and eliminates the stress of job insecurity and improves workers’ wellness.

2.2 Specific objectives

The specific objectives of the research were:

- To validate measuring instruments of qualitative and quantitative job insecurity, coping and exercise, alcohol and tobacco use for a group of management level employees in the mining industry.
- To determine the levels of qualitative and quantitative job insecurity, coping and exercise, alcohol and tobacco use for a group of management level employees in the mining industry.
- To study the main and interactive effects of individual coping in the relationship between job insecurity and exercise, alcohol and tobacco use for a group of management level employees in the mining industry.
- To make recommendations regarding training and development in coping skills and stress-related intervention strategies for the organisation.

3. RESEARCH METHOD

The research consisted of a literature review and empirical study.

3.1 Literature review

The literature review focused on work-related stressors (job insecurity), coping, and life outside work.
3.2 Empirical study

The empirical study consisted of the research design, measuring instruments, population and statistical analysis.

3.2.1 Research design

According to Kerlinger and Lee (2000), the main technical function of any research design is to control variance. Research designs are plans and structures used to answer research questions. Research designs act in conjunction with research hypotheses to yield a dependable and valid answer. In this study, a survey design was used to achieve the research objectives. The specific design is the cross-sectional design, by means of which a sample is drawn from a population at a specific time (Shaughnessy & Zechmeister, 1997). Information collected was used to describe the population at that time. This design was also used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited to the descriptive and predictive functions associated with correlation research.

3.2.2 Participants

A random sample was taken from a South African mining company (N=250). Individuals on E band to C Upper (managers) of the Paterson system formed part of the sample and all disciplines in the company were considered. The educational level of the sample varied from grade 12 to tertiary qualifications and the experience level of the sample also varied. The various ethnic groups in South Africa were also taken into consideration.

3.2.3 Measuring battery

Job Insecurity. Isaksson, Hellgren, and Pettersson (1998) developed the seven-item questionnaire. Quantitative job insecurity is operationalised in accordance with Greenhalgh and Rosenblatt’s (1984) definition of perceived threats to the continuity of the job itself, while qualitative job insecurity was designed to reflect what Greenhalgh and Rosenblatt characterised as a threat to the continuity of important job features (Hellgren et al., 1999).
The internal consistency and reliability were satisfactory for both quantitative (alpha = 0.79) and qualitative job insecurity (alpha = 0.75).

*The Cybernetic Coping Scale* (CCS) was developed by Edwards and Baglioni (1993) based upon the cybernetic theory of stress. Edwards’ (1992) concept of stress, coping and well-being was derived from the cybernetic theory. This theory views stress, coping and well-being as critical elements of a negative feedback loop in which discrepancies between the perceived state and desired state induce stress, damages well-being and activates coping. According to Guppy et al., (2004), Edwards’ theory further states that the purpose of coping strategies are to resolve discrepancies between the perceived state and the desired state in which coping is conceptualised as attempts to reduce or omit the adverse effects of stress on well-being. Coping is conceptualised as attempts to reduce or eliminate the negative effects of stress on well-being (Edwards & Baglioni, 1999). The CCS includes five forms of coping, identified as i) Change the situation; ii) Accommodation; iii) Devaluation; iv) Avoidance; and v) Symptom Reduction. According to Guppy et al. (2004), all five of the scales produce reliabilities >0.70. Furthermore, all 40 items loaded significantly on the appropriate factor. The 20-item CCS had a better fit than the 40-item scale and reliabilities for all five scales exceeded 0.70. For the purpose of this study, the 15-item version of the CCS was used. Internal reliability estimates for the 15-item model produced acceptable to high alpha coefficients (Guppy et al., 2004).

The *Health Complaints Questionnaire* (Andersson, 1986, modified by Isaksson & Johansson, 1997) was used to provide a measure of physical health. Physical health was measured with a 10-item index in which the respondents indicate how frequently (1 = never; 5 = always) they had suffered from various symptoms (e.g. headaches, shoulder pains or stomach problems) during the past 12 months.

3.3 Statistical analysis

The statistical analysis was carried out with the help of the SPSS-program (SPSS, 2003). The program was used to carry out statistical analysis regarding the reliability and validity of the measuring instruments and descriptive statistics. The reliability of the measuring instruments were assessed with the use of Cronbach alpha coefficients (Clark & Watson, 1995).
Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data.

The main and interactive effects of coping were tested using hierarchical multiple regression analysis. Demographic characteristics were controlled for in the first step. Job insecurity and coping variables were entered in the second step. Interaction terms of job insecurity with each of the coping variables were entered in the third step to test for the hypothesised moderating effect of coping on the relation between job insecurity and health-related behaviours. Following the procedures described by Aiken and West (1991), the predictor variables were centred, i.e. the means of these variables were set to zero while the standard deviations were kept intact.

4. CHAPTER DIVISION

The chapters of this mini-dissertation are presented as follows:

Chapter 1: Introduction
Chapter 2: Research article
Chapter 3: Conclusions and recommendations
REFERENCES


Employment Equity Act (No. 55 of 1998).


CHAPTER 2

RESEARCH ARTICLE
JOB INSECURITY, COPING AND HEALTH-RELATED BEHAVIOUR’

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ABSTRACT

The objectives of this study were to investigate the role of job insecurity in predicting health complaints, and to determine whether coping moderates the effect of job insecurity on health complaints for a group of managers in a South African gold mining company. A cross-sectional design was used. The study population (n = 206) consisted of managers (levels C to D on Paterson grading). The Job Insecurity Scale, Cybernetic Coping Scale, and Health Complaints Questionnaire were used as measuring instruments. The results of the regression analyses showed that qualitative job insecurity was a significant predictor of health complaints. Qualitative job insecurity was also a significant predictor of health complaints in employees who smoked cigarettes and drank alcohol, and exercised at least once a week. Quantitative job insecurity did not play a role in predicting health-related behaviour. Coping did not moderate the effects of job insecurity for employees with health complaints. Rather, it is suggested that using negative coping behaviours may actually contribute to health complaints.

*The financial assistance of the National Research Foundation (NRF) and the Swedish International Development Agency (SIDA) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at are those of the author and are not necessarily to be
Die doel van hierdie studie was om die rol van werksonsekerheid in die voorspelling van klagtes in verband met gesondheid te ondersoek, en vas te stel of coping die effek van werksonsekerheid op klagtes in verband met gesondheid vir 'n groep bestuurders in 'n Suid-Afrikaanse goudmynmaatskappy modereer. 'n Dwarssnee opname-ontwerp is gebruik. Die studiepopulasie \((n = 206)\) het bestaan uit bestuurders (C tot D Paterson-posvlakke). Die Werksonsekerheidskaal, Cybernetic Coping-skaal, en Gesondheidsklagtesvraelys is afgeneem. Die resultate van die regressie-analise het aangedui dat kwalitatiewe werksonsekerheid met gesondheidsklagtes verband hou. Daar is ook 'n direkte verband gevind tussen kwalitatiewe werksonsekerheid en individue wat meer rook en drink, en oefening doen. Kwantitatiewe werksonsekerheid het nie 'n rol in die voorspelling van gesondheidsklagtes gespeel nie. Coping het nie die effek van werksonsekerheid op gesondheidsklagtes vir individue met sulke klagtes gemodereer nie. Inteendeel, die teenoorgestelde word voorgestel, naamlik dat die gebruik van negatiewe copinggedrag aanleiding tot gesondheidsklagtes gegee het.
During the 20th century, humanity has witnessed the most dramatic changes, which have an impact on all contexts in which we function (Siegal et al., 1996; Williams, Crafford, & Fourie, 2003). The nature of work has also changed dramatically with economic recessions, restructuring, technological changes and global competition, to name but a few, acting as catalysts for change. These changes brought about the fundamental need to reduce labour costs or increase productivity in order to improve competitiveness (Howard, 1995). According to several authors (Burke & Nelson, 1998; Cameron, Freeman, & Mishra, 1991; Cascio, 1998; Howard, 1995; Kozlowski, Chao, Smith, & Hedlund, 1993), most organisations opt for restructuring, lay-offs and mergers to cut costs, thereby increasing their global competitiveness.

Since 1994, South Africa has witnessed a large amount of transformation in political, economic, social and technological environments (Bainbridge, 1996; Brill & Worth, 1997). Pienaar (1998) adds that South Africa’s unique situation results in added pressures. A case in point is the Employment Equity Act (No. 55 of 1998) (South Africa, 1998) and the Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry (2004), which brought fundamental changes to mining industry policies and decision-making procedures regarding selection and recruitment. According to the above-mentioned Mining Charter (2004), South African mining companies should work towards establishing targets for employment equity, particularly with regard to the junior and senior management categories. Companies agreed to spell out their plans for employment equity at management level. The stakeholders aspire to a baseline of 40 percent Historically Disadvantaged South Africans (HDSA) participating in management within 5 years. The term HDSA in the charter refers to any person, category of persons or community, disadvantaged by unfair discrimination before the Constitution of the Republic of South Africa, 1993 (Act 200 of 1993) (South Africa, 1993) came into operation. HDSA are Black, Asian and Coloured males and females as well as White females. The Charter also ensures a higher level of inclusiveness and advancement of women. Stakeholders should aspire to a baseline of 10 percent of women participating in the mining industry. The company under discussion in this study currently has less than 1 percent women participating in its workforce. This tremendous drive for transformation could lead to job insecurity for managers, as companies should aspire to have 40 percent HDSA managers as well as 10 percent female participation by 2009.
Very recently, the South African Competition Tribunal has approved a South African gold mine's bid to a hostile take-over of another South African gold mining company (http://www.miningmx.com). According to Arnolds and Boshoff (2004), mergers and take-overs often result in lay-offs taking place. Against this background, previous research has shown that downsizing, restructuring, retrenchments and mergers are happening with increasing frequency, and have a detrimental influence on individuals and organisations (Ashford, Lee, & Bobko, 1989; Clark & Koonee, 1995; Jick, 1985; Robbins, 1998; Romzek, 1985; Schweiger & Ivancevich, 1985; Van Zyl, 2002). Those employees who survive corporate retrenchments often experience low morale, a decrease in productivity and lose organisational trust (Cameron, 1994). The company under investigation had its last retrenchments in March 2004, and it is safe to assume that current employees are still struggling with so called “survivor syndrome”. The “survivor syndrome” refers to a set of shared reactions and behaviours of people who have survived an adverse event (Brockner, 1986). Brockner (1988) highlighted retrenchments as a direct cause of job insecurity among employees surviving staff cuts.

During the last decade, retrenchments, restructuring, mergers and hostile take-overs have become a familiar feature of the South African mining industry. The Star reported on 8 August 2005 (Anon, 2005), that about 80 000 gold miners went on strike, achieving a historic first as black and white mineworkers united to fight for higher increases. The Carletonville/Fochville Herald of 12 August 2005 (Parr, 2005) estimates that South African gold mines have been crippled by combined losses of R130 million per day as a result of the first gold mining industry-wide strike in 18 years. Sadly, if strikes continue, they could lead to further economic uncertainty with companies looking for innovative solutions to sidestep labour. An economist is of the opinion that “to protect themselves, companies will look at becoming more capital intensive, becoming less reliant on labour through the use of technology” (Anon, 2005, p. 3). The dance continues, with workers pleading for certainty and a fair wage, and companies responding by advising workers that they are replaceable by machines. This context creates fertile breeding ground for increased feelings of uncertainty in the workplace.

With the current Rand/Dollar exchange rate, the price of gold and the amount of gold left to be mined, mining houses may focus particularly on production and cost-cutting, which could in turn lead to an increase in work-related stress, with fewer people having to do the same.
amount of work. In this context, job insecurity has emerged as an important construct (Gowing, Kraft, & Campbell Quick, 1998; Pfeffer, 1998; Rifkin, 1995).

**Stress in the workplace**

Stress has emerged as a significant workplace dilemma in a number of countries around the world (Robbins, Millett, Cacioppe, & Waters-Mash, 1998; Siu, Lu, & Cooper, 1999). South Africans are experiencing high levels of stress, for instance, increased demands inside and outside the working situation and the lack of ability to handle these demands (Van Zyl, 1997). Van Zyl (1997) specifies that an investigation conducted in South Africa indicated that 34.7 percent of Coloured, 38.1 percent of White and Asian, and 35 percent of Black South Africans suffer from high stress. Compared to overseas countries, South Africans experience abnormally high levels of stress (see Van Zyl, 1993). Working life has been subject to dramatic changes over the past decades, and the impact of occupational stress is an important issue for both individual employees and the organisations for which they work (Bradley & Sutherland, 1994; Hartley, Jacobson, Klandermans, & Van Vuuren, 1991; Howard, 1995). Organisations facing fast changing internal and external environments may suffer from heightened levels of work stress that can cause personal and job strain (Cartwright & Cooper, 1996; Terry & Callan, 1997), have adverse outcomes on the well-being of individual employees (Bradley & Sutherland, 1994), and often spill over to family life (Kruger, 1988).

There are several different models and definitions of stress, but for the purposes of this study, we adhere to a widely accepted definition of stress, which describes stress as an interaction between the individual and their environment (Katz & Kahn, 1978; Lazarus, 1966). Lazarus and Folkman (1984) and Trumbull and Appley (1986) defined stress as a feeling experienced by an individual when the perceived demands exceed their resources to meet these demands, provided that the demands pertain to something important to the individual. Therefore, stress will only occur when the individual perceives an imbalance between demands and available resources (in other words, a threat). This is termed primary appraisal. The manageability aspect of the threat will then be evaluated, and is entitled secondary appraisal (Lazarus & Folkman, 1984). Here, individuals will try to evaluate two main aspects when they perceive a threat; they will determine which coping options are required to counteract the threat, and whether any of the strategies can be employed successfully. Jacobs (2001, p.1) offers a
pragmatic definition: "Stress is a reality of life; it is unavoidable, good and bad, constructive and destructive."

South Africans are living with high levels of stress for various reasons and lack the ability to handle these stressors (see Van Zyl, 2002). Helping individuals to deal with stress has positive outcomes for organisations and individuals. Individuals experiencing stress make more errors, are involved in work accidents, strikes and slowdowns, are often absent from work, are poor performers and are not productive (Carstens, 1989; Ivancevich & Matteson, 1996; Jacobs, 2001; McHugh & Brennan, 1993; Quick, Murphy, & Hurrel, 1992; Van Zyl 2002). The related costs of stress should also inspire organisations to do something about employees’ stress levels (Van Zyl, 2002). Therefore, helping an individual to cope with stress is an important stress management intervention (Ivancevich, Matteson, Freedman, & Phillips 1990), and important for the well-being of individual employees. Previous research (Ashford, 1988; Jordan, Ashkanasy, & Hartel, 2002; Kirkmeyer, 1988; Mak & Mueller, 2000; Osipow & Davis, 1988; Osipow, Doty, & Spokane, 1985; Parkes, 1990, 1994) has emphasized the importance of coping resources and strategies in reducing the negative effects of stress when researching the relationship between occupational stress and psychological transformation.

Dewe (1991) proposes that the term coping refers to the different strategies individuals may use in order to prevent or eliminate perceived threats and concerns. Coping has been defined as the cognitive (by reframing and re-evaluation) and behavioural (by engagement in recreation and self-care activities or the seeking of social support) attempts to master, reduce and eliminate the effects of stress on the well-being of individuals (Edwards & Baglioni, 1999; Folkman, 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Osipow & Spokane, 1987). Lazarus and Folkman (1984) distinguish between two main coping strategies: (1) attempts to change the relationship between the stressor and the individual (problem-focused), and (2) efforts to regulate the emotional distress (emotion-focused). Edwards and Baglioni’s (1993) Cybernetic Coping Scale (CCS) was derived from the conceptualisation that stress results from conflict between the individual’s perceived state and desired state. Coping strategies are intended to resolve discrepancies between the environmental inputs and the desired state, in which coping is conceptualised as attempts to reduce or omit the adverse effects of stress on well-being (Edwards, 1992). Five forms of coping are identified, namely:

1. attempting to bring the situation in conjunction with desires (changing the situation);
2. adjusting desires to meet the situation (accommodation);
3. reducing the importance associated with the discrepancy (devaluation);
4. directing attention away from the situation (avoidance); and
5. improving well-being directly (symptom reduction).

**Job insecurity**

Job insecurity has been described in the literature as a work stressor (Barling & Kelloway, 1996; Dekker & Schaufeli, 1995; Lazarus & Folkman, 1984; Lim, 1997; Mak & Mueller, 2000; Roskies & Louis-Guerin, 1990; Sverke & Hellgren, 2002), and an increasingly important issue for management and organisations (Burke & Nelson, 1998; Sverke et al., 2004). The negative effects of job insecurity have received growing recognition in the literature (Burchell, Ladipro, & Wilkinson, 2002; Sverke et al., 2004). Job insecurity has been defined as an individual’s “expectations of continuity in a job situation” (Davy, Kinicki, & Scheck, 1997, p. 323), “overall concern about the future existence of the job” (Rosenblatt & Ruvio, 1996, p. 587), “perception of a potential threat to continuity in his or her current job” (Heany, Israel, & House, 1994, p. 1431), and “powerlessness to maintain desired continuity in a threatened job situation” (Greenhalgh & Rosenblatt, 1984, p. 438).

Researchers (Ashford et al., 1989; De Witte, 1999; Greenhalgh & Rosenblatt, 1984; Hartley et al., 1991; Hellgren, Sverke, & Isaksson, 1999; Hellgren, Sverke, & Van der Vliet, in press; Jacobson, 1991) propose job insecurity to be a subjective phenomenon, i.e. it is based on the individual’s perception and interpretations of the immediate work environment. Sverke and Hellgren (2002) explain it as follows: even if individuals are exposed to the same objective situation, the feeling of perceived job insecurity may differ between these individuals, as will their reaction to the perception of job loss. The psychological definition of job insecurity is based on two cornerstones: Firstly, that job insecurity reflects the subjective experience of a threat to an individual’s present employment, or a threat to what the individual sees as valued facets of it. Secondly, it is suggested that this subjective experience is involuntary and therefore unwelcome to the individual (Hellgren, 2003, p. 9). What signifies job insecurity as a job stressor is that the subjective feeling individuals have of losing a job or losing important job features seems to produce more anxiety and tension than definite job loss. Hartley et al. (1991) define job insecurity as a discrepancy between the security employees would like their jobs to provide and the level they perceive to exist. Näswall (2004) clarifies the vast
definitions of job insecurity by distinguishing two main differences between definitions: (i) Did the researcher take the individual’s own evaluation into account? or (ii) Did the researcher use environmental data as indicators? In this study, the individual’s evaluation is measured (via quantitative instruments), while environmental data are considered in this problem statement.

Borg and Elizur (1992) differentiate between cognitive job insecurity (likelihood of job loss) and affective job insecurity (fear of job loss). On the other hand, Dekker and Schaufeli (1995) and Heaney et al. (1994) articulate job insecurity as the discrepancy between the preferred and experienced levels of job security. Hellgren, Sverke, and Isaksson (1999) distinguish between two different aspects: quantitative and qualitative job insecurity. Whereas quantitative job insecurity refers to concerns about the future existence of the present job, qualitative job insecurity pertains to perceptions of potential loss of quality in the employment relationship, for example the deterioration of working conditions, demotion, a lack of career opportunities, decreasing salary or concerns about person-organisation fit. In the present study, differential effects for both qualitative and quantitative job insecurity are investigated.

Job insecurity has detrimental effects on both the individual and the organisation (Noer, 1993). Individuals have strong psychological feelings associated with the risk of losing economic and other highly valued aspects of life (Ashford et al., 1989), and that may have an adverse effect on their holistic well-being (Ashford et al., 1989; De Witte, 1999; Dekker & Schaufeli, 1995; Heaney et al., 1994; Hellgren et al., 1999; Roskies & Louis-Guerin, 1990). High health care costs and absenteeism have been indicated as organisational consequences of job insecurity (Matteson & Ivancevich, 1987). Individuals would rather seek alternative employment if they experience job insecurity (Arnold & Feldman, 1982; Ashford et al., 1989; Cavanaugh & Noe, 1999). High job insecurity has also been linked to reduced job satisfaction (Ashford et al., 1989; Davy et al., 1997), decreased work and organisational commitment (Armstrong-Stassen, 1993; Ashford et al., 1998; Borg & Elizur, 1992) and impaired performance at work (Armstrong-Stassen, 1993; Greenhalgh, 1983). Noer (1993) argues that individuals with uncertain job situations would perceive change more negatively and become change-resistant. Results from the Belstress study (Pelfrene et al., 2003) clearly demonstrated a significant positive association between job insecurity and indicators of self-reported poor health. Other research has shown that employees perceiving specific threats to job features
would display symptoms of distress manifested as anxiety, depression as well as increased physical symptoms (Ferrie, Shipley, Marmot, Stansfeld, & Smit, 1998; Heaney et al., 1994; Israel, House, Schurman, Heaney, & Mero, 1989; Roskies, Louis-Geuren, & Fournier, 1993). Job insecurity has also been linked to various kinds of increased psychological symptoms (e.g. depression, anger, guilt, withdrawal) and symptoms of physical ill-health (Kinnunen & Nätti, 1994; Roskies & Louis-Guerin, 1990). However, no convincing links have been observed between job insecurity and health behaviours such as smoking and alcohol consumption (Ferrie, 1999; McDonough, 2000). Dekker and Schaufeli (1995) reported a relationship between job insecurity and poor psychological health. According to Hellgren et al. (1999) it might be possible that different aspects of job insecurity (qualitative vs. quantitative) relate differently to types of outcomes. The potential effects of job insecurity on the individual and organisation vary between studies and are by no means conclusive (Sverke & Hellgren, 2002).

**Coping as moderator**

Research into coping with stress at work has increased over the years (Coyne & Downey, 1991; Dewe, Cox, & Ferguson, 1993; Edwards, 1988). Given the negative consequences associated with job insecurity, Hartley et al. (1991), and Sverke and Hellgren (2002), propose that it would be worthwhile to research the factors that may moderate the negative effects of job insecurity. Ashford (1988), Osipow et al. (1985) and Parkes (1990; 1994) have emphasised the importance of coping resources and strategies in reducing the negative effects of stress. Matteson and Ivancevich (1987) are of the opinion that moderators of job insecurity have both meaning in terms of occupational health and management. Firstly, it is crucial to understand how the negative effects of job insecurity on employee well-being and work attitudes can be moderated. Secondly, it should be noted that people who are stressed cannot contribute to the overall effectiveness of the organisation. According to Lazarus and Folkman (1984), coping behaviours are intended to reduce the stress that emerges from perceptions of job insecurity. The moderating effects of coping are mixed. Latack (1986) found that people in ambiguous roles who made use of “control-oriented coping”, experienced less anxiety than those who coped by trying to physically or mentally escape their situation. Coping moderated the relation between stress appraisals and subjective illness (Jerusalem, 1993), and daily hassles and distress (Long, Kahn, & Schutz, 1992). However, coping did not consistently moderate relations between components of hardiness and psychological well-being and
psychological distress (Florian, Mikulineer, & Taubman, 1995), social support and adaptation (Scheck, Kinicki, & Davy, 1995), or immediate stress response and adaptation (Scheck et al., 1995). There is also some indication that coping resources may be useful for mitigating stress in personal domains, but have limited effectiveness in reducing occupational stress (Dewe et al., 1993). The identified link between having coping resources and lower strain has been illustrated (Decker & Borgen, 1993; Osipow & Davis, 1988), while different coping strategies may also be useful for moderating different types of stress (Mak & Mueller, 2000). According to Ashford (1988), the kind of person one is might be of more significance than the coping resources one has when having to cope with organisational stress. Nevertheless, Näswall (2004) called for further research into coping as moderator when researching job insecurity.

**Demand-control-support theory**

The demand control theory is a two-dimensional design that uses job demands and job control factors to predict stress-related illnesses (Karasek, 1979). The theory has been expanded to include social support as a third construct and moderator of strain, after various studies have tested the theory (Dollard, Winefield, Winefield, & De Jonge, 2000; Karasek, 1990; Munro, Rodwell, & Harding, 1998). Karasek and Theorell (1990) confirm that an individual manifests job strain when the individual is presented with high-stress circumstances and has little control over the responses. The theory suggests that psychological strain and ill-health can be predicted from the interaction between job demands and job control (Fox, Dwyer, & Ganster, 1993). Jobs that are identified as “high strain” jobs according to Karasek’s job strain model (1979) are jobs with a combination of high job demand and low levels of control. “Active jobs” also have high demands, but the individual is simultaneously experiencing high levels of control and therefore the job would not be associated with strain. Individuals in this category usually develop proactive behaviours that can increase motivation to perform and learn (Karasek, 1989).

Karasek (1979) defined job demands as a psychological stressor and included conditions such as working faster and harder, having a great deal to do, and not having enough time. Job insecurity can be seen as a psychological stressor and therefore a job demand. According to Karasek (1989), job control is the ability to exert some influence over one’s environment, i.e.
having control over the job demands that presents psychological stress. Based on the above discussion, the following hypotheses are formulated:

H1: Job insecurity plays a role in predicting health complaints and health-related behaviours.

H2: Coping will moderate between qualitative and quantitative job insecurity and health, as expressed by health complaints.

METHOD

Research design

A cross-sectional survey design, by means of which a sample is drawn from a population at a particular point in time (Shaughnessy & Zechmeister, 1997), was used to achieve the research objectives. A cross-sectional design is advantageous when it comes to participant attrition. Comparisons can be made between different biographical groups (for example age and gender groups) as to the differences in responses given on the survey instruments. It is practically useful for organisations and not scientifically problematic (Cartwright & Cooper, 2002).

Participants

The participants were managers (Paterson grading C to D band managers) from a South African mining company \(n = 206\). In total, 250 managers were contacted to participate in the research, resulting in a response rate of 82.40%. The entire group of managers \(N\) equals 644 (thus, 31.99% of total population was sampled). The diverse ethnic groups in South Africa were also taken into consideration, and a random sample was taken. The characteristics of the participants are shown in Table 1.
Table 1

*Characteristics of the Participants (n=206)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>91,30</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>8,30</td>
</tr>
<tr>
<td>Children under the age of 12 living with you</td>
<td>No</td>
<td>50,00</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>48,30</td>
</tr>
<tr>
<td>Household</td>
<td>Single (Living alone)</td>
<td>8,70</td>
</tr>
<tr>
<td></td>
<td>Married or living with a partner</td>
<td>75,00</td>
</tr>
<tr>
<td></td>
<td>Living with parents</td>
<td>1,90</td>
</tr>
<tr>
<td></td>
<td>Divorced or separated</td>
<td>5,30</td>
</tr>
<tr>
<td></td>
<td>Remarried</td>
<td>8,30</td>
</tr>
<tr>
<td>Education qualifications</td>
<td>Grade 10 (Standard 8)</td>
<td>17,50</td>
</tr>
<tr>
<td></td>
<td>Grade 11 (Standard 9)</td>
<td>6,80</td>
</tr>
<tr>
<td></td>
<td>Grade 12 (Matic)</td>
<td>32,00</td>
</tr>
<tr>
<td></td>
<td>Technical College diploma</td>
<td>15,50</td>
</tr>
<tr>
<td></td>
<td>Technician diploma</td>
<td>14,60</td>
</tr>
<tr>
<td></td>
<td>University degree</td>
<td>6,30</td>
</tr>
<tr>
<td>Language</td>
<td>Afrikaans</td>
<td>68,90</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>15,50</td>
</tr>
<tr>
<td></td>
<td>Sepedi</td>
<td>1,00</td>
</tr>
<tr>
<td></td>
<td>Siswati</td>
<td>2,40</td>
</tr>
<tr>
<td></td>
<td>Sesotho</td>
<td>4,40</td>
</tr>
<tr>
<td></td>
<td>IsiSwati</td>
<td>1,60</td>
</tr>
<tr>
<td></td>
<td>IsiXhosa</td>
<td>3,40</td>
</tr>
<tr>
<td></td>
<td>IsiZulu</td>
<td>2,50</td>
</tr>
<tr>
<td>Employment status</td>
<td>Permanent</td>
<td>95,10</td>
</tr>
<tr>
<td></td>
<td>Substitute position</td>
<td>2,40</td>
</tr>
<tr>
<td></td>
<td>Employed by the hour</td>
<td>0,50</td>
</tr>
<tr>
<td></td>
<td>Employed for a project</td>
<td>0,50</td>
</tr>
<tr>
<td></td>
<td>Trainee</td>
<td>1,60</td>
</tr>
<tr>
<td>Employment</td>
<td>Full-time</td>
<td>99,00</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>0,90</td>
</tr>
<tr>
<td>Union member</td>
<td>Yes</td>
<td>82,50</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16,00</td>
</tr>
<tr>
<td>Work assignments changed during past 12 months</td>
<td>Yes</td>
<td>47,60</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>51,90</td>
</tr>
<tr>
<td></td>
<td>Voluntary</td>
<td>26,70</td>
</tr>
<tr>
<td></td>
<td>Involuntary</td>
<td>23,30</td>
</tr>
<tr>
<td></td>
<td>For the better</td>
<td>37,40</td>
</tr>
<tr>
<td></td>
<td>For the worse</td>
<td>11,20</td>
</tr>
</tbody>
</table>

* Where percentages do not add to 100, this is due to missing values.

The sample comprised mainly males (91,30%), which is a representation of the gender spread of the population in the gold mining company. Males represented 95% of the total population, while HDSA employees represented 23,30% of the total population. More than half of the
participants (68.90%) were Afrikaans-speaking. Most of the participants (73.70%) have at least completed high school or tertiary studies.

Most participants (95.10%) were permanently employed, and nearly all the participants (99.00%) were employed full-time. The majority of participants were union members (82.50%). Almost half of the participants (47.60%) indicated that their work assignments changed during the past 12 months, 26.70% pointed out the change was voluntary, and 37.40% believed it was for the best.

A large number of participants (75.20%) were married or lived with a partner. Nearly half of the participants (48.50%) had children under the age of 12 living with them. The average number of years participants had been working for the organisation is 14.03 years ($SD = 9.00$ years), while the mean monthly salary of participants was R 7 003.50 ($SD = R 2 523.60$).

**Measuring instruments**

The *Job Insecurity Scale* (Isaksson, Hellgren, & Pettersson, 1998) measuring both qualitative and quantitative job insecurity, the *Cybernetic Coping Scale* (CCS; Edwards & Baglioni, 1993), and the *Health Complaints Questionnaire* (Andersson, 1986, modified by Isaksson & Johansson, 1997) were utilised. A questionnaire gathering data on demographic characteristics (age, gender, education and language) was also administered.

**Job Insecurity.** Isaksson, Hellgren, and Pettersson (1998) developed the seven-item questionnaire. Quantitative job insecurity was operationalised in accordance with Greenhalgh and Rosenblatt’s (1984) definition of perceived threats to the continuity of the job itself, while qualitative job insecurity was designed to reflect what Greenhalgh and Rosenblatt characterised as a threat to the continuity of important job features (Hellgren et al., 1999).

*The Cybernetic Coping Scale* (CCS) was developed by Edwards and Baglioni (1993) based upon the cybernetic theory of stress. Edwards’ (1992) concept of stress, coping and well-being was derived from the cybernetic theory. This theory views stress, coping and well-being as critical elements of a negative feedback loop in which discrepancies between the perceived state and desired state induce stress, which in turn damages well-being and activates coping. Coping is conceptualised as attempts to reduce or eliminate the negative
effects of stress on well-being (Edwards & Baglioni, 1999). The CCS includes five forms of coping, identified as i) Change the situation; ii) Accommodation; iii) Devaluation; iv) Avoidance; and v) Symptom Reduction. According to Guppy et al. (2004), all five of the scales produce reliabilities >0.70. Furthermore, all 40 items loaded significantly on the appropriate factor. For the purpose of this study, the 15-item version of the CCS was used. Internal reliability estimates for the 15-item model produced acceptable to high alpha coefficients (Guppy et al., 2004).

The Health Complaints Questionnaire (Andersson, 1986, modified by Isaksson & Johansson, 1997) was used to provide a measure of physical health. Physical health was measured with a 10-item index in which the respondents indicate how frequently (1 = never; 5 = always) they had suffered from various symptoms (e.g. headaches, shoulder pains or stomach problems) during the past 12 months.

**Statistical analysis**

The statistical analysis was carried out with the help of the SPSS-program (SPSS, 2003). The program was used to carry out statistical analysis regarding the reliability and validity of the measuring instruments and descriptive statistics. Cronbach alpha coefficients were used to assess the reliability of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data. A cut-off point of 0.30 (medium effect) (Cohen, 1988) was set for the practical significance of correlation coefficients.

The main and interactive effects of coping were tested using hierarchical multiple regression analysis. Demographic characteristics were controlled for in the first step. Job insecurity and coping variables were entered in the second step. Interaction terms of job insecurity with each of the coping variables were entered in the third step to test for the hypothesised moderating effect of coping on the relation between job insecurity and health-related behaviours. Following the procedures described by Aiken and West (1991), the predictor variables were centred, i.e. the means of these variables were set to zero while the standard deviations were kept intact.
RESULTS

Descriptive statistics for the different measuring instruments are given in Table 2 below.

Table 2

*Descriptive Statistics and Alpha Coefficients of the Measuring Instruments*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Insecurity Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Insecurity – Qualitative</td>
<td>2.65</td>
<td>0.99</td>
<td>0.21</td>
<td>-0.49</td>
<td>0.75</td>
</tr>
<tr>
<td>Job Insecurity – Quantitative</td>
<td>2.74</td>
<td>1.19</td>
<td>0.17</td>
<td>-0.83</td>
<td>0.82</td>
</tr>
<tr>
<td><strong>Cybernetic Coping Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Devaluation</td>
<td>2.97</td>
<td>0.98</td>
<td>-0.13</td>
<td>-0.23</td>
<td>0.68</td>
</tr>
<tr>
<td>Avoidance</td>
<td>2.33</td>
<td>1.07</td>
<td>0.40</td>
<td>-0.70</td>
<td>0.76</td>
</tr>
<tr>
<td>Symptom Reduction</td>
<td>3.36</td>
<td>0.92</td>
<td>-0.14</td>
<td>-0.35</td>
<td>0.57</td>
</tr>
<tr>
<td>Change the situation</td>
<td>3.86</td>
<td>0.82</td>
<td>-0.39</td>
<td>-0.06</td>
<td>0.68</td>
</tr>
<tr>
<td>Accommodation</td>
<td>3.26</td>
<td>1.00</td>
<td>-0.24</td>
<td>-0.33</td>
<td>0.66</td>
</tr>
<tr>
<td><strong>Health Complaints Questionnaire</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Complaints</td>
<td>1.87</td>
<td>0.74</td>
<td>1.23*</td>
<td>1.38*</td>
<td>0.85</td>
</tr>
</tbody>
</table>

* High skewness and/or kurtosis

Table 2 shows that acceptable Cronbach alpha coefficients varying from 0.57 to 0.85 were obtained for the scales. The symptom reduction coping scale showed the lowest alpha coefficient, but can still be regarded as acceptable (see Nunnally & Bernstein, 1994). It is evident from Table 2 that most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis. Health complaints, however, were somewhat positively skewed. Quantitative job insecurity shows a slightly higher mean than qualitative job insecurity, while the coping strategies of changing the situation, reducing symptoms and following an accommodative strategy displayed the highest means.

Table 3 shows the correlations between the job insecurity, coping and health complaints constructs. Pearson product-moment correlation coefficients were used to specify the relationship between the variables. For health complaints, showing high skewness and kurtosis, Spearman correlations were computed.
Table 3

**Product-Moment Correlation Coefficients between Job Insecurity, Coping and Health Complaints**

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Change the situation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Accommodation</td>
<td>0.21*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Devaluation</td>
<td>0.02</td>
<td>0.38*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Avoidance</td>
<td>-0.13</td>
<td>0.38*</td>
<td>0.51**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Symptom reduction</td>
<td>0.13</td>
<td>0.34*</td>
<td>0.46*</td>
<td>0.46*</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Job Insecurity – qualitative</td>
<td>-0.14</td>
<td>0.09</td>
<td>0.05</td>
<td>0.01</td>
<td>-0.09</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7. Job Insecurity – quantitative</td>
<td>0.04</td>
<td>0.26*</td>
<td>0.6</td>
<td>0.09</td>
<td>-0.04</td>
<td>0.49*</td>
<td>-</td>
</tr>
<tr>
<td>8. Health complaints</td>
<td>0.04</td>
<td>0.24*</td>
<td>0.15*</td>
<td>0.19*</td>
<td>0.09</td>
<td>0.26*</td>
<td>0.25*</td>
</tr>
</tbody>
</table>

*p ≤ 0.05 – statistically significant

*r > 0.30 – practically significant (Medium effect)

**r > 0.50 – practically significant (Large effect)

Change the situation correlates statistically significantly with accommodation, but did not reach practical significance. Accommodation correlates practically significantly (medium effect) with devaluation, avoidance and symptom reduction, and statistically significantly with job insecurity – quantitative. Devaluation is practically significantly related to avoidance (large effect), and symptom reduction (medium effect). Avoidance correlates with symptom reduction (practically significant – medium effect), and statistically significantly with health complaints. Qualitative and quantitative job insecurity showed a practically significant correlation of medium effect. Health complaints correlated statistically significantly with accommodation, devaluation, avoidance, and both qualitative and quantitative job insecurity.

The results of the multiple regression with health complaints as dependent variable are given in Table 4. Biographical variables of age and gender were entered in the first step, job insecurity and coping in the second step and the interaction terms in the third step.
Table 4

*Multiple Regression Analyses with Health Complaints as Dependent Variable*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>R</th>
<th>R²</th>
<th>ΔR²</th>
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<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>Beta</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>4,79</td>
<td>12,71</td>
<td>0,38</td>
<td>0,71</td>
<td>0,41</td>
<td>0,04</td>
<td>0,00</td>
<td>0,00</td>
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<td>Gender</td>
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<td>0,19</td>
<td>-0,06</td>
<td>-0,87</td>
<td>0,39</td>
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<tr>
<td>Age</td>
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<td>0,25</td>
<td>0,00</td>
<td>0,72</td>
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<tr>
<td>2 (Constant)</td>
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<td>12,51</td>
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<td>0,32</td>
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<td>-0,97</td>
<td>0,34</td>
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<tr>
<td>Age</td>
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<td>0,00</td>
<td>0,2</td>
<td>0,32</td>
<td>0,75</td>
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<tr>
<td>Job Insecurity - Qualitative</td>
<td>0,12</td>
<td>0,06</td>
<td>0,16</td>
<td>2,09</td>
<td>0,4**</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Job Insecurity - Quantitative</td>
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<td>0,05</td>
<td>0,11</td>
<td>1,90</td>
<td>0,16</td>
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<tr>
<td>Devaluation</td>
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<td>0,07</td>
<td>0,07</td>
<td>0,78</td>
<td>0,44</td>
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<tr>
<td>Avoidance</td>
<td>0,10</td>
<td>0,06</td>
<td>0,14</td>
<td>1,70</td>
<td>0,09**</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Symptom Reduction</td>
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<td>0,07</td>
<td>-0,04</td>
<td>-0,47</td>
<td>0,64</td>
<td></td>
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</tr>
<tr>
<td>Changing the Situation</td>
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<td>0,04</td>
<td>0,06</td>
<td>0,91</td>
<td>0,37</td>
<td></td>
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</tr>
<tr>
<td>Accommodation</td>
<td>0,01</td>
<td>0,04</td>
<td>0,22</td>
<td>0,29</td>
<td>0,77</td>
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</tr>
<tr>
<td>3 (Constant)</td>
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<td>13,49</td>
<td>0,49</td>
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<td>1,33</td>
<td>0,35</td>
<td>0,12</td>
<td>0,02</td>
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<td>Gender</td>
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<td>-0,08</td>
<td>-1,09</td>
<td>0,28</td>
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<tr>
<td>Age</td>
<td>0,00</td>
<td>0,00</td>
<td>0,06</td>
<td>0,46</td>
<td>0,65</td>
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<tr>
<td>Job Insecurity - Qualitative</td>
<td>0,11</td>
<td>0,07</td>
<td>0,14</td>
<td>1,69</td>
<td>0,09**</td>
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<tr>
<td>Job Insecurity - Quantitative</td>
<td>0,08</td>
<td>0,05</td>
<td>0,13</td>
<td>1,44</td>
<td>0,15</td>
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<tr>
<td>Devaluation</td>
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<td>0,07</td>
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<td>0,88</td>
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<tr>
<td>Avoidance</td>
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<td>0,06</td>
<td>0,14</td>
<td>1,54</td>
<td>0,13</td>
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</tr>
<tr>
<td>Symptom Reduction</td>
<td>-0,03</td>
<td>0,07</td>
<td>-0,03</td>
<td>-0,39</td>
<td>0,70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changing the Situation</td>
<td>0,02</td>
<td>0,06</td>
<td>0,04</td>
<td>0,43</td>
<td>0,67</td>
<td></td>
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</tr>
<tr>
<td>Accommodation</td>
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<td>0,05</td>
<td>0,00</td>
<td>0,06</td>
<td>0,95</td>
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<tr>
<td>Devaluation x Job Insecurity - Quantitative</td>
<td>0,03</td>
<td>0,07</td>
<td>0,05</td>
<td>0,36</td>
<td>0,72</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Devaluation x Job Insecurity - Qualitative</td>
<td>0,05</td>
<td>0,08</td>
<td>0,07</td>
<td>0,64</td>
<td>0,53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance x Job Insecurity - Quantitative</td>
<td>0,05</td>
<td>0,06</td>
<td>0,09</td>
<td>0,75</td>
<td>0,46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance x Job Insecurity - Qualitative</td>
<td>0,09</td>
<td>0,08</td>
<td>0,06</td>
<td>0,66</td>
<td>0,96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptom Reduction x Job Insecurity - Quantitative</td>
<td>-0,09</td>
<td>0,07</td>
<td>-0,16</td>
<td>-1,27</td>
<td>0,21</td>
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<td></td>
<td></td>
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<tr>
<td>Symptom Reduction x Job Insecurity - Qualitative</td>
<td>0,04</td>
<td>0,04</td>
<td>0,05</td>
<td>0,47</td>
<td>0,64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change the Situation x Job Insecurity Qualitative</td>
<td>-0,02</td>
<td>0,07</td>
<td>-0,03</td>
<td>-0,25</td>
<td>0,80</td>
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<tr>
<td>Change the Situation x Job Insecurity - Qualitative</td>
<td>0,04</td>
<td>0,08</td>
<td>0,07</td>
<td>0,56</td>
<td>0,57</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Accommodation x Job Insecurity - Qualitative</td>
<td>-0,02</td>
<td>0,09</td>
<td>-0,04</td>
<td>-0,36</td>
<td>0,72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodation x Job Insecurity - Quantitative</td>
<td>-0,00</td>
<td>0,07</td>
<td>-0,01</td>
<td>-0,10</td>
<td>0,92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0,05

**p<0,10

Table 4 shows that when job insecurity and coping variables were entered in step 2, 10% of the variance in health complaints could be explained. Job insecurity – qualitative (ΔR² = 0,10; p<0,05) and the coping strategy of avoidance (ΔR² = 0,02; p<0,10) were statistically significantly related to health complaints. Neither age nor gender made a significant contribution to the variance explained. None of the interaction terms made a significant
contribution to health complaints; qualitative job insecurity, however, remained statistically significant.

Participants that indicated that they exercise "never", "a few times a year or once" or "a few times a month" were recoded as "not exercising", while participants that indicated that they exercise "at least once a week", "several times a week", or "daily", were recoded as "exercising". A large portion of the sample (22,30%) indicated they exercise at least once a week. Participants were also asked to indicate whether they drink alcohol and/or smoke cigarettes. Almost half of the participants (41,30%) specified that they smoke, and only 2,90% indicated that they take snuff. Most of the participants (71,40%) indicated that they do use alcohol. The majority (19,40%) specified taking a drink once a week, and 34,50% stated that they never get drunk. The largest percentage of respondents (27,70%) drank 3-4 glasses of alcohol per occasion.

After repeating the regression procedure as above, but separately for those participants who use alcohol, smoke and exercise, the following results were obtained: When looking at the effect of alcohol consumption, in Step 2, qualitative job insecurity and the coping strategy avoidance explained 12% of the variance ($\Delta R^2 = 0,12; p<0,10$). In Step 3, avoidance explained an additional 4% ($\Delta R^2 = 0,16; p<0,10$) of the variance. In the absence of the use of alcohol, gender explained 11% of the variance in the initial analysis. In Step 2, the variance explained increased to 26%, indicating a consistently significant effect for gender, and adding devaluation to the equation.

When evaluating the difference between smoking and non-smoking managers, qualitative job insecurity explained 14% of the variance ($\Delta R^2 = 0,14; p<0,10$) for those who smoked. For managers not smoking, gender was significant, explaining 4% of the variance in the initial analysis ($\Delta R^2 = 0,04; p<0,10$). In Step 2, the variance explained increased to 19%, with gender, devaluation, and changing the situation as significant predictors ($\Delta R^2 = 0,15; p<0,10$). In the last step, gender and changing the situation explained 21% of the variance ($\Delta R^2 = 0,21; p<0,10$), while the interaction terms failed to reach significance.

When looking at the differences regarding exercise behaviour, it could be seen in Step 2 that for the exercising group, two of the coping strategies, namely avoidance and changing the
situation were statistically significant, contributing 15% to the explained variance ($\Delta R^2 = 0.15; p<0.10$). In the non-exercising group, there were no significant predictors.

Finally, to get an idea of the most prominent health complaints of managers in this mining organisation, individual health complaints were evaluated. The results are reported in Table 5.

**Table 5**

*Descriptive Statistics of Health Complaints Questionnaire Items*

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomach problems</td>
<td>1.93</td>
<td>1.18</td>
</tr>
<tr>
<td>Heart or chest problems</td>
<td>1.57</td>
<td>1.03</td>
</tr>
<tr>
<td>Joint problems</td>
<td>1.94</td>
<td>1.26</td>
</tr>
<tr>
<td>Muscular problems</td>
<td>1.12</td>
<td>1.45</td>
</tr>
<tr>
<td>Neck/Shoulder pains</td>
<td>2.13</td>
<td>1.31</td>
</tr>
<tr>
<td>Back pain</td>
<td>2.22</td>
<td>1.34</td>
</tr>
<tr>
<td>Headaches</td>
<td>2.53</td>
<td>1.24</td>
</tr>
<tr>
<td>Skin irritations or itching</td>
<td>1.69</td>
<td>1.06</td>
</tr>
<tr>
<td>Breathing problems</td>
<td>1.53</td>
<td>1.05</td>
</tr>
<tr>
<td>Long-term colds</td>
<td>1.50</td>
<td>0.87</td>
</tr>
</tbody>
</table>

The three most common health complaints the participants suffered from were headaches, back pain and neck/shoulder pains. The lowest reported health complaints were long-term colds, breathing problems and heart or chest problems.

**DISCUSSION**

The aims of this study were to investigate the role of job insecurity in predicting health-related behaviours, and to determine whether coping moderates the effect of job insecurity on health behaviours for a group of managers in a South African gold mining company. The construct validity of the Job Insecurity Scale, Cybernetic Coping Scale and the Health Complaints Questionnaire were investigated and showed acceptable reliability.

The coping strategy of changing the situation was positively related to being accommodative. Managers who prefer coping by actively engaging and trying to change the situation therefore
also seem likely to be accommodating. As a result, individuals could attempt to bring the situation into conjunction with desires; however, they will also adjust desires to meet the situation. Alternatively, managers might be accommodating in an attempt to change situations not ameliorable to any other coping strategy. Regarding the relationships between variables, the strongest relationship was indicated between having an avoidant coping strategy and a devaluing orientation, suggesting that avoidance may be accompanied by deciding that the problem was not that important. Alternatively, those managers who do not accurately assess the importance of a particular problem might be more inclined to avoid reaching a suitable solution.

Avoidance coping showed a positive relation to the coping strategy of symptom reduction as well as health complaints, while avoidance coping was a significant predictor of health complaints. Therefore directing attention away from the situation creating the stress, results in health complaints. Individuals most probably use avoidance coping to protect their well-being. Alternatively, individuals attempting to reduce symptoms of stress would direct attention away from the situation creating the stress, but might become more aware of the effect hereon their health.

Focussing on reducing symptoms as a coping strategy was also associated with being more accommodating, devaluing and avoidant. This indicates that individuals, who attempt to cope with a threat by focussing on managing symptoms, are also more likely to be adjusting desires to meet the situation, reducing the importance associated with the discrepancy and by directing attention away from the situation. Catalano, Rook, and Dooley (1986) suggest that employees who are already under stress are more than likely to attempt to deal with stressful situations by adopting negative coping behaviours. The results described above are in accordance with those of Catalano et al. (1986). This data suggests that a natural first reaction to stress and job insecurity is a defensive reaction. The fact that the participants of this study faced their last retrenchment in March 2004, may also contribute to their negative coping behaviours.

A positive relation was found between qualitative and quantitative job insecurity. This shows that managers’ experience of threats to the continuity of their jobs, as well as threat to the continuity of important job features, is related and inseparable. Both dimensions of job insecurity were positively related to health complaints. As a result, individuals with
qualitative and quantitative job insecurity could experience greater health complaints, but it may also be that individuals with greater health complaints perceive greater job insecurity. An individual’s health is of great importance in the mining industry; certain illnesses can prevent the person from working underground (subsequently losing bonus payments) and if a surface job is not available, the individual could be boarded. Although this sample consisted of individuals mostly tasked with office-based jobs, they still need to make regular underground visits and carry out inspections. The relationship between job insecurity and health might thus be explained by the threat posed by being unable to conform to the physical requirements of the job.

It is also of interest to note that coping by trying to change the situation and reducing symptoms were not related to health complaints. This could be explained through the conceptual process of coping (Edwards & Baglioni, 1993), which states that coping is an attempt to reduce or eliminate the negative effects of stress on well-being. Health complaints, supposedly caused by either physical or psychosomatic impairment, might be most ameliorable to direct change efforts, or efforts aimed at symptom management. This finding lends further credence to the assumption that managers are not following a pro-active strategy in managing their distress. The assumption can be made that if managers used the more pro-active coping strategies (such as changing the situation and symptom reduction), they would experience less health complaints. Coping strategies of changing the situation, reducing symptoms and following an accommodative strategy showed the highest means, indicating that even though these are preferred strategies, they are not employed in managing personal health.

Interestingly, qualitative job insecurity was not related to any of the coping strategies. Therefore, individuals who feel afraid of losing important features of their jobs, but not the job itself, might not see any suitable coping strategy to deal with these feelings. One could understand that losing job features might be experienced as less traumatic than losing one’s employment entirely. People who are experiencing insecurity regarding perceptions of continuity of the job itself (thus facing unemployment or retrenchment), used an accommodative strategy to cope with the created stress. It seems that individuals realising they cannot change the situation they are faced with, adjust their own desires and feelings of insecurity to meet the situation they are presented with.
A further confirmation of the above can be seen in the fact that no relationship was found between qualitative and quantitative job insecurity and coping by changing the situation. Managers believe they cannot change their perceived threats to their job security. Consequently, they would rather use an accommodative strategy to cope with the threat. When job insecurity is a threat to the individual, the next step will be to assess if anything can be done to reduce or eliminate the threat. Lazarus and Folkman’s (1984) concept of secondary appraisal postulates that individuals will attempt to evaluate two main aspects when they perceive some sort of threat; they will determine which coping options are required to counteract the threat, and whether any of the strategies can be employed successfully. Research suggests that individuals with less opportunity to exercise control over the situation will experience more distress (Frankenhaeuser & Johansson, 1986). Most of the participants in this study were white males, those most at threat of losing important job features. The current dominant context of affirmative action, as imposed by the government (in the form of the Employment Equity Act and the Mining Charter), threaten mostly those who benefited from a previously inequitable society, divided along racial lines. These laws apply to all economic sectors, and are not confined to the mining industry. This could lead to increased stress, as people cannot reduce the threats they are experiencing. The finding thus indicates perhaps a feeling of helplessness on the part of managers in the sense that they are unable to do anything in and about themselves to manage the job insecurity they are experiencing. Karasek and Theorell (1990) believe that job loss is unpredictable and beyond one’s control. The assumption can be made that managers in this study are experiencing high-strain jobs, as explained by Karasek’s (1979) job strain model. This can be ascribed to the fact that they are experiencing feelings of job insecurity (high demand), without being able to do anything concrete about it (low control).

The results of the regression analyses showed that qualitative job insecurity and following an avoidant coping strategy resulted in health complaints. This again confirms the ineffective ways the participants dealt with stressful situations. The results also indicate that people feeling they may lose important job features could present with greater health complaints (for example headaches, back pain and neck/shoulder pains), than those perceiving a total loss of employment. While feelings of uncertainty about losing important job features result in more anxiety and tension, the assumption can be made that total job loss would actually relieve the individual from some of the uncertainty. Headaches (Dua, 1994; Everly, 1990) and pain or cramping in the neck and shoulder areas (Donovan & Kleiner, 1994) have been identified as
good indicators of psychological stress, and were found to be most prominent in the present sample.

It was found that health complaints by individuals who drink alcohol regularly are also related to experiencing the threat of losing important job features and coping with this by directing their attention away from the situation. By drinking alcohol to get their minds off things, individuals are not relieved from the perceived threat of losing important job features; in fact, regular alcohol use (or abuse) might even exacerbate negative effects on physical health. Higher rates of alcohol consumption among individuals with higher levels of occupational stress have been indicated (Horwitz & Davies, 1994). Research has also revealed that men who rely on avoidant coping strategies when feeling stressed are more prone to drinking alcohol (Cooper, Russel, & Skinner, 1992).

For those individuals who did not drink alcohol, health complaints were found to be related to gender and devaluation. Therefore, gender played a role in participants’ decision not to drink alcohol. In a study evaluating the alcohol intake of military personnel, men were three times more likely than women to drink heavily (Bray, Fairbank, & Marsden, 1999). Individuals that do not drink alcohol will reduce the importance associated with the discrepancy between their current and desired states. Alternatively, people who find themselves in a stressful situation may choose not to drink alcohol. Some studies have found that some respondents may even reduce their alcohol intake during stressful periods (Breslin, O'Keefe, & Burrel, 1995). The interpretation of these findings is however tempered by the uneven distribution of gender in the present sample.

For individuals who smoke cigarettes, health complaints were also related to the threat of losing important job features. Conway, Vickers, and Ward (1981) as well as Karasek and Theorell (1990), have found increased rates of cigarette smoking as a response to high levels of stress. Bray et al. (1999) have found that individuals use alcohol or cigarettes as a coping mechanism for stress. Health complaints by non-smoking individuals were predicted by gender, devaluation and changing the situation. Thus, non-smoking individuals who are more likely to reduce the importance associated with the discrepancy they perceive, and attempt to bring the situation into conjunction with their desires, are more likely to report health complaints.
For people exercising between once a week and daily, health complaints were predicted by directing attention away from the situation and attempting to bring the situation into conjunction with desires. Therefore, individuals participating in a more active lifestyle may have the energy to bring the situation in conjunction with desires. However, individuals also coped by directing attention away from the situation. Consequently, individuals could also use physical exercise to mentally escape from their situation (Latack, 1986). For the non-exercising group, none of the predictor variables reached significance.

Both dimensions of job insecurity were related to health complaints, by correlations. The regression analyses however indicated that only qualitative job insecurity was a significant predictor of health complaints. Qualitative job insecurity was also a significant predictor of health complaints in employees who smoked cigarettes and drank alcohol, and exercised at least once a week. This result differs from Ferrie et al. (1995, 1998) and McDonough (2000), who could not find associations between job insecurity and drinking. The implication of this is that a differentiation between qualitative and quantitative job insecurity is warranted, given the differing findings. Bray et al. (1999) found a relation between substance use (alcohol and smoking) and high levels of stress. Results confirm the use of alcohol and/or cigarettes as a coping mechanism for stress. The results show that qualitative job insecurity is a significant predictor of health complaints for those who smoke or drink alcohol. It could be explained as follows: When individuals are experiencing quantitative job insecurity, they are faced with a 50/50 situation where either total job loss, or no change in their employment relationship is anticipated. However, with qualitative job insecurity, they have the perception that they might be losing important job features - but exactly when and how many job features are uncertain. Qualitative job insecurity might thus be hypothesised to lead to more uncertainty than quantitative job insecurity, which in turn may lead to higher stress. According to Lazarus and Folkman (1984), the anticipation of a stressful event may represent an even greater source of anxiety than the actual event. Karasek and Theorell (1990) confirm that job strain is manifested when the individual is presented with highly stressful circumstances and has little control over the response.

Qualitative job insecurity resulted in health complaints, whereas quantitative job insecurity did not play a role in predicting health complaints. Previous research showed that different aspects of job insecurity may relate differently to types of outcomes (Sverke & Hellgren, 2002). This study supports previous work by Hellgren et al. (1999), who found that
qualitative job insecurity had a stronger relationship with different aspects of health. Roskies and Louis-Guerin (1990) found similar results, indicating that qualitative job insecurity was more strongly related to health outcomes.

While different coping strategies had an effect on reported health complaints in different analyses, its effect was always negated when interaction terms were entered. The latter indicates that job insecurity might account for occupational stress beyond what can be accounted for by coping strategies. Thus, where coping styles contributed to health complaints, job insecurity negated its effects, and rendered coping ineffective. The results of this study thus show that coping did not moderate the effects of job insecurity for employees with health complaints. Rather, it is suggested that using negative coping behaviours (such as avoiding and devaluing) may actually contribute to health complaints. By ignoring or avoiding the stress, the individual becomes more helpless and powerless and this could lead to an increase in health complaints.

**RECOMMENDATIONS**

It is evident from the results of this study that managers in the mining industry use negative coping behaviours to deal with work stress. McGarvey (1995, in Van Zyl, 2002, p. 28) explains why stress reactions are detrimental to the individual and organisation: “The effects of high stress are often hidden at work because reputations have to be protected. The employee has a fear of failure and all energies are directed towards keeping him going while pretending it is not happening”. This could explain why many employees do not use coping strategies to negate job insecurity, as well as the use of alcohol and smoking when they experience threats to the continuity of important job features. The current climate in the mining industry is one of uncertainty as far as the future is concerned. With Employment Equity and Mining Charter goals to achieve, people may have some knowledge of the outcome of this proposed change. Whether they will be able to anticipate the actual effect on their working conditions is an entirely different question.

In the light of the above, training and development in coping skills and stress-related intervention strategies could be advantageous to the company and individuals - perhaps not to reduce or eliminate job insecurity, but rather to increase wellness and employees’ ability to cope with transformation in the mining industry.
The organisation must take cognisance that workers experience qualitative and quantitative job insecurity, as job insecurity has detrimental effects on both the individual and the organisation (Noer, 1993). The results of the present study showed qualitative job insecurity to be related to health complaints, drinking alcohol and smoking. All of these behaviours are detrimental to the individual, and if left unattended, could spill over to the working environment. Interventions to reduce or eliminate job insecurity are not straightforward in the current South African context, as most of the reasons people are experiencing job insecurity are external and cannot be controlled by the individual or the organisation. Job insecurity is therefore a macro issue for individuals in South Africa. However, we can begin by evaluating micro issues. As the uncertainty of losing important job features seem to produce more anxiety and tension than actual job loss, it seems sensible to attempt to reduce or eliminate individuals’ uncertainty. Managers are experiencing high strain, as they have high demands and low control in their jobs. Social support could play an important role in reducing the individual’s uncertainty. Johnson (1989) claimed that social support from co-workers and managers may function as a buffer against the negative effects of high demands on health and well-being. Support groups where people can share their fears and emotions as well as receive information about the situation, should be investigated as a possible intervention to reduce the negative effects of job insecurity. This could also stimulate better coping strategies within individuals.

Further analysis of symptom reduction as coping mechanism is also warranted. Does this factor measure actual reduction of symptoms (as opposed to the individual’s perceptions) and if it does, how effectively is this done? Will it reduce the symptoms temporarily or permanently?

The role and nature of qualitative job insecurity might be investigated through qualitative analysis by means of focus groups. Questions that need to be answered include why qualitative job insecurity, as opposed to quantitative job insecurity, might be related to a greater tendency in the use of alcohol, tobacco and greater reporting of health complaints.

Job insecurity should not only be dealt with by dealing directly with the individual. Management can play an important role in reducing subordinates’ insecurity through factual and timely communication. Research has shown that providing accurate information, enhancing communication and training employees to cope with stress, may prevent the
negative impact of job insecurity (Hartley et al., 1991; Heaney et al., 1994; Kets de Vries & Balazs, 1997). Goleman (1998) argues that emotional intelligence training for managers may assist in dealing with their subordinates’ job insecurity. Jordan et al. (2002) are of the opinion that the ability of employees with high emotional intelligence to understand themselves and others’ emotional reaction to job insecurity may assist them in choosing more effective coping strategies.

With reference to future research, the present survey might be replicated in a larger sample to clearly investigate the relation of gender to qualitative and quantitative job insecurity and health complaints.
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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter encompasses conclusions regarding the literature review and the empirical study, by way of answering the objectives set out in Chapter 1. The limitations of the study are highlighted and recommendations are made for future research.

3.1 CONCLUSIONS

In this section, conclusions are drawn in terms of specific theoretical objectives and the results of the empirical study.

3.1.1 Conclusions in terms of specific theoretical objectives

The objectives of this research were to investigate the role of job insecurity in predicting health-related behaviours, and to determine whether coping moderates the effect of stress (as presented by job insecurity) on the work wellness (as presented by health complaints) of a group of managers in a South African gold mining company. Subsequently, the following conclusions are drawn in terms of the theoretical objectives.

Individuals may react differently to stress, and their appraisal of the stressful event or circumstances will determine their reaction. Lazarus and Folkman (1984) distinguish two forms of appraisals. First, the individual will determine the significance of the incident (primary appraisal), and then the individual will evaluate what can be done about it (secondary appraisal). Individuals may act in the same way whenever the threat of job insecurity is perceived. They will determine how this will affect them, and how they can best handle the situation.

In the present study, job insecurity was defined as consisting of two components, namely qualitative and quantitative job insecurity. Based on the review of the literature, job insecurity is defined as an individual’s “expectations of continuity in a job situation” (Davy, Kinicki, & Scheck, 1997, p. 323), “overall concern about the future existence of the job”
(Rosenblatt & Ruvio, 1996, p. 587), “perception of a potential threat to continuity in his or her current job” (Heany, Israel, & House, 1994, p. 1431), and “powerlessness to maintain desired continuity in a threatened job situation” (Greenhalgh & Rosenblatt, 1984, p. 438). Job insecurity, an extreme workplace stressor, has become an increasingly important issue for organisations across the world. The negative effects of job insecurity are vast and detrimental for the individual, as well as the company. With the current situation in the South African gold mining industry, it is more than likely that employees will face either qualitative and/or quantitative job insecurity, one way or the other. When job loss is not an immediate threat, the threat of losing important job features such as demotions, lack of career opportunities, or a decrease in salary may be a constant worry to gold mining employees at all levels, but especially to those at management level, as highlighted by this research. Lifelong employment is no longer assured and employees are faced with the reality thereof. According to Näswall (2004), the most negative consequence of job insecurity is the uncertainty and ambiguity the individual experiences. More specifically, the mentioned uncertainty and ambiguity might translate into feelings of helplessness, powerlessness and frustration.

Dewe (1991) refers to coping as the different strategies individuals use to prevent or eliminate a threat. In this research, coping was defined as the cognitive (by reframing and re-evaluation) and behavioural (by engagement in recreation and self-care activities or the seeking of social support) attempts to master, reduce and eliminate the effects of stress on the well-being of individuals (Edwards & Baglioni, 1999; Folkman, 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Osipow & Spokane, 1987). In stressful situations, individuals cope by using either positive or negative coping behaviours. Based on the measuring instrument employed (The Cybernetic Coping Scale) (Edwards & Baglioni, 1993), coping was conceptualised as consisting of five dimensions, namely:

1. attempting to bring the situation in conjunction with desires (changing the situation);
2. adjusting desires to meet the situation (accommodation);
3. reducing the importance associated with the discrepancy (devaluation);
4. directing attention away from the situation (avoidance); and
5. improving well-being directly (symptom reduction).
According to Karasek and Theorell (1990) job strain is experienced whenever the individual is confronted with high stress jobs accompanied by little control, and a lack of social support from co-workers and managers.

In this research, health was conceptualised as the health complaints and health-related behaviours of a group of mine managers experiencing job insecurity. Alcohol consumption, smoking of cigarettes, and exercise behaviour of individuals facing high stress were evaluated in this study.

3.1.2 Conclusions in terms of specific empirical objectives

The Job Insecurity Scale and Health Complaints Questionnaire showed acceptable Cronbach alpha coefficients. The Cybernetic Coping Scale also showed acceptable Cronbach alpha coefficients, although the symptom reduction subscale was not above suspicion.

Having a coping orientation of attempting to bring the actual situation more in conjunction with desires was positively related to being more accommodative. This indicates that managers would actively try to cope through changing the situation, but would also accept when it is better to attempt to adjust desires to meet the situation. Coping through adjusting desires to meet the situation showed positive relationships with the coping strategies of devaluation, avoidance, symptom reduction as well as with quantitative job insecurity and health complaints. Individuals who cope by adjusting desires would more than likely reduce the importance, as well as direct attention away from the problem. They would usually also attempt to improve their well-being. These individuals will experience a direct threat of losing their jobs and will suffer from health complaints. Coping through reducing the importance associated with the discrepancy was positively related to the coping orientations of avoidance and symptom reduction. Individuals in this category also displayed health complaints. The latter finding suggests that when individuals use the coping strategy of reducing the importance of the problem, they would find it best to direct their attention away from the situation creating the stress. They would in addition try to reduce the symptoms of these stressors but would nevertheless complain about their health. Avoidance coping showed a positive relation to the coping strategy of reducing symptoms and to health complaints. Individuals who direct their attention away from the situation will try to improve their well-being but would also complain about their health. The threat of losing important job futures
showed a positive relation with the threat of losing one’s job. This finding might be interpreted as indicating that individuals, who are concerned about losing important job features, might also feel that they may lose their jobs. Health complaints were positively related to using coping orientations of adjusting one’s desires to meet the situation, focusing on reducing the importance of the discrepancy as well as directing attention away from the situation. Health complaints were also positively related to the threat of losing one’s job and important job features. Poor health might thus be hypothesised to be a result of qualitative and quantitative job insecurity. The assumption can be made that the use of negative coping strategies may result in health complaints which eventually contribute to a decline in the individual’s overall wellness.

The results of the regression analyses showed that qualitative job insecurity in combination with an avoidant coping strategy resulted in health complaints. Individuals who drink alcohol regularly and experience the threat of losing important job features had greater health complaints, and typically coped by directing attention away from the situation. For those individuals who do not drink alcohol regularly, health complaints were related to gender and reducing the importance associated with the discrepancy. For individuals who smoke cigarettes, health complaints were also related to the threat of losing important job features. For people exercising once a week to daily, health complaints were predicted by a coping strategy of directing attention away from the situation, and attempting to bring the situation into conjunction with desires. The variables studied showed no relation to health complaints for the non-exercising group.

Qualitative job insecurity was a significant predictor of health complaints (such as headaches, back pain and neck/shoulder pains). A relationship was found between qualitative job insecurity in employees and smoking and drinking behaviour. Quantitative job insecurity did not play a role in predicting health complaints. Previous research found that quantitative job insecurity was more strongly related to work attitudes, while qualitative job insecurity had a stronger relationship with different aspects of health complaints (Hellgren, Sverke, & Isaksson, 1999). The present study again substantiated these previous findings.

Coping did not moderate the effects of job insecurity for employees with health complaints. Rather, it is suggested that using negative coping behaviours (such as avoiding and
devaluing) may actually contribute to health complaints. This hypothesis is supported by Catalano, Rook, and Dooley (1986), who suggest that employees under stress are more likely to deal with the situation by adopting negative coping behaviours. In previous studies, coping mediated the relation between stress appraisals and subjective illness (Jerusalem, 1993), and was useful when the individual had to cope with personal stress, but not with occupational stress (Dewe et al., 1993). The study of Mak and Mueller (2000) showed that occupational stress was only partially reduced through coping.

### 3.2 LIMITATIONS

The gender distribution of this study is an important limitation. Overall, males represented 91.30% of the population. This might limit the applicability of the current findings to female managers in the gold mining industry, or even to more evenly balanced populations where males are not the dominant group. All the participants also came from one specific occupational context, namely the mining industry. Findings might not be applicable to totally divergent occupational contexts.

The specific research design (cross-sectional) is a further limitation in the present study. This means that very little is known about the long-term effects of job insecurity (Sverke & Hellgren, 2002), since a cross-sectional design does not allow for drawing of conclusions regarding causality.

The coping scale of symptom reduction also did not perform as well as other coping scales. Perhaps a more fine-grained analysis, comparing actual reduction of symptoms (i.e. behaviour) with the individual’s perceptions of symptom reduction, is warranted. Also, the effectiveness of symptom reduction as coping mechanism needs further analysis. Dewe (2004) is of the opinion that instead of self-report questionnaires, a more clinical approach should be followed for something as complex as coping skills.

### 3.3 RECOMMENDATIONS

Recommendations for the organisations and for future research are made in this section.
3.3.1 **Recommendations for the organisation**

Training in and the development of coping skills and stress-related intervention strategies should be developed to increase the wellness and coping skills of individuals in the mining industry. Stress should be managed on primary, secondary and tertiary level to be appropriately effective. At primary level, the organisation should investigate alternatives for retrenchments and lay-offs. Individuals may be facilitated to perceive job insecurity as a challenge, instead of a negative experience. At secondary level, individuals should aim to manage their stress by developing their health and wellness by exploring their spiritual, emotional, intellectual, occupational, social, and physical wellbeing. At tertiary level, stress can be reduced and eliminated through counselling and support (Nelson & Simmons, 2003).

Job insecurity has emerged as an external and internal concern for both the individual and organisation in the mining industry. The organisation must focus on their “human gold” through wellness interventions addressing the various aspects thereof.

Support groups where individuals can share their fears and emotions about the uncertainty could be established. The support groups can furthermore be used to give factual and timely information (Hartley et al., 1991; Heaney et al., 1994; Kets de Vries & Balazs, 1997), as poorly managed communication regarding organisational change can only result in rumours, which could in turn cause the individual and organisation even more harm (Johnson, 1989).

When an organisation in crisis perceives individuals with psychological symptoms such as alcohol abuse and smoking, interventions should be implemented. Employee assistance programmes helping individuals to quit drinking or smoking should be considered. The company could also investigate whether the medical aid can acknowledge existing programmes or assist the company in the development of new programmes. Regular body fitness assessments should be done, and the advantages of regular exercise may be advocated. The employees’ families might also be involved to facilitate adherence to a healthy lifestyle.

3.3.2 **Recommendations for future research**

Based on the results obtained in this study, the following recommendations are made with regard to future research:
More research is needed regarding the measurement of coping strategies. Research taking a more clinical approach may be warranted when coping skills are measured. Specifically, psychometric properties of the symptom reduction subscale might be investigated by a confirmatory analysis approach, to highlight problems that might exist at item level.

Regarding future research, the current survey might be reproduced in a larger sample to clearly investigate the relation of gender with qualitative and quantitative job insecurity and health complaints. Also, the sample size did not allow for investigation into item bias and construct equivalence, which might be prevalent in a culturally heterogeneous society.

More research is needed to ascertain whether union membership had any effect or impact on job insecurity. In the present study 82.50% of the participants were union members. The assumption can be made that the union has a mandate to ensure more job security for their workers, or negotiate the developing of skills to lessen the psychological symptoms of job insecurity. Unions can also call for the developing of skills and knowledge to ensure future employment of members.

In order to overcome language barriers typical of the South African context, the measuring instruments could be translated into the 11 official languages recognised by the South African Constitution.

The effectiveness of interventions to reduce job insecurity and health complaints, as well as improving coping skills, should be investigated. The effects can be investigated at the individual and organisational levels.
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