

**CONFLICT BETWEEN WORK AND NON-WORK ROLES OF
EMPLOYEES IN THE MINING INDUSTRY: PREVALENCE
AND DIFFERENCES BETWEEN DEMOGRAPHIC GROUPS**

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COMMENTS

The reader is reminded of the following:

- The editorial style as well as the references referred to in this mini-dissertation followed the format prescribed by the Publication Manual (5th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom) that all scientific documents must use the APA style 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 largely agrees with the APA style) is used, but the APA guidelines were followed in constructing tables.

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DECLARATION

I, Betsie Steyl, hereby declare that “Conflict between work and non-work roles of employees in the mining industry: Prevalence and differences between demographic groups” is my own work and that the views and opinions expressed in this work are those of the author and relevant literature references as shown in the references.

I further declare that the content of this research will not be handed in for any other qualification at any other tertiary institution.

BETSIE STEYL

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TABLE OF CONTENTS

List of Tables	vi
Abstract	vii
Opsomming	ix

CHAPTER 1: INTRODUCTION

1.1	Problem statement	1
1.2	Research objectives	12
1.2.1	General objective	13
1.2.2	Specific objectives	13
1.3	Paradigm Perspective of the Research	13
1.3.1	Intellectual climate	13
1.3.2	Discipline	14
1.3.3	Meta-theoretical assumptions	14
1.3.3.1	Literature review	15
1.3.3.2	Empirical study	15
1.3.4	Market of intellectual resources	16
1.3.4.1	Theoretical beliefs	16
1.3.4.2	Methodological beliefs	17
1.4	Research method	18
1.4.1	Research design	18
1.4.2	Participants and procedure	18
1.4.3	Measuring battery	19
1.4.4	Statistical analysis	19
1.4.5	Ethical considerations	20
1.5	Overview of Chapters	21
1.6	Chapter Summary	21
	References	22

CHAPTER 2: RESEARCH ARTICLE	28
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CHAPTER 3: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

3.1	Conclusions	65
3.2	Limitations	68
3.3	Recommendations	70
3.3.1	Recommendations for the organisation	70
3.3.2	Recommendations for future research	71
	References	73

LIST OF TABLES

Table	Description	Page
Table 1	Characteristics of Participants ($n = 245$)	45
Table 2	Descriptive Statistics and Alpha Coefficients of the Work-nonwork and Nonwork-work conflict scales ($n = 245$)	48
Table 3	Paired-sample T-tests for the Prevalence of the Direction of Conflict (Work-nonwork Conflict and Nonwork-work Conflict)	49
Table 4	Paired-sample T-tests for the Prevalence of Specific Work-nonwork Roles and Specific Nonwork-work Roles	50
Table 5	MANOVA – Differences in Work-nonwork Conflict of Demographic Groups	51
Table 6	ANOVA - Differences in Work-nonwork Conflict Based on Language	51
Table 7	ANOVA - Differences in Work-nonwork Conflict Based on Marital Status	52

ABSTRACT

Title:

Conflict between work and nonwork roles of employees in the mining industry: Prevalence and differences between demographic groups

Key terms:

Work-nonwork conflict, nonwork-work conflict, prevalence, demographic groups, mining industry

The mining industry is acknowledge to be a very stressful and demanding profession, driven by performance and intense working environments, hazardous working conditions and socially undesirable working hours. These factors could impact on the interaction between work and nonwork roles of employees. The objectives of this research were to investigate the prevalence of the different work-nonwork conflict scales and to determine the demographic differences of work-nonwork conflict in a sample of mining employees.

A random sample of 245 mining employees was taken from a platinum mine in the Rustenburg area. A newly developed Work-nonwork Interference Scale of Koekemoer (2009), measuring the interference between work and other nonwork roles, was used as measuring instrument. Descriptive statistics, Cronbach alpha coefficients, Paired-sample t-tests, Multivariate analysis of variance (MANOVA) and one-way analysis of variance (ANOVAS) were used to analyse the data. Work-nonwork conflict was more prevalent than nonwork-work conflict. The results also indicated that work-family conflict is more prevalent than work-domestic conflict and work-religion conflict. However, work-domestic conflict was more prevalent than work-religion conflict. Statistically significant differences exist between demographic groups based on marital status and language regarding work-nonwork conflict. The results obtained indicated that African-speaking participants experienced higher levels of private-work conflict compared to Afrikaans and English-speaking participants. The results also revealed that participants who are not married experienced higher levels of private-work conflict than those who are married.

Some recommendations made in this study included that the mining industry should focus on providing support in terms of available resources and effectively managed work-nonwork role conflicts. Recommendations for future research include larger sample sizes, administration of questionnaires to various occupational groups, investigation of positive interaction between work and other life roles as well as longitudinal and research designs.

OPSOMMING

Titel:

Konflik tussen werk en nie-werk rolle van werkers in die mynbedryf: Voorkoms en verskille tussen demografiese groepe

Sleutelwoorde:

Werk-niewerkkonflik, niewerk-werkkonflik, voorkoms, demografiese groepe, mynboubedryf

Die mynboubedryf word daaraan gekenmerk dat dit 'n uiters stresvolle werk is wat hoë eise stel, gedrewe deur uitsette en strawwe werksomgewings wat met gevaarlike werksomstandighede en sosiaal ongewenste werksure gepaard gaan. Hierdie faktore kan 'n invloed hê op die interaksie tussen werk- en niewerkrolle van werkers. Die doelwitte van hierdie studie was om die voorkoms van die verskillende werk-niewerkkonflikskale te bepaal en of daar verskille rakende werk-niewerkkonflik tussen verskillende demografiese groepe in 'n steekproef van mynwerkers voorkom.

'n Ewekansige steekproef van 245 mynwerkers is geneem van 'n platinum myn in die Rustenburg-omgewing. 'n Nuut ontwikkelde Werk-nie-werk Inmenging Skaal van Koekemoer (2009) wat die inmenging tussen werk en ander niewerkrolle meet, is as meetinstrument ingespan. Beskrywende statistiek, Cronbach alfakoëffisiënte, Meervoudigerigting-variëansieanalise (MANOVA) en eenrigtingvariëansieanalise (ANOVA) is benut om die data te analiseer. Werk-niewerkkonflik het meer voorgekom as niewerk-werkkonflik. Die resultate het ook getoon dat werk-familiekonflik meer voorkom as werk-huiskonflik en werk-geloofkonflik. Werk-huiskonflik het ook meer voorgekom as werk-geloofkonflik. Die resultate het statisties betekenisvolle verskille aangetoon tussen demografiese groepe, wat gebaseer is op taal en huwelikstatus. Die resultate wat verkry is, het getoon dat Afrikanersprekende deelnemers hoër vlakke van privaat-werkkonflik ervaar vergeleke met Afrikaans- en Engelssprekende deelnemers. Die resultate het ook onthul dat deelnemers wat nie getroud is nie, hoër vlakke van privaat-werkkonflik ervaar as dié wat getroud is.

Sommige aanbevelings wat uit die studie voortspruit, sluit in dat die mynboubedryf daarop moet fokus om ondersteuning te gee rakende beskikbare hulpbronne of om werk-niewerkrolkonflik doeltreffend te beheer. Aanbevelings vir verdere navorsing sluit in groter steekproewe, afneem van vraelyste op verskillende beroepsgroepe, navorsing van positiewe interaksie tussen werk en ander lewensrolle sowel as longitudinale navorsingsontwerpe.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on the conflict between work and non-work roles of employees in the mining industry, and the possible prevalence and differences that may exist in terms of work-nonwork conflict and nonwork-work conflict between demographic groups. This chapter contains the problem statement and a discussion of the research objectives, in which the general objectives and specific objectives are set out. The research method is explained and the division of chapters is given.

1.1 PROBLEM STATEMENT

Traditionally, work and home have been considered separate domains. More recently, however, the interdependence between both domains has increasingly been recognised and has captured the attention of many researchers (Geurts, Rutte, & Peeters, 1999). The interaction between these two life domains has become a significant topic in academic, political and public debate for a period of time (Geurts & Dijkers, 2002). Since major changes have taken place within the composition of the workforce and the nature of work, the interaction between these two domains has become more complex. Economic, political and social changes imply that the interaction between these two domains will become more difficult and work-personal life issues will become increasingly important, both internationally (Geurts & Demerouti, 2003) and in South Africa. During the past couple of years, and particularly since the first democratic election in 1994, there has been an increase in working women, dual-career couples, single parents and fathers who are actively involved in parenting (Schreuder & Theron, 2001). There is evidence, specifically in the developed and industrialised world, that managerial and professional men and women are working harder and longer hours (Geurts & Demerouti, 2003). In addition, organisational downsizing, restructuring and increasing levels of international competition have increased work demands on many professionals. Advances in technology, such as e-mail, mobile phones and laptop computers, have also made it achievable to work twenty-four hours a day, seven days a week (Burke, 2004).

The situation described above has created the potential for interference, or conflict, to occur between individuals' work and their personal life, also known as work-family conflict or work-nonwork interference (Greenhaus & Beutell, 1985; Greenhaus & Powell, 2003). Greenhaus and Beutell (1985, p. 77) define work-family conflict as "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible – such that participation in one role makes it difficult to participate in the other". This definition implies a bidirectional dimension in which the work domain can interfere with the home domain (work-home conflict) and the home domain can interfere with the work domain (home-work conflict). Barnett and Baruch (1985) maintain that role conflict arises when the demands from two or more roles are of such a nature that adequate performance of one role jeopardizes adequate performance of the other. Although there is currently a better understanding of work-home interaction research, the field is still limited to spill-over between the work domain and the home domain, and the possible influence of the work domain on other life roles outside ones home is still being ignored. Greenhaus and Powell (2003) recommended that researchers look outside their immediate work and family roles for answers to the ways experiences in roles outside of work (referred to as nonwork roles) and family (e.g., community, religion) interact or interfere with one another.

Kirchmeyer (1992) addressed this issue by stating that psychologists need to regard individuals not only as workers but also as spouses, as parents, and as community members, with the intention of understanding the needs, motivations, and expectations of individuals at work. According to Shaw and Costanzo (1982) a role may be defined as the functions a person performs when occupying a particular position within a particular social context. Work-family conflict is also a type of work-nonwork conflict, the latter of which encompasses not only the family or home domains in life, but potential conflicts stemming from social obligations in other social contexts such as church, school, or leisure (Frone, 2003).

Holahan and Gilbert (1979) identified four major life roles in each individual's life namely professional, spouse, parent, and self (as self-actualised person). Secord and Backman (1974) point out that interrole conflict will take place when conflicting and challenging expectancies are alleged from two or more roles enacted by an individual. Montgomery, Panagopoulou, Peeters, and Schaufeli (2005) state that the imbalance between social roles may be a significant stressor that can influence outcomes in the affected life domains and can influence

the general health and well-being of individuals. Investments in work and family roles are frequently in conflict, where investing in one role often makes it difficult to perform the demands of the other (which may also be true for investments in other life roles of individuals' lives such as community, leisure, religion) (Greenhaus & Beutell, 1985). Rothbard and Edwards (2003) stated that work and family role investments are essential for performance in these roles and are the driving forces underlying much conflict between work and family. Wilcox-Matthew and Minor (1989) noted that in trying to deal with the expectations in fulfilling multiple roles, women and men may fluctuate between emphasising career or family roles in a repetitive cycle. The family is not always a haven. Just as the workplace it can be a source of stress and the workplace can serve as a retreat from family pressures and dysfunction (Barnett, 1996). Spouse-, parent-, religion/spiritual-, and homecare-roles can also be stressors that impacts on work (and vice versa). Thus, just as work and family can be in conflict, there can also be conflict between one's work and other life roles one is fulfilling (such as parenting, spousal role, religion/spirituality role, domestic role).

Thoits (1983) suggests that people look to their non-work roles (e.g. spouse, parent, and religion) to provide an alternate role or alternative source of self-esteem. Stryker (1987) argues that a particular identity will be evoked in a particular situation or role and that it is determined by the commitment of the person to the different identities or roles that make up the self. The greater the commitment, the more salient the identity, and the more possible the person will be to choose behaviours confirming that identity in a particular setting (Stryker 1987). Individuals thus choose to commit and confirm certain identities that are beneficial to their self and will therefore be more committed to certain roles and choose to invest more in certain life roles. However according to role theory, interrole strain or conflict will occur when conflicting and competing expectancies are perceived from two or more roles that are enacted by an individual (Holahan & Gilbert, 1979) and makes the occurrence of work-nonwork conflict a possibility. Employees, for example, may invest less time and emotion in their nonwork roles because they perceive their work role as more salient. As a result more conflict arises between life roles and work roles.

In a study done by Simon (1995) it was stated that work and family roles have different meanings for women and men. Women (irrespective of their involvement in paid work) are also significantly more likely than men to tolerate primary responsibility for home chores and

childcare (Statistics Canada, 2000), which could cause higher work-nonwork conflict in women than in men. Simon (1995) found that the majority of men viewed work and family roles as interdependent and overlapping, and did not report negative consequences from combining the two roles. On the other hand, women perceived the work and family role as independent – such that when performing one role, they could not at the same time perform the other. It thus seems that men and women may also differ with regard to the interaction between their work and other nonwork roles or life roles. With regard to age, Grzywacz and Marks (2000) found that younger men reported higher work-family conflict and family-work conflict than older men. They also found that younger women reported more family-work conflict than older women. Although most studies found no relationship between different age groups (Frone, Russell, & Cooper, 1997; Pieterse & Mostert, 2005), Oldfield and Mostert (2007) found that participants between ages 50 and 69 years experienced statistically significant lower levels of work-family conflict, while participants between ages 22 and 39 years would appear to experience the highest level of work-family conflict. Frone et al. (1997) found no relationship between different age groups with any type of negative interaction between the two domains. Grzywacz and Mark (2000) found more family-work conflict in younger men than in older men, while younger women reported less work-family conflict than older women. When considering all these results it is thus possible that individuals from different age groups may also differ not only in their experience of work-family conflict but also in their experiences regarding the influences of other life roles and their work.

Regarding language, Rost and Mostert (2007) found that the Afrikaans and African groups experienced significantly higher levels of work-home conflict compared to English-speaking employees. Although Pieterse and Mostert (2005) found no differences between culture groups regarding work-family conflict, Grzywacz and Mark (2000) did find that black woman reported less family-work conflict than was the case with other woman. It must be noted that the changes in the workforce in South Africa (now more representative of all races), might result in different indications on work-family conflict than studies in other parts of the world. On the other hand, Oldfield and Mostert (2007) found that Africans experienced higher levels of work-family conflict as well as family-work conflict than the other culture groups. According to Oldfield and Mostert (2007), possible causes for this result may be the way in which individuals perceive the world around them. Different cultures have different attributes that affect the way people interpret situations and circumstances. Oldfield and

Mostert (2007) stated that the higher levels of work-family conflict and family-work conflict can be due to certain cultural aspects in the African groups, which can cause negative interference between the two domains. For example, in the African culture it is considered an offence not attending family and/or community funerals and those that do not attend are considered disrespectful. With regard to qualification, Van Tonder (2005) found that those with a technikon diploma experienced higher work-family conflict than employees with a Grade 10 or Grade 11 qualification. On the other hand, Frone et al. (1997) and Pieterse and Mostert (2005) found no significant differences regarding work-family conflict of individuals with different levels of qualifications.

Previous research done by Cinamon and Rich (2002) also indicated that married computer workers and lawyers whose career identities were more salient than their family identities, in addition to those who rated both work and family identities as highly salient, experienced higher work-family conflict than those who placed family above career, indicating that individuals who are more committed to their work than to their family are more likely to experience conflict between these life roles. Oldfield and Mostert (2007) reported no significant differences between married and non-married participants with regard to work-family conflict. However, Duxbury and Higgins (2001) found that married employees are at greater risk of high work-family conflict than those who are single. Frone, Russel, and Cooper (1992) also found that both male and female employed adults reported work-family conflict three times more frequently than family-work conflict; thus indicating that marital status and gender can occasionally play a role in the experience of conflict between one's work and other life roles.

In addition to the differences that may occur regarding work-family interaction for married employees, Desrochers, Andreassi, and Thompson (2002) also found that parental status played a role in experiencing work-family interaction in the sense that the parent identity salience, and not career identity salience, could predict conflict. Surprisingly though, parent identity salience was negatively associated with conflict, meaning the greater importance attached to parenting, the lower the work-family conflict and therefore the work-parent conflict. Holahan and Gilbert (1979) stated that the greatest role conflict for both parent and nonparent groups appeared on the Professional vs. Self scale. Thus, because of work responsibilities, parents no longer have time for themselves. Frequently employees with families miss career opportunities when they need to put their family responsibilities before

their work (Rothbard & Edwards, 2003), indicating possible parent-work conflict. Duxbury and Higgins (2001) pointed out that the parental responsibilities of working couples are strongly linked to the occurrence of work-spouse conflict. Non-parent couples can act rather independently as they do not have the constraint of children to look after. The addition of the parent role places greater demands on them at the same time as it adds restrictions, and therefore causes difficulties in the couple's life situation (Duxbury & Higgins, 2001).

From the above-mentioned it is thus evident that work-nonwork conflict is an important topic of research among various occupational groups and demographic groups and can also play a predominant role in the mining environment, which is widely acknowledged to be a very stressful and demanding profession (Singer, 2002). The South African mining industry forms the heart of our country's economy, and many individuals and families would be stranded without it. However, at the same time it is an environment in which many people's lives are put in danger due to the nature of the job. The work in a mine is challenging, and those working in physical environments (i.e. processing plants and underground) naturally require some degree of physical fitness and strength (Singer, 2002). As a consequence of the highly stressful profession of mining, employee elements such as demanding work characteristics (shift work, unplanned overtime, exposure to suffering and death), job pressures, emotional stressors, lower levels of decision latitude and support at work (Singer, 2002), can be related to the experience of work-nonwork conflict as well as nonwork-work conflict. Since 1994, the setting of the mining industry in South Africa has changed radically. One of the major changes in addressing the inequities and discrimination of the apartheid government was the introduction of a non-sexist and non-racial society which aimed at re-establishing respect for human dignity. As a result, the mining industry has seen previously disadvantaged groups being introduced to its workforce. In the light of this, mining companies are now representational of a range of different demographic groups. These demographic differences could also have a significant influence on work-nonwork conflict that individuals experience. Some of the demographic characteristics that could also play an important role are gender, age, language, qualification, marital status and parental status (Duxbury & Higgins, 2003; Naudé & Rothmann, 2004; Schaufeli & Bakker, 2003).

Consequently it is not only important for employees to integrate their responsibilities with their work and their personal lives but it is also important for organisations. Organisations should be aware that employees with numerous demands, both in the work and home domain,

are at risk of work interfering with home and vice versa (Bakker & Geurts, 2004; Geurts & Dijkers, 2002; Kotzé, 2005). There can also be conflict between one's work and other life roles a person is fulfilling just as work and family can be in conflict. Šverko, Arambašić, and Galešić (2002) stated that in a high employment climate, such as a mining environment, recruitment and retention strategies need to be responsive to individuals who may be seeking better work-nonwork interaction. This is why a growing number of companies have adopted various family-responsive policies and other programmes to support their employees (family leave, etc.). This intention is not only a matter of social conscience but also a way to improve the corporate image and attract or retain the best talent. Work-life benefits may be the deciding factor in accepting a job offer (Šverko et al., 2002). This challenges organisations, including the mining environment, to provide services that will allow employees to manage their work-nonwork interaction better and also to reduce conflict between these life domains (Thompson, Beauvais, & Lyness, 1999). Previous research also links high work-nonwork conflict to marital problems, reduced family and life satisfaction, and an increased incidence of perceived stress, burnout, depression and stress-related illnesses (Duxbury & Higgins, 2001).

It is in the organisation's best interest to be aware that employees are at risk of their work domain interfering with their different roles they may invest in outside work (e.g. Spouse, Parent, Religious, and Homecare/Domestic) and vice versa. In knowing which work-nonwork life roles are more prevalent in the interference from work to nonwork roles (work-nonwork conflict), the organisation will be able to focus more specifically on programmes and interventions they wish to implement in order to address that problem area. For example, when the work-parent conflict is more prevalent the organisation can implement a programme that will address that specific issue (e.g. a day-care centre). Greenhaus and Beutell (1985) stated that employees may occasionally need time as well as flexibility to take care of their children at home. This is why a growing number of companies have adopted various family-responsive policies and other programmes to support their employees (family leave, etc.) (Šverko et al., 2002). This can also be helpful to individuals when they are aware of which life roles interference from the nonwork-work conflict is more prevalent. When individuals are aware of this they will know which life roles to give personal attention to in order to address this issue. Hence it is in the organisation's best interest to attend to these work-nonwork issues because it may influence the growth and development of intellectual capital as well as return on investment for organisations (Barnett, 1996). When organisations

and individuals are able to attend to the above it will not only have a positive influence on individual well-being but also on work stress, levels of commitment to the organisation, decreased absenteeism, higher levels of performance and lower turnover intention of leaving the organisation (Duxbury, 2004).

Consequently it is vital for organisations to address these work-nonwork issues; it may result in the development and growth of intellectual capital and return on investment for the organisation (Barnett, 1996; Kotzé, 2005; Parasuraman & Greenhaus, 1999). Previous research has shown that work-family conflict is not only related to individual well-being but also to several organisational outcomes such as increased work stress, lower levels of commitment to the organisation, increased absenteeism, decreased job satisfaction, high turnover intention of leaving the organisation, low levels of performance and fewer constructive perceptions of the organisation (Allen, Herst, Bruck, & Sutton, 2000; Duxbury, 2004; Duxbury & Higgins, 2001). According to Kossek and Ozeki (1998), greater conflict between work and family roles is related to higher turnover intentions, care-related absences, and lower commitment to organisations and careers. The demographic and structural changes in the workforce and family structure have not only affected work and family roles and their interrelation (Bond, Galinsky, & Swanberg, 1998), but have also impacted on individual behaviour in an organisational setting, and eventually on organisational functioning itself (Greenhaus, 1988; Parasuraman & Greenhaus, 1999), which emphasises the importance of studying the interaction between individuals' work and other life roles outside their work.

Work-nonwork conflict

Various writers perceive work-life interaction as a vague notion that work and family life are in some way integrated or harmonious. Greenhaus and Beutell (1985, p. 77) define work-family conflict as "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible – such that participation in one role makes it difficult to participate in the other". According to Frone (2003) the strain experienced by employees in their work situation as a result of stressful job characteristics may eventually spill over from the work situation to the home domain, causing these two important spheres in an individuals' life to interfere with each other. Greenhaus and Beutell (1985) also differentiated between three forms of work-family conflict or family-work conflict: 1) the strain-based conflict: this means that strain and fatigue in one role have an effect on

performance in the other; 2) the behaviour-based conflict: where behavioural patterns in one role are inappropriate with the requirements of the other; and 3) the time-based conflict may happen when time devoted to one role makes it difficult to participate in another. Since people have a limited amount of time and energy to devote to the obligations of each of their roles, one set of researchers argue that the increased obligations that accompany an increase in multiple roles naturally result in greater stress (Clark, Nye, & Gecas, 1978) and therefore conflict between the different roles.

Multiple roles and the Role Identity theory

Multiple roles also mean multiple identities, self meaning and subjective responses to roles. Stryker (1987) argues that a particular identity (also referred to as role identity) will be evoked in a particular situation and is determined by the commitment of the person to the different identities that make up the self-concept. The greater the commitment, the more salient the identity, and the more possible the person will be to choose behaviours confirming that identity in a particular setting (Stryker, 1987). Baldwin, Ellis and Baldwin (1999) also stated that individuals sustain multiple role identities, with these identities being organised into a salience hierarchy based on the relative importance of particular roles. Baruch and Barnett (1986) stated that individuals may occupy similar roles yet experience the quality of each role differently. Commitment to a particular role results in that role being higher on an individual's salience hierarchy of role identities (Stryker, 1987). Commitment initiates the connection between social structure and the self by focusing on social networks. Stryker (1980) defined commitment as the degree to which an individual's relationships depend on him or her being a given kind of person that occupies a particular position in a network of relationships, playing a particular role, and having a particular identity. Thus, commitment to a particular identity affects its salience and therefore the likelihood of acting in a way that confirms that identity.

The role identity theory as developed by Stryker (1968, 1980) and Burke (1980), provides a systematic way of treating the connection among gender, work and family roles, stress, and the self. Role identity theory links self-attitudes or identities to the role relationships and role-related behaviour of individuals and is a microsociological theory. Identity theorists argue that the self-concept consists of a collection of identities, each of which is based on occupying a particular role (Stryker 1968, Stryker & Burke, 2000). According to Burke and

Reitzes (1981), role identities are said to influence behaviour in that each role has a set of associated meanings and expectations for the self. Because the salience people attach to their identities influences how much effort they put into each role and how well they perform in each role, the concept of identity salience is important in identity theory (Burke & Reitzes, 1981). Stryker and Burke (2000) suggested that it might be stressful for people to be committed to multiple identities. Conflict may also occur when an individual is faced with a choice between role behaviours that confirm identities of similar salience and commitment (Wiley, 1991). Turner (1978) describes one such conflict situation as that in which individuals attempt to maintain one identity across varied settings that may face conflict between that identity and one required by a specific setting.

Research which explains why people invest in different roles is important because these investments provide the foundation for role performance. Organisational behaviour research has emphasised the decision to participate in the work role as a fundamentally necessary condition for work role performance. This reasoning has been sustained by current research demonstrating that work investment enables people to put forth greater effort, innovation, and creativity on behalf of the organization (Kahn, 1990). This reasoning also applies to family role performance, in that meeting family role demands requires investment in the family role (Voydanoff, 1987). Moreover, investments in different roles are often in conflict, in that investing in one role often makes it difficult to fulfil the demands of the other (Greenhaus & Beutell, 1985). Hence according to Rothbard and Edwards (2003), different role investments are central to performance in these roles and are the driving forces underlying much conflict between them. The role identity theory states that investment in a role is on the strength of one's identification with a role (Wiley, 1991). People, for example, might invest more time in family after having a child because of their strong identification with the family role of parent. From an organisation's perspective, understanding why people choose to invest in work is important because different motivational bases may require different incentives for investing greater time in work (Rothbard & Edwards, 2003).

Prevalence of work-nonwork conflict

Apart from investigating the above, it is also necessary to study the prevalence of work-nonwork conflict among employees in the mining environment. Marais, Mostert, Geurts and Taris (in press) found that interference from work (negative work-home-interference) is more

prevalent than interference from home (negative home-work-interference). Previous studies supported these findings by indicating that the home domain may offer more possibilities to adjust behaviour to one's present need for healing than the work domain (Geurts et al., 2005). Previous research suggests that workers are more likely to coordinate work over private and family matters. This causes less investment at home rather than at work and suggests that the home domain is more adaptable than the work domain (Frone, 2003; Frone et al., 1992; Geurts & Demerouti, 2000; Grzywacz & Marks, 2000).

Demographic differences and work-nonwork conflict

Research has shown that men and women generally report similar levels of work-home interaction and home-work interaction (Frone, 2003). Grzywacz and Marks (2000) stated that any gender differences that were found were usually not statistically significant. On the contrary, Geurts et al. (2005) as well as Oldfield and Mostert (2007) found that men experienced slightly more negative work-home interaction than women, whereas women reported more positive home-work interaction than men. Regarding age, Grzywacz and Marks (2000) found that younger men reported higher negative spill-over from work to home (as well as from home to work) and less positive spill-over from home to work than older men. They also found that younger women reported more positive spill-over from work to home and more negative spill-over from home to work than was the case with older women.

In South Africa, affirmative action is a reality, and people from groups that were previously excluded are increasingly becoming part of the labour force (Cavaleros, Van Vuuren, & Visser, 2002). With regard to language groups, Pieterse and Mostert (2005), and Frone et al., (1997) found no long-term relationship between different race groups and conflict in either the home or work domain. On the other hand, van Tonder (2005) found statistically significant differences between Caucasian and African nurses concerning home-work interference, whereas whites experienced more negative home-work interference, but also more positive home-work interference when compared to their African counterparts. Unfortunately, very little is known of how different resource characteristics such as race and language shape the work-family experience (Barnett, 1996). Van Tonder (2005) found that employees with a technikon diploma experienced higher work-family conflict than employees with a Grade 10 or Grade 11 qualification, even though some researchers found

no significant differences regarding work-family conflict of individuals and their levels of qualifications (Frone et al., 1997; Pieterse & Mostert, 2005).

Research that considered marital status as a demographic variable, report that single men and women report less negative spill-over from work to home than their married counterparts. However, it was also found that being unmarried was strongly associated with less positive spill-over from home to work (Grzywacz & Marks, 2000). Demerouti, Geurts, and Kompier (2004) found that individuals who lived with a spouse reported less negative influence from home than those who lived alone. Concerning the parental status of participants, Grzywacz and Marks (2000) ascertained that having a child of any age (in contrast to having no children at all) is associated with more negative spill-over from home to work for both women and men. Demerouti et al. (2004) came to the conclusion that women with children did not report negative influence from the home domain but instead reported more positive influence compared to women without children.

Based on the above-mentioned description of the research problem and literature the following research questions are formulated:

- How is work-nonwork conflict and nonwork-work conflict conceptualised according to the literature?
- What is the prevalence of work-nonwork and nonwork-work conflict?
- Are there any demographic differences in work-nonwork conflict and nonwork-work conflict in a mining industry in terms of gender, age, language, qualification, marital status, and parental status?
- What recommendations can be made regarding work-nonwork conflict and nonwork-work conflict for future research and practice?

In order to answer the above research questions, the following research objectives are set.

1.2 RESEARCH OBJECTIVES

The research objectives are divided into general and specific objectives.

1.2.1 General objective

The general objective of this research is to investigate the prevalence and demographic differences of work-nonwork conflict in a sample of mining employees.

1.2.2 Specific objectives

The specific objectives of this research are:

- To conceptualise work-nonwork conflict and nonwork-work conflict from the literature;
- To determine the prevalence of work-nonwork and nonwork-work conflict;
- To determine demographic differences in work-nonwork conflict and nonwork-work conflict in a mining industry in terms of gender, age, language, qualification, marital status, and parental status;
- To make recommendations for future research and practice regarding work-nonwork conflict and nonwork-work conflict.

1.3 PARADIGM PERSPECTIVE OF THE RESEARCH

A certain paradigm perspective that includes the intellectual climate and the market of intellectual resources (Mouton & Marais, 1992) directs the research.

1.3.1 Intellectual climate

The intellectual climate refers to the selection of non-epistemological value systems/beliefs that are underwritten in any given period in a discipline. It refers to a collection of beliefs, values and assumptions that do not directly deal with the epistemological views of the scientific research practice as it normally originates in a non-epistemological context (Mouton & Marais, 1992).

1.3.2 Discipline

This research falls within the boundaries of the behavioural sciences and more specifically Industrial Psychology. Industrial Psychology refers to the scientific study of people within their work setting. This involves scientific observation, evaluation, optimal utilization and influencing of normal, and to a lesser degree, unusual behaviour in interaction with the environment (physical, psychological, social and organisational) as visible in the world of work (Munchinsky, Kriek, & Schreuder, 2002).

The sub-disciplines of Industrial Psychology that are focused on in this research are Career Psychology and Occupational Health Psychology. Career psychology focuses on people thinking about careers, preparing for occupations, entering the world of work, pursuing and changing occupations, and leaving the world of work to devote what knowledge and energies they have to leisure activities that may resemble in content the work they did for pay or which may involve relatively different types of knowledge and skill (Vondracek, 2001). Since this research investigates the hypothesis that different demographical factors (gender, age, language, qualification, marital status, and parental status) may have differential effects in terms of work-nonwork conflict, it links up closely with Career Psychology.

Occupational Health Psychology is concerned with psychological factors that contribute to occupational health and well-being. It deals with psychological reactions to physical and non-physical work conditions, and with behaviour that has implications for health (Spector, 2006). The implication for this research is that different demographical variables may relate to the experience of work-nonwork conflict differently and therefore links this research to Occupational Health Psychology.

1.3.3 Meta-theoretical assumptions

Three paradigms are relevant to this research. Firstly, the literature review is done within the humanistic paradigm and secondly, the empirical study is done within the positivistic and functionalistic paradigm.

1.3.3.1 Literature review

The *humanistic paradigm* is a school of thought that highlights that people are free agents who have the ability to make choices and to be intentional and aware during their actions. According to this paradigm, people can be influenced by their relationships with others and are more than just the sum of their parts. This is considered an essential criterion for psychological health (De Carvalho, 1991).

1.3.3.2 Empirical study

According to Babbie (1979), the *functionalistic paradigm*, being a quantitative approach, is concerned with understanding society (organisations) in a way that will produce useful empirical knowledge, for it is primarily regulative and pragmatic. In accordance with this approach, society has a concrete, real existence and a systematic character and it encourages an approach to social theory that focuses on understanding the role human beings play in society. Plug, Louw, Gouws, and Meyer (1997) state that functionalism assumes that units of psychological phenomena can be explained in terms of relationships and that these explanations serve to enhance human adaptation and survival. It approaches those general sociological concerns from a standpoint which tends to be realist, positivist, determinist, and nomothetic (Burrell & Morgan, 1979).

The *positivistic paradigm* is based on the assumption that only observable and measurable data should be considered in research (Winberg, 1997). Traditional social science, with random samples, operationally defined variables, and statistical analysis, is positivistic. This paradigm is based on the assumption that we can scientifically discover the rules governing social life. It is a theoretical and general scientific position that emphasises parsimony and operationalism in data and language and disdains theorising and inference. Therefore positivists attempt to use only data provided by direct observation to research “positive” facts (Lundin, 1996).

1.3.4 Market of intellectual resources

The market of intellectual resources refers to that collection of beliefs that directly involves the epistemological status of scientific statements. The two main types of epistemological beliefs are the theoretical beliefs and the methodological beliefs (Mouton & Marais, 1992).

1.3.4.1 Theoretical beliefs

Theoretical beliefs can be described as being all beliefs that can make testable judgments regarding social phenomena. These are all judgments regarding the ‘what’ and ‘why’ of human phenomena and include all conceptual definitions and all models and theories of the research (Mouton & Marais, 1992). Theoretical assumptions provide an outline to fundamental theoretical statements (Botes, 1995).

A. Conceptual definitions

The relevant conceptual definitions are given below:

Views on work and nonwork have evolved and developed enormously during the past few decades. Work refers to a set of prescribed tasks an individual performs while occupying a position in an organisation, whereas non-work refers to activities and responsibilities within the family domain, as well as activities and obligations beyond one’s own family situation (Geurts & Demerouti, 2003). In most studies work and nonwork are conceived as two conflicting domains – work conflicting with nonwork and nonwork conflicting with work. According to Greenhaus and Beutell (1985), work-nonwork interference is a form of interrole conflict in which the role demands from the work and family domains are equally incompatible – such that participation in one role makes it difficult to participate in the other.

A role may be defined as the functions a person performs when occupying a particular position within a particular social context (Shaw & Costanzo, 1982).

A meaning one attributes to oneself (or others attribute to the person) by virtue of occupying a particular position is an identity. The self-concept is made up of a collection of identities that are linked to the person's role relationships (Burke, 1980; Stryker, 1980). Stryker defines

commitment as the degree to which an individual's relationships depend on him or her being a certain kind of person, occupying a particular position in a network of relationships, playing a particular role, and having a particular identity (Stryker 1980).

B. Models and theories

A model is aimed at determining ways of answering questions. It attempts to reproduce the dynamics of an occurrence through the relationship between the main elements in a process to represent it in a simplified manner (Mouton & Marais, 1992).

A theory is defined as a set of interrelated constructs (concepts), definitions and propositions that present a systematic view of phenomena by specifying relations among variables with the purpose of explaining and predicting the phenomena (Mouton & Marais, 1992).

Stryker (1968, 1980) and Burke (1980) developed the Role Identity theory that provides a systematic way to treat the connection among gender, work and family roles, stress, and the self. This is a micro-sociological theory and links self-attitudes or identities to the role relationships and role-related behaviour of individuals (Stryker & Burke, 2000).

1.3.4.2 Methodological beliefs

Methodological beliefs can be defined as beliefs that make judgments regarding the nature and structure of science and scientific research (Mouton & Marais, 1992).

The empirical study is presented within the positivistic and functionalistic frameworks, where the root assumption of the positivistic framework is that it is a point of departure (Neuman 1997). Neuman (1997) further states that positivism regards social science as an organised method for combining deductive logic with precise empirical observations of individual behaviour in an attempt to discover and confirm a set of problematic contributory laws which can be used to predict general patterns of human activity.

1.4 RESEARCH METHOD

This research, pertaining to the specific objectives, consists of two phases, namely a literature review and an empirical study. The literature review focuses on relevant information regarding work-nonwork conflict, more specifically regarding different nonwork roles individuals occupy and the possible conflict that may arise from it (work-nonwork conflict and nonwork-work conflict). The sources consulted include journal articles, published theses, dissertations, books, and internet sources. The empirical study comprises the research design, participants and procedure, measuring battery, and statistical analysis.

1.4.1 Research Design

A cross-sectional survey design is used to collect the data and to attain the research objectives. During a cross-sectional design, a group of people is observed at one point of time, in a short period, such as a day or a few weeks (Du Plooy, 2001). A cross-sectional survey has the economic advantage of saving money and time. The researcher does not have to struggle with the complexity and cost of maintaining contact with participants over an extended period of time as the participants are only needed for one period of data collection. However, the inability to directly assess intra-individual change and the inferences to group averages is a major disadvantage regarding the cross-sectional designs (Baltes, Reese, & Nesselroade, 1988). The data are also used to assess the prevalence of certain variables in a population, which is beneficial to this study.

1.4.2 Participants and procedure

Random samples ($n = 245$) are taken from a platinum mine in the Rustenburg area. A protocol is given to the HR Manager explaining the research in order to get permission for participation from the specific operation. Participants include employees of different Patterson grade levels (C1-D4), mostly middle management. The questionnaires are distributed and include a letter, explaining the goal and importance of the study, as well as a list of contact persons for any enquiries. Participants are assured of the anonymity and confidentiality with which the information would be handled. Participants are given three weeks to complete the questionnaires in their own time.

1.4.3 Measuring Battery

The following measurement instruments are utilised in the empirical study:

Work-nonwork conflict. The newly developed Work-nonwork Interference Scale of Koekemoer (2009), measuring the interference between work and other nonwork roles is used. This scale measures the interference between work and other nonwork roles, such as family roles (including spouse and parent roles), religion/spirituality, and home/domestic roles. The scale measures conflict in both directions, namely work-to-private life and private life-to-work. All items are phrased “How often does it happen that...” and are rated on a four-point scale ranging from 0=never to 3= always. The work-to-private life scale includes ten work-family conflict items (e.g. “...your work interferes with your relationship with your spouse/partner?”; “...your job makes it hard for you to have a good relationship with your child(ren)?”); six work-domestic conflict items (e.g. “... your job interferes with your domestic responsibilities at home?”); five work-religion/spirituality conflict items (e.g. “... your work environment does not encourage your religious/spiritual beliefs?”); whereas the private life-to-work scale, includes six family-work conflict items (e.g. “... your relationship with your spouse/partner interferes with your work?”; “... your work suffers because you need to take care of your child(ren)?”) and six private-work conflict items (e.g. “... your religious/spiritual commitments interfere with your work schedule?”; “... you have to rearrange your work schedule, because of your domestic responsibilities?”).

A *Biographical Questionnaire* is also used to determine the biographical characteristics of the participants. Characteristics such as gender, age, race, qualification, language, household situation (e.g. marital status and/or having children or not), level of position, and different life roles occupied are measured by the questionnaire.

1.4.4 Statistical Analysis

The statistical analysis is carried out with the SPSS programme (SPSS Inc., 2009). As part of the preliminary analyses, exploratory factor analyses are carried out to determine the construct validity of the measuring instrument of Koekemoer (2009), cronbach alpha coefficients are used to assess the reliability of the scales. Descriptive statistics (e.g. means,

standard deviations, skewness and kurtosis) and inferential statistics are used to analyse the data.

Paired-samples *t*-tests are used to determine the prevalence of work-nonwork conflict and nonwork-work conflict. Multivariate analysis of variance (MANOVA) is used to ascertain the significance of differences between the work-home interaction levels of different demographic groups. MANOVA is the counterpart of analysis of variance (ANOVA) methods to cover cases where more than one dependent variable exists and where the dependent variables cannot simply be combined. It is also used to identify whether changes in the independent variables have a significant effect on the dependant variables. The multivariate analysis of variance is at its best when the assumptions are met and also when there is a substantial correlation between the dependent variables (Kerlinger & Lee, 2000). Wilk's Lambda is used to test the likelihood of the data under the assumption of equal population mean vectors for all groups, against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect is significant in MANOVA, one-way analysis of variance is used to discover which dependent variables had been affected. ANOVA reflects the expression of the hypothesis tests of interests in terms of variance estimates (Muller & Fetterman, 2002).

1.4.5 Ethical considerations

Conducting research is an ethical enterprise. Research ethics provide researchers with a code of moral guidelines on how to conduct research in a morally acceptable way. During the research process the researcher is honest, fair and respectful towards the participants and does not attempt to mislead or deceive the research participants. The researcher respects the rights and dignity of others. This includes respecting the privacy, confidentiality and autonomy of the research participants. The researcher is also mindful to cultural and individual differences among people, such as age, gender, race, ethnicity, religion, language and socio-economic status. The researcher does not knowingly discriminate against people on the basis of such factors. The welfare of others is of major concern. The researcher avoids or minimises any harm befalling the research participants as a result of their interaction with them (Struwig & Stead, 2001). The above-mentioned is applicable at all times to maintain an ethical climate.

1.5 OVERVIEW OF CHAPTERS

In Chapter 2, the prevalence of the different work-nonwork conflict scales as well as the demographic differences (i.e. gender, age, language, and qualification, marital and parental status) of work-nonwork conflict in a sample of mining employees are examined. The discussion, limitations, and recommendations of this study are discussed in Chapter 3.

1.6 CHAPTER SUMMARY

This chapter provided a discussion of the problem statement and research objectives. Furthermore, the paradigm perspective and the research method were explained, followed by a brief overview of the chapters that follow.

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CHAPTER 2

RESEARCH ARTICLE

CONFLICT BETWEEN WORK AND NON-WORK ROLES OF EMPLOYEES IN THE MINING INDUSTRY: PREVALENCE AND DIFFERENCES BETWEEN DEMOGRAPHIC GROUPS

ABSTRACT

The general aim of this study was to investigate the prevalence of the different work-nonwork conflict scales and to determine the demographic differences of work-nonwork conflict in a sample of mining employees. A random sample of mining employees ($n=245$) was taken from a platinum mine in the Rustenburg area. The newly developed Work-nonwork Interference Scale of Koekemoer (2009), measuring the interference between work and other nonwork roles were used as measuring instrument. Descriptive statistics, Cronbach alpha coefficients, Paired-sample t-tests, Multivariate analysis of variance (MANOVA) and one-way analysis of variance (ANOVAS) were used to analyse the data. Work-nonwork conflict was more prevalent than nonwork-work conflict. The results also indicated that work-family conflict is more prevalent than work-domestic conflict and work-religion conflict. However, work-domestic conflict was more prevalent than work-religion conflict. Statistically significant differences exist between demographic groups based on marital status and language regarding work-nonwork conflict. Recommendations for future research include larger sample sizes, administration to various occupational groups and the investigation of positive interaction between work and other nonwork roles.

OPSOMMING

Die algemene doelwit van hierdie studie was om die voorkoms van die verskillende werk-niewerkkonflikskale te bepaal en vas te stel of daar verskille rakende werk-niewerkkonflik tussen verskillende demografiese groepe in 'n steekproef van mynwerkers voorkom. 'n Ewekansige steekproef van 245 mynwerkers ($n=245$) van 'n platinum myn in die Rustenburg area is geneem. 'n Nuut ontwikkelde Werk-niewerk Inmenging Skaal van Koekemoer (2009) wat die inmenging tussen werk en ander niewerkrolle meet, is as meetinstrument aangewend. Beskrywende statistiek, Cronbach alfakoëffisiënte, Meervoudigerigting-variëansieanalise (MANOVA) en eenrigtingvariëansieanalise (ANOVA) is gebruik om die data te analiseer. Werk-niewerkkonflik het meer voorgekom as niewerk-werkkonflik. Die resultate het ook getoon dat werk-familiekonflik meer voorkom as werk-huiskonflik en werk-geloofkonflik. Werk-huiskonflik het ook meer voorgekom as werk-geloofkonflik. Die resultate het statisties

betekenisvolle verskille tussen demografiese groepe getoon, wat op taal en huwelikstatus gebaseer was. Aanbevelings vir toekomstige navorsing sluit in groter steekproewe, vraelyste wat op verskeie beroepsgroepe afgeneem word en die ondersoek na positiewe interaksie tussen werk en ander nuwerkrolle.

Growing evidence has indicated that workers have faced increased pressures at work and in their personal lives during the past couple of years (Brink & De la Rey, 2001; Geurts & Demerouti, 2003), where previously, work and home have been considered separate domains. Lately, the interdependence between both domains is increasingly recognised (Geurts, Rutte, & Peeters, 1999), meaning that apart from work demands, individuals also have family (or private) demands. This is mainly due to the demographic and structural changes in family and workforce structures, not only internationally (Geurts et al., 1999; Geurts & Demerouti, 2003) but also here in South Africa (Cavaleros, Van Vuuren, & Visser, 2002). The workplace has become progressively diverse due to transformation developments (i.e. Employment Equity and Affirmative Action policies), impacting on the financial performance of organisations (Cavaleros et al., 2002). These changes have resulted in an increased number of women and dual-earner families entering the workforce, thereby changing the traditional role of men and women (Brink & De la Rey, 2001; Schreuder & Theron, 2001). In South Africa the high unemployment rate is now also being acknowledged as becoming problematic for employees, since they need to work harder and longer hours in response to uncertain feelings about their future security (Schreuder & Theron 2001). Additionally, developments in technology (e.g. skype, mobile phones, internet and e-mails) have made it possible to work irregular hours and during unsocial hours (e.g. working during evenings, working over weekends and working overtime) (Burke, 2004; Geurts et al., 1999) which causes stress and influences productivity (Lingard & Sublet, 2002); resulting in work becoming more mentally and emotionally demanding (Frone, Russel, & Cooper, 1992). Consequently an increasing number of employees are confronted with high demands in both their work and private lives, where many of their daily hassles are incompatible with private responsibilities (Jansen, Peeters, De Jonge, Houkes, & Tummers, 2004). These demographic and structural changes in the workforce and family structures have not only affected work and family roles and their interrelation (Bond, Galinsky, & Swanberg, 1998; Ferber, O'Farrell, & Allen, 1991), but also have a significant impact on individual behaviour in organisational settings, and eventually the organisational functioning itself (Parasuraman & Greenhaus, 1999).

The above-mentioned situation has created the potential for interference, or conflict, to occur between an individual's work and their personal life also known as work-family conflict (Greenhaus & Beutell, 1985; Greenhaus & Powell, 2003). Work-family conflict occurs when people believe that efforts to fulfil work role demands will interfere with efforts to fulfil nonwork role demands, or vice versa (Greenhaus & Beutell, 1985). For example, one's work

role may require a Saturday morning meeting at the same time when one's family role requires attendance at a rugby game. Greenhaus and Beutell (1985, p. 77) define work-family conflict as "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible – such that participation in the work (family) role is made more difficult by virtue of participation in the family (work) role" This definition implies a bidirectional dimension in which the work domain can interfere with the family domain and the family domain can interfere with the work domain. Although this definition is widely accepted, Greenhaus and Beutell's (1985) broad definition did not differentiate between the interaction or conflict of work and other nonwork roles, and Kirchmeyer (1992) elaborated on this issue by stating that researchers need to accept individuals as parents, spouses or members of the community and not only as workers.

Westman and Piotrkowski (1999) stated that an adequate understanding of the interaction between work and personal life can only be attained when it is viewed within the context of multiple roles outside work (also referred to as nonwork roles). Generally, other nonwork roles are related to the family, either as an overall entity or as specific roles including parent, spouse, or adult child (e.g., caring for a dependant parent) (Westman & Piotrkowski, 1999). Frone (2003) stated that a broad distinction can be made between the work and nonwork domains of life, where these domains of life may include some sub-domains of social roles, for example family, religion, community and leisure roles. Alternatively, Holahan and Gilbert (1979) identified four major life roles in individuals' lives, namely professional, spouse, parent, and self (as self-actualised person). According to Ilgen and Hollenbeck (1991) a role is defined as an expected pattern set of behaviours that is present in the minds of individuals; and often focuses on how the performance of one role interacts with another. Katz and Kahn (1997) emphasised that the involvement of persons in multiple roles can be stressful, since with few exceptions, the more one exhibits behaviours expected in a particular role, the more conflicting demands arise from these roles. Multiple roles make life more complex, with multiple demands having to be met that can be in conflict (Nordenmark, 2004). Several individuals experience life as a turbulent and a treadmill, with conflicting demands from work and family (or other nonwork roles) (Nordenmark, 2004).

This relates very much to the role identity theory which suggests that a particular identity (also related to roles) will be evoked in a particular situation and is determined by the commitment of the person to the different identities or roles that make up the self-concept

(Stryker, 1987). Therefore individuals or workers can engage in a variety of roles or identities outside their work (e.g. parental, spousal, domestic and religious roles). Thoits (1991) also stated that individuals who participate in different roles have a variety of identities that are organised in a hierarchy of centrality. An individual derives more meaning and purpose from participating in a more salient role identity (Thoits, 1991); therefore invest more time or emotion in that identity or role (Stryker & Serpe, 1994). Wiley (1991) stated that a person could experience stress when the performance of the behaviours to confirm the salient identity is poor. Thus, interrole strain or conflict will arise when conflicting and competing expectancies are perceived from two or more roles enacted by an individual (Holohan & Gilbert, 1979) and makes the occurrence of work-nonwork conflict a possibility.

A range of research and empirical studies revealed that interference or conflict from work is more prevalent than interference from home (Bond et al., 1998; Eagles, Miles, & Icenogle, 1997; Frone, 2003; Geurts, & Demerouti, 2003; Grzywacz & Marks, 2000; Gutek, Searle, & Klepa, 1991). More specifically, Frone et al. (1992) found that both male and female employed adults reported work-family conflict three times more regularly than family-work conflict. According to these findings, researchers suggest that workers are more prone to give preference to work matters. This causes less involvement at home rather than at work (Frone et al., 1992), which can imply that the work domain is less flexible than the home domain. Frone (2003) also stated that work has a more damaging impact on family life than family life on work. Rost and Mostert (2007) suggested that it could also be that the time in the home domain to relax and recover is more achievable because there, efforts are revitalised rather than depleted. This can perhaps suggest that the interference from work is also more prevalent than the interference from the different life roles (e.g. parent, spouse, religion/spirituality, and home/domestic). Employees might perceive their work role as more salient, and therefore invest more emotion and time into that role which result in less investment into their nonwork roles (e.g. family, religion/spirituality and home/domestic). Consequently, it is also expected that there will be a difference in the experience of the interference of the different life roles (e.g. work-parent interference may be more prevalent than work-domestic interference).

In addition to the possible prevalence of work-nonwork conflict and nonwork-work conflict, several studies have indicated that demographic groups may differ with regard to their experiences relating to the interaction between work and family roles (Geurts & Demerouti,

2003; Grzywacz & Marks, 2000; Oldfield & Mostert, 2007; Pieterse & Mostert, 2005; Rost & Mostert, 2007; Van Tonder, 2005). The importance of this is reflected through the diversity of the compilation of the participants. The various demographic and structural changes in the workforce and family structure have affected both work and family roles (Bond et al., 1998), emphasising the importance of investigating demographic differences. From previous studies and research various reasons can be argued relating to the different experiences of work-nonwork conflict among different demographic groups such as gender, age, language, qualification, marital and parental status.

With regard to gender, women are considerably more likely than men to accept primary responsibility for domestic work and taking care of the children (Statistics Canada, 2000), which could have the effect of higher work-nonwork conflict in women than in men. Wallis and Prince (2003) revealed that women wish to adapt their working lives to suit the needs of their families. This supports the statement by Thompson, Beauvais, and Lyness (1999) that women continue to be responsible for the majority child and household duties, and as a result women experience greater conflict between their work and family life responsibilities. Simon (1995) stated that work and family roles have different meanings for women and men. The majority of men view work and family roles as interdependent whereas women perceived the work and family roles as independent in such a way that when performing one role, one could not at the same time perform the other (Simon, 1995). As such, employed women have to manage with the demands from work together with private roles to a larger extent than employed men. The meanings and demands of as well as the salience of and commitment to, work and family roles therefore undoubtedly may differ for men and women (Baca Zinn, 1990), which may be the cause of different experiences of the interaction between work and personal life for employed men and women.

In addition to the possible differences for gender groups, Grzywacz and Marks (2000) found more family-work conflict in younger men than in older men. Rost and Mostert (2007) stated that the differences can be because younger participants had not yet attained the required skills to manage the integration between their personal life and work as compared to older participants. The difference in experiences of work-nonwork conflict for employees of different ages may also be related to the career phases in which employees find themselves, where an early, middle and late career phase can be distinguished. For example, younger employees might be working very hard in the earlier stages of their careers, which can lead to

higher work-family conflict because they are trying extremely hard to prove themselves within their work environment (Rost & Mostert, 2007). However, most people typically establish families in their middle career phase (roughly between ages 33 and 45 years), consequently having an influence on their experience between work and other nonwork roles because of additional domestic obligations (Coetzer, 2006), more family responsibilities, and pressure from work. It is thus possible that individuals from different age groups may also differ in their experiences regarding the influences of other life roles and work.

Pieterse and Mostert (2005) and Van Tonder (2005) indicated that language is a restraint when valid conclusions regarding work-family conflict need to be made between different cultural groups. South Africa is a multicultural society with 11 different national languages. Despite the fact that English is the recognised language of commerce and science, only 8,3% of South African citizens speak English at home, and only 1,2% of the population of the North West Province can be identified as English-speaking (South African Statistics, 2001). Rost and Mostert (2007) found that the Afrikaans and African groups experienced significantly higher levels of work-home conflict compared to English-speaking employees. These findings may suggest that Afrikaans and African participants experience their work environments as more stressful; resulting in fewer opportunities to recover at home. Oldfield and Mostert (2007) also reported that Africans experienced higher levels of both work-family conflict and family-work conflict. According to Oldfield and Mostert (2007), this may be the result of how all individuals experience the world differently. Different cultures have different characteristics that affect the way people understand situations and circumstances. In the African culture, for example, it is considered disrespectful not to attend family and/or community funerals and are thus confronted with more family demands they should attend to. It must also be noted that the changes in the workforce in South Africa (now more representative of all races) may yield different results pertaining to work-family conflict of studies done in other parts of the world (Oldfield & Mostert, 2007). Hence the different languages, cultural differences and backgrounds may also influence the way in which the work environment is perceived and how individuals in South Africa experience the interaction between work and personal life.

Choices for continual personal growth and development, such as continuing education, can also complicate balancing one's work and personal life. In many communities, so-called non-traditional students are becoming the norm as they juggle family, work, studying, and career

advancement goals (Schor, 1992). Although some researchers found no significant differences regarding work-family conflict for individuals and their levels of qualifications (Frone et al., 1997; Pieterse & Mostert, 2005), Van Tonder (2005) found that employees with a Technikon diploma experienced higher work-family conflict than employees with a Grade 10 or Grade 11 qualification. Kreiner (2006) speculated that an explanation for this can be that highly educated employees who work many hours are simply less concerned with separating the work and home domains, as they have invested so much in their work, both long-term (through education) and short-term (through current work schedules).

Regarding marital and parental status, previous research by Cinamon and Rich (2002) indicated that married computer workers and lawyers with higher career identities than family identities are more likely to experience conflict between these life roles. Research on the impact of parental responsibilities stated that working couples are strongly linked to the incidence of work-family conflict (Duxbury & Higgins, 2001). Desrochers, Andreassi, and Thompson (2002) found that parental status played a role in the experience of work-family conflict in the sense that the parent identity salience, and not career identity salience, could predicted conflict. Parent identity salience was surprisingly negatively associated with conflict, meaning the greater the importance attached to parenting, the lower the work-family conflict and therefore the work-parent conflict. Often, employees with families miss career opportunities when they need to put their family responsibilities ahead of their work. There are also indications that especially women with children experience more conflict between work and family compared to women without children as well as compared to men (Crouter, 1984; Grzywacz & Marks, 2000). Duxbury and Higgins (2001) also stated that the addition of the parent role places greater demands on them at the same time as it adds restrictions, and therefore causes difficulties in the couple's life situation. The parental responsibilities of working couples are strongly linked to the occurrence of work-spouse conflict. Mine work requires many members to work according to shift schedules, which could negatively influence parental or marital status of a person, whereas the life of an unmarried person without children is usually more flexible due to less demanding responsibilities. Mine workers' lives are at risk due to the nature of the work (Calitz, 2004); therefore members who are married and have children might tend to be more concerned about the well-being of their family and worry about what would happen to their families should something happen to them, thus indicating that marital status as well as parental status can at times play a role in the experience of conflict between one's work and other nonwork roles.

It is thus evident that work-nonwork conflict is an important topic of research among various occupational groups and demographic groups and can also play a predominant role in the mining environment, which is widely acknowledged to be a very stressful and demanding profession (Singer, 2002). Due to their important contribution to the economy of South Africa, various companies in the mining industry need to maintain a competitive advantage in complying with the demands of change, and are consequently imposing various forms of stressors on their employees. A variety of these stressors are typified by specific demanding work characteristics (e.g. time pressure and role conflicts). These factors are related to negative outcomes for the individual (e.g. depression, fatigue, and a loss of motivation) as well as negative outcomes for the organisation (e.g. absenteeism and lower productivity) (Frone et al., 1997). Employees work with dangerous materials and use heavy vehicles or machinery (Calitz, 2004) and may also be required to work in dark and damp conditions with varying temperatures (Singer, 2002), usually deep underground, and often working alone in small areas with little supervision and communication (Calitz, 2004). These harsh working conditions (e.g. underground temperature, long working hours, unsafe working conditions, highly unionised environment and pressure to perform) can therefore lead to negative consequences, including violence, burnout, absenteeism, workplace injury, drug and alcohol abuse and lower productivity (Sauter et al., 2003). Research also suggests that unpredictability in work routine promotes work-family conflict given that work variability (Fox, Dwyer, & Ganster, 1999) and working weekends or rotating shifts (Shamir, 1983) both relate to higher conflict. A productive, motivated and healthy mine is an important contributor to the stability and resulting economic growth and development of the country; therefore investigating and addressing aspects that could influence mining employees' effectiveness in areas that could impact on the standard of their services is of great importance. The above-mentioned factors may have major implications for employees who could find it difficult to control work-nonwork conflict.

Research indicated that the above-mentioned consequences tend to spill over to a person's personal life (Calitz, 2004; Frone et al., 1992) and could negatively influence an individual's well-being (Brough, 2003). It is therefore clear that organisations must be aware that employees are at risk for their work domain interfering with their different roles they may have outside work (e.g. parent, spouse, religion/spirituality, and home/domestic) and vice versa. Organisations will be able to focus more specifically on programmes and interventions to address the problem if they are aware of which work-nonwork roles are more prevalent in

the interference from work to nonwork roles. Šverko, Arambašić, and Galešić (2002) stated that more and more companies have adopted various family-responsive policies and other programmes to support their employees (e.g. paid maternity leave) and address the issue mentioned above. Individuals who are aware of which life role interference from nonwork-work conflict is more prevalent, will also be able to give personal attention in order to attend to the matter.

Therefore helping employees manage their work-nonwork conflict has become an important issue for many organisations (Šverko et al., 2002). When organisations and individuals are able to attend to the above, it will not only influence the growth and development of intellectual capital and return on investment for organisations (Barnett, 1996), but also have a positive influence on individual well-being, work stress, levels of commitment to the organisation, decreased absenteeism, higher levels of performance and lower turnover intention of leaving the organisation (Duxbury, 2004). As a result, it is crucial for organisations to realise that employees' ability to function maximally on the job is threatened if they cannot control their work-nonwork conflict effectively.

Work-nonwork conflict

Nowadays, the two most important domains in the life of an employed individual are work and home. Frone (2003) stated that the strain experienced by employees in their work situation as a consequence of demanding job characteristics may ultimately spill over from the work situation to the home domain, causing these two important domains in an individual's life to interfere with each other. Many employed workers, and especially employed parents, are struggling to combine obligations in the work domain with those in the home domain (Geurts & Demerouti, 2003). Greenhaus and Beutell (1985, p. 77) define work-family conflict as "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible – such that participation in one role makes it difficult to participate in the other". The general demands of each role consist of the responsibilities, requirements, duties, commitments, and expectations related to performance in a given domain (Netemeyer, Boles, & Mcmurrian, 1996). According to Greenhaus and Beutell (1985), the type of work-family conflict could be based on role characteristics that affect time involvement, strain or behaviour in one domain, but which are incompatible with fulfilling the role in the other (work vs. home). The three forms of work-family conflict or

family-work conflict mainly identified in literature are 1) the strain-based conflict, this means that strain and fatigue in one role have an effect on performance in the other; 2) the behaviour-based conflict, where behavioural patterns in one role are inappropriate with the requirements of the other; and 3) the time-based conflict may happen when time devoted to one role makes it difficult to participate in another (Greenhaus & Beutell, 1985). Clark, Nye, and Gecas (1978) argue that the increased obligations that accompany an increase in multiple roles result in greater stress; therefore conflict between the different roles arises due to a limited amount of time and energy to devote to the obligations of each role.

Multiple roles and the Role Identity theory

The different roles individuals have to perform are another aspect that should be considered when studying work-nonwork conflict. According to Netemeyer et al. (1996), the general demands of the various roles include the responsibilities, requirements, tasks, commitments, and expectations related to performance in a specified domain (Netemeyer et al., 1996). Shaw and Costanzo (1982) defined a role as the functions a person performs when occupying a particular position within a particular context. Barnett and Baruch (1985) stated that role conflict occurs when the demands from two or more roles are such that adequate performance of one role jeopardises adequate performance of the other. The restricted resources required to fulfil such role demands are often in a state of imbalance, leading to feelings of conflict between domains (Greenhaus & Beutell, 1985). In the long term, the tension of role conflict can bring about stress and psychological illness (Nordenmark, 2002). Geurts et al. (2005) also stated that the results of negative interaction between work and private life can have numerous negative consequences, including psychological consequences (e.g. work-related stress, burnout, and general psychological strain), physical consequences (e.g. somatic and physical symptoms such as headaches, upset stomach, fatigue and sleep deprivation), attitudinal consequences (e.g. job, life and marital satisfaction and organisational commitment), behavioural consequences (e.g. increased consumption of stimulants like coffee, cigarettes and alcohol) and organisational consequences (e.g. organisational turnover, absenteeism and decreased productivity). This emphasis on the negative side of domain spill-over is believed to stem from a general expectation that participating in a multitude of domains leads to role overload and conflict (Sieber, 1974; Thoits, 1986). Even though researchers have found that employees may also benefit from participating in multiple roles

(Frone, 2003; Geurts & Demerouti, 2003; Grzywacz & Marks, 2000) this study only focused on the negative interaction between work and nonwork roles.

Frone (2003) distinguished between work roles (e.g. employee, manager, union representative) and nonwork roles (family roles, religious roles, community roles, leisure roles). The expectation exists that conflict between the different roles is an important stressor that can influence outcomes in the different life domains (Frone, 2003). Multiple roles also mean multiple identities, self-meaning and subjective responses to roles. Stryker (1987) points out that a specific identity will be evoked in a specific situation and is determined by the commitment of the person to the different identities that make up the self. The greater the commitment, the more salient the identity, and the more likely the person will be to choose behaviours confirming that identity in a specific setting (Stryker, 1987). The concept of identity *salience* is significant in the role identity theory since the salience individuals attach to their identities influence how much effort they put into each role and how well they perform in each role (Burke & Reitzes, 1981). Stryker (1968), who originated identity theory, stated that the identities that are ranked highest are most likely to be invoked in situations that involve different aspects of the self. Role identity theory is a microsociological theory which links self attitudes, or identities, to the role relationships and role-related behaviour of individuals. Baldwin, Ellis and Baldwin (1999) also stated that individuals sustain multiple role identities, with these identities being organised into a salience hierarchy based on the relative importance of particular roles. Baruch and Barnett (1986) argued that people's experiences of being engaged in similar roles are different. Commitment to a particular role results in that role being higher on an individual's salience hierarchy of role identities (Stryker, 1987). According to Stryker (1980), commitment is the degree to which an individual's relationships depend on his or her being a given kind of person that occupies a particular position in a network of relationships, playing a particular role, and having a particular identity. The degree of commitment to a particular identity is affected by "the number of others to whom one relates through occupancy of a given position; the importance of others to whom one relates through occupancy of a given position; and the multiplicity of linkages, that is the number of distinctive kinds of activities attached to a particular linkage to another or others" (Stryker 1980, p. 81). Hence commitment to a particular identity affects its salience; therefore the possibility of acting in a way that confirms that specific identity. Being committed to multiple identities can also be stressful, since identities can be in conflict with one another (Stryker & Burke, 2000). Wiley (1991) argued that conflict may occur when an

individual is faced with a choice between role behaviours that confirm identities of similar salience and commitment. Some individuals attempt to maintain one identity across various settings and might face conflict between that identity and one that requires a different identity (Turner, 1978).

Prevalence of work-nonwork conflict

Apart from investigating the above, it is also necessary to study the prevalence of work-home conflict among different demographic groups in the mining environment. Various research and empirical studies indicate that negative interference from work to home is more prevalent than negative interference from home to work (Bond et al., 1998; Frone, 2003; Geurts & Demerouti, 2003; Grzywacz & Marks, 2000). Due to the forced structure and obligatory nature of work, workers are more likely to coordinate work over private and family matters, thereby reducing their effort investment at home rather than at work (Frone et al., 1992; Gutek et al., 1991). This finding was supported by Geurts et al. (2005) by indicating that the home domain may offer more possibilities to adjust behaviour to one's present need for healing than the work domain.

Demographic differences and work-nonwork conflict

Regarding differences of work-nonwork conflict for demographic groups a variety of literature is available specifically regarding gender, age, language, qualification, marital status and parental status. Overall the evidence for gender differences in work-family conflict is mixed (Frone, 2003; Geurts & Demerouti, 2003). Some research has shown that men and women generally report similar levels of work-family conflict and family-work conflict (Carnicer, Sánchez, Pérez, & Jiménez, 2004; Demerouti, Geurts, & Kompier, 2004; Frone, 2003) whilst others have found that women experience more work-family conflict than men (Frone et al., 1992; Hammer, Allen, & Grigsby, 1997). On the other hand, Oldfield and Mostert (2007) and Rost and Mostert (2007) observed that males experienced higher levels of work-family nonwork conflict than females. Pleck (1977) also found that work to family conflict will be more prevalent than family to work conflict among men, while family to work conflict will be more prevalent than work to family conflict among women. This supports the findings of Pieterse and Mostert (2005) that found a practically significant difference between males and females on work-family conflict, indicating that males reported

a higher level of work-family conflict than was the case with women. It thus stands to reason that there will be differences with regard to the interaction between the work and other nonwork conflict for men and women.

Although most studies found no relationship between different age groups (Frone et al., 1997; Kinnunen & Mauno, 1998; Pieterse & Mostert, 2005; Van Tonder, 2005), Oldfield and Mostert (2007) found that participants between ages 50 and 69 years experienced statistically significant lower levels of work-family conflict, while participants between ages 22 and 39 years would appear to experience the highest level of work-family conflict. Furthermore, Duxbury and Higgins (2001) reported that participants between ages 36 and 55 years experienced more work-home conflict. Rost and Mostert (2007) found that younger employees (between 26 and 35 years of age) experienced statistically significant lower levels of positive work-home interference than older employees (between 46 and 65 years of age), and older employees experienced statistically significant lower levels of work-home conflict than younger employees. These results support the findings of Grzywacz and Marks (2000) that found more family-work conflict in younger men than in older men, while younger women reported less work-family conflict than older women. When all these results are considered, it is thus possible that individuals from different age groups may also differ in their experiences regarding the influences of other life roles and work, and not only in their experience of work-family conflict.

As far as differences between language groups are concerned, Rost and Mostert (2007) found that English-speaking participants experienced higher levels of work-home conflict than the Afrikaans and African language groups. On the other hand, Grzywacz and Marks (2000) and Van Tonder (2005) found that White and African participants experienced higher levels of work-home conflict than Coloured and Indian participants. These findings are in contrast with the findings of Kinnunen and Mauno (1998), Frone et al. (1997), and Pieterse and Mostert (2005), who found no differences with regard to work-home conflict.

Regarding qualification, the research of Frone et al. (1997) and Pieterse and Mostert (2005) revealed that no significant relationships were found between qualification and work-home conflict. However, Rost and Mostert (2007) indicated that employees with a tertiary qualification were exposed to significantly higher levels of positive work-nonwork interference than employees with a post-graduate degree. Furthermore, Grzywacz and Marks

(2000) found that lower levels of qualification and income are strongly connected to a lower level of positive spill-over from work to home among women. Oldfield and Mostert (2007) also found that individuals in possession of tertiary education would appear to experience lower levels of negative work-home conflict and home-work conflict than those in possession of secondary education, who in turn experience more positive home-work interference. Individuals with dissimilar qualifications might therefore vary with regard to work-nonwork conflict.

Research that considered marital status as a demographic variable, found that single men and women report less work-family conflict than married men and women. However, it was also found that being unmarried was strongly associated with less positive spill-over from home to work (Grzywacz & Marks, 2000). This supports the findings of Herman and Gyllstrom (1977) that also stated that married persons experienced more work-family conflict and therefore work-spouse conflict, than unmarried persons. In a study done by Demerouti et al. (2004) it was found that individuals who lived alone have more work-family conflict than those who lived with a spouse while Oldfield and Mostert (2007) reported no significant differences between married and non-married participants. It thus stands to reason that there might be differences in terms of work-home conflict based on the marital status of employees.

With regard to parental status, employees with families often miss career opportunities when they need to put their family responsibilities before their work (Rothbard & Edwards, 2003), indicating possible parent-work conflict. There are also indications that especially women with children experience more conflict between work and family compared to women without children as well as compared to men (Crouter, 1984; Grzywacz & Marks, 2000). Oldfield and Mostert (2007) reported that working parents appear to have higher levels of work-family conflict, and thus work-parent conflict, than those without children. Grzywacz, Almeida and McDonald (2002) found that having a child (aged between six and 18) was associated with less positive spill-over from family to work in contrast to being childless. Non-parent couples can act independently as they do not have the constraint of children to look after (Duxbury & Higgins, 2001). Therefore it seems that the parental status of a person will influence the degree of work-nonwork conflict which they will experience.

From the above-mentioned problem statement and literature review, the general aim of this study therefore was to investigate a) the prevalence of the different work-nonwork conflict scales and nonwork-work conflict scales b) the demographic differences of work-nonwork conflict in a sample of mining employees (i.e. gender, age, language, and qualification, marital and parental status).

METHOD

Research design

A cross-sectional survey design was used to achieve the research objectives. Cross-sectional research designs involve the measurement of all variable(s) for all cases within a narrow time span so that the measurements may be viewed as contemporaneous. In essence, data were collected at only one point in time, comparing different participants (Du Plooy, 2001).

Participants and procedure

In this study, random samples ($n = 245$) were taken from employees working in a platinum mine in the Rustenburg area (response rate = 45%). A protocol explaining the research and requesting participation was given to the HR Manager prior to the start of the study. Participants, mostly from middle management (Patterson grade levels C1-D4), were requested to participate in the study. The questionnaires were distributed and included a letter, explaining the goal and importance of the study, as well as a list of contact persons for any enquiries. The confidentiality and anonymity of participation were emphasised in the letter. Participants were given three weeks in which to complete the questionnaires in their own time, after which the questionnaires were personally collected on an arranged date. The characteristics of the participants are displayed in Table 1.

Table 1

Characteristics of Participants (n = 245)

Item	Category	Frequency	Percentage
Gender	Male	110	44,90
	Female	135	55,10
Age	20 – 29 years	74	30,20
	30 – 39 years	75	30,60
	40 – 49 years	55	22,40
	50 years and older	38	15,50
	Missing Values	3	1,20
Race/Ethnicity	White	133	54,30
	African	95	38,80
	Coloured	13	5,30
	Indian	4	1,60
Language	Afrikaans and English	156	63,70
	African Languages	89	36,30
Qualification	Secondary Education	109	44,50
	Tertiary Education	136	55,50
Level of position (Patterson grading scale)	C1 – Supervisory level	44	18,0
	C2 – Supervisory level	36	14,70
	C3 – Supervisory level	23	9,40
	C4 – Supervisory level	45	18,40
	C5 – Middle management	24	9,80
	D1 – Middle management	25	10,20
	D2 – Middle management	27	11,00
	D3 – Middle management	9	3,70
Marital Status	D4 – Middle management	12	4,90
	Single	92	37,60
	Married	150	61,20
	Missing Values	3	1,20
Parental Status	With children	143	58,40
	Without children	99	40,40
	Missing Values	3	1,20

According to Table 1, the majority of the participants were female (55,10%), Afrikaans or English-speaking (63,70%) and between ages 20 and 39 years. Regarding qualification, 55,50% of the participants had tertiary education qualifications. Most of the participants were married (61,20%), and had children (58,40%). The sample included employees from different

Patterson grade levels (C1 – D4), where 18,40% of the participants were on a C Upper (C4) level of position whilst 18,00% were on a C-Lower (C1) level of position.

Measuring instruments

The following measurement instruments were utilised in the empirical study:

Work-nonwork conflict. The newly developed Work-nonwork Interference Scale of Koekemoer (2009), measuring the interference between work and other nonwork roles, was utilised. This scale measures the interference between work and other nonwork roles, such as family roles (including spouse and parent roles), religion/spirituality, and home/domestic roles. The scale measures conflict in both directions, namely work-to-private life and private life-to-work. All items were phrased “How often does it happen that...” and were on a four-point scale ranging from 0=never to 3= always. The work-to-private life scale included ten work-family conflict items (e.g. “...your work interferes with your relationship with your spouse/partner?”; “...your job makes it hard for you to have a good relationship with your child(ren)?”); six work-domestic conflict items (e.g. “... your job interferes with your domestic responsibilities at home?”) and five work-religion/spirituality conflict items (e.g. “... your work environment does not encourage your religious/spiritual beliefs?”); whereas the private life-to-work scale, included six family-work conflict items (e.g. “... your relationship with your spouse/partner interferes with your work?”; “... your work suffers because you need to take care of your child(ren)?”) and six private-work conflict items (e.g. “... your religious/spiritual commitments interfere with your work schedule?”; “... you have to rearrange your work schedule because of your domestic responsibilities?”).

A Biographical Questionnaire was also administered. The biographical characteristics measured were age, race, educational level, household situation (e.g. marital status and/or having children or not), and type of position. With the biographical information obtained, it was possible to compare the differences in work-nonwork role conflict and nonwork-work role conflict for the different biographical groups in the platinum mine.

Statistical analysis

The statistical analysis was carried out with the SPSS program (SPSS Inc., 2009). In the preliminary analyses, exploratory factor analyses were carried out to determine the construct validity of the Work-nonwork conflict instrument, where Cronbach alpha coefficients were used to assess the reliability of the instrument. Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were also used to analyse the data.

The paired samples t-test assesses whether the means of two groups are statistically different from each other. It was used to determine the prevalence of the work-nonwork conflict and nonwork-work conflict scales. Multivariate analysis of variance (MANOVA) was used to ascertain the significance of differences between the work-nonwork conflict levels of different demographic groups. MANOVA was the counterpart of analysis of variance (ANOVA) methods, to cover cases where more than one dependent variable occurred and where the dependent variables cannot simply be combined. Wilk's Lambda was used to test the likelihood of the data under the assumption of equal population mean vectors for all groups against the likelihood under the assumption that the population mean vectors were identical to those of the sample mean vectors for the different groups. When an effect was significant in MANOVA, one-way analysis of variance was used to discover which dependent variables had been affected. ANOVA reflects the expression of the hypothesis tests of interests in terms of variance estimates (Muller & Fetterman, 2002). The Games-Howell procedure was used to determine whether statistical differences occurred between the groups.

RESULTS

Preliminary analysis

Before analysing the data for purposes of this study, two exploratory factor analyses were used to determine the construct validity of the work-nonwork and nonwork-work conflict scales. First, the number of factors underlying the questionnaire was determined. The scree plot and eigenvalues showed three factors (which explained 72,48% of the total variance) for the work to nonwork conflict scale, and two factors (explaining 73,77% of the total variance)

for the nonwork to work conflict scale. Exploratory factor analyses with a direct oblimin rotation were used for both the work-nonwork and nonwork-work conflict scales. The work-nonwork role factors were labelled Work-Family conflict scale (including spousal and parental roles), Work-Domestic conflict scale, and Work-Religion/Spirituality conflict scale, whereas the nonwork-work role factors were labelled Family-Work conflict scale (including spousal and parental roles) and Private-Work conflict scale (including domestic roles as well as religion/spirituality roles).

Descriptive statistics

Following the preliminary analyses, the descriptive statistics and Cronbach alpha coefficients of the measuring instruments were estimated and are displayed in Table 2.

Table 2

Descriptive Statistics and Alpha Coefficients of the Work-nonwork and Nonwork-work conflict scales (n = 245)

Item	Mean	SD	α
WORK-NONWORK ROLES			
Work-Family Conflict scale	1,00	0,72	0,95
Work-Domestic Conflict scale	1,99	0,68	0,93
Work-Religion/Spirituality Conflict scale	0,82	0,76	0,91
NONWORK-WORK ROLES			
Family-Work Conflict scale	0,80	0,70	0,93
Private-Work Conflict scale	0,58	0,68	0,92

Inspection of Table 2 reveals that acceptable Cronbach alpha coefficients indicative of reliability were obtained for all the scales compared to the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994).

Prevalence

In order to determine the prevalence of the work-nonwork conflict and nonwork-work conflict scales, separate prevalence analyses were done. Firstly it was important to establish which direction of conflict is more prevalent (i.e. work-nonwork conflict or nonwork-work conflict). Secondly, it was important to establish within each direction of conflict, which specific work-nonwork roles and which specific nonwork-work roles were more prevalent. Table 3 indicates the results of the different paired-sample t-tests in order to first establish which direction of conflict is more prevalent.

Table 3

Paired-sample T-tests for the Prevalence of the Direction of Conflict (Work-nonwork Conflict and Nonwork-work Conflict)

Item	t	df	Significance
Work-family (M=1,01) VS family-work (M=0,80)	5,12	198,00	0,00*
Work-domestic (M=0,99) VS private-work (M= 0,58)	-9,79	244,00	0,00*
Work-religion/Spirituality (M=0,82) VS private-work (M= 0,58)	-5,17	244,00	0,00*

* $p \leq 0,05$ = statistically significant

Regarding the prevalence of the direction of conflict of work-nonwork conflict and nonwork-work conflict, paired-sample t-tests revealed more specifically that employees reported more work-family conflict ($M = 1,01$) than family-work conflict ($M = 0,80$, $t(500) = 5,12$, $p < 0,01$). The results also indicated that individuals experienced significantly more work-domestic conflict ($M = 0,99$) than private-work conflict ($M = 0,58$, $t(500) = -9,79$, $p < 0,01$), and more work-religion/Spirituality conflict ($M = 0,82$) than private-work conflict ($M = 0,58$, $t(500) = -5,17$, $p < 0,01$).

Table 4 indicates more specifically within the direction of conflict which specific work-nonwork roles and which specific nonwork-work roles are more prevalent.

Table 4

Paired-sample T-tests for the Prevalence of Specific Work-nonwork Roles and Specific Nonwork-work Roles

Item	t	df	Significance
Work-family ($M=1,00$) VS work-domestic ($M=1,00$)	0,04	200,00	0,97
Work-family ($M=1,00$) VS work-religion ($M=0,81$)	5,44	200,00	0,00*
Work-domestic ($M=0,99$) VS work-religion ($M=0,82$)	4,75	244,00	0,00*
Family-work ($M=0,80$) VS private-work ($M=0,59$)	7,05	198,00	0,00*

* $p \leq 0,05$ = statistically significant

With regard to the prevalence of the different specific work-nonwork roles, individuals experienced more work-family conflict ($M = 1,00$) than work-religion/spirituality conflict ($M = 0,81$, $t_{(500)} = 5,44$, $p < 0,01$) and more work-domestic ($M = 0,99$) than work-religion/spirituality ($M = 0,82$, $t_{(500)} = 4,75$ $p < 0,01$). No significant differences were found with respect to the prevalence of work-family conflict ($M = 1,00$) and work-domestic conflict ($M = 1,00$, $t_{(500)} = 0,04$, $p > 0,01$). Regarding the prevalence of the two nonwork-work roles, results indicated more family-work conflict ($M = 0,80$) than private-work conflict ($M = 0,59$, $t_{(500)} = 7,05$, $p < 0,01$).

Differences between demographic groups

Following the analyses of the prevalence, MANOVA (multivariate analysis of variance) statistics were used to determine the differences between demographic groups with regard to work-nonwork conflict and nonwork-work conflict. The demographic groups that were compared included gender, age, language, qualification, marital status and parental status. Results were analysed for statistical significance using Wilk's Lambda statistics. The results of the MANOVA analyses are given below in Table 5.

Table 5

MANOVA – Differences in Work-nonwork Conflict of Demographic Groups¹

Variable	Value	<i>F</i>	<i>df</i>	<i>p</i>	Partial Eta Squared
Gender	0,97	1,01	5	0,41	0,03
Age	0,92	1,06	15	0,39	0,03
Language	0,92	3,52	5	0,01*	0,08
Qualification	0,96	1,58	5	0,17	0,04
Marital Status	0,89	4,70	5	0,00*	0,11
Parental Status	0,98	0,93	5	0,46	0,02

¹ $p \leq 0,05$ = statistically significant

As seen in Table 5, analysis of the Wilk's Lambda values indicates no statistically significant differences ($p < 0,05$) regarding work-nonwork conflict between the gender, age, qualification or parental status of the employees. However, statistically significant differences ($p < 0,05$) were found for language groups and marital status. The relationship between work-nonwork conflict and these demographic variable levels that showed a statistically significant difference was further analysed using ANOVA. The results of the ANOVA, based on language are given in Table 6.

Table 6

ANOVA - Differences in Work-nonwork Conflict Based on Language

Item	Afrikaans and English	African Languages	<i>p</i>	Partial Eta Squared
Work-family Conflict	0,97	1,08	0,28	0,01
Work-domestic Conflict	1,02	0,98	0,68	0,00
Work-religion Conflict	0,74	0,95	0,06	0,02
Family-work Conflict	0,75	0,89	0,16	0,01
Private-work Conflict	0,50	0,73	0,02*	0,03

¹ $p \leq 0,05$ = statistically significant

Table 6 showed statistically significant differences between levels of private-work conflict where African-speaking participants experienced higher levels of private-work conflict

¹ The term "work-nonwork conflict" is used here as a global concept in the manova analyses, also incorporating "nonwork-work conflict".

compared to Afrikaans and English-speaking participants. The results of the ANOVA based on marital status are reflected in Table 7.

Table 7

ANOVA - Differences in Work-nonwork Conflict Based on Marital Status

Item	Single	Married	<i>p</i>	Partial Eta Squared
Work-family conflict	1,09	0,98	0,34	0,01
Work-domestic conflict	0,97	1,02	0,62	0,00
Work-religion conflict	0,99	0,77	0,07	0,2
Family-work conflict	0,96	0,74	0,06	0,02
Private-work conflict	0,85	0,51	0,00*	0,05

p ≤ 0,05 = statistically significant

Table 7 showed statistically significant difference between levels of private-work conflict, where single participants' experienced higher levels of private-work conflict compared to married participants.

DISCUSSION

South Africa's mining industry has gained the reputation of being recognised as the primary supplier in the world of high-quality mineral products and has played a dependable role in directing the movement of the South African economy (Rathbone, 2006). The integration of work and family demands is a critical challenge facing most employees and is an issue of growing importance - not only for the organisation, but also for individuals and their families. The mining industry is widely acknowledged to be a very stressful and demanding profession (Singer, 2002) and research regarding work-nonwork conflict and nonwork-work conflict can play a predominant role in this environment. The general objective of this study was to investigate the prevalence and demographic differences of work-nonwork conflict within the mining environment.

Regarding the prevalence of work-nonwork conflict and nonwork-work conflict, the results indicated that mining employees reported more work-nonwork conflict than nonwork-work conflict. This can be due to the mandatory nature of work, namely that employees are more prone to prioritise work over family or private matters which lead to more interference from work to home than from home to work (Gutek et al., 1991). As a result of the extremely

stressful profession of mining employees, elements such as demanding work characteristics (shift work, unplanned overtime, exposure to suffering and death), job pressures, emotional stressors, and support at work (Singer, 2002), can be related to the negative interference from work to family and private life. It could also indicate that the home domain may offer more possibilities to adjust behaviour to an employee's current need for recovery than is the case in the work domain (Geurts et al., 2005). These findings also seem in line with other empirical studies (Bond et al., 1998; Frone, 2003; Geurts, & Demerouti, 2003; Grzywacz & Marks, 2000) which revealed that interference from the work domain is more prevalent than interference from the home domain. It is in the organisations best interest to attend to work-nonwork issues because it may influence the growth and development of intellectual capital as well as return on investment for organisations (Barnett, 1996). The organisation will be able to focus more specifically on programmes and interventions they wish to implement in order to recover the problem area if they are aware of which work-nonwork conflict roles are more prevalent. In addition, when individuals are aware of which work-nonwork conflict roles are more prevalent, they might also know which roles to give personal attention to in order to address this issue.

Within the current study, the conflict between different roles was compared in order to determine the prevalence of the specific role conflict of an employee. More specifically, the results indicated that employees experienced more work-family conflict than work-domestic conflict and work-religion/spirituality conflict. However, employees also experienced more work-domestic conflict than work-religion conflict; consequently indicating that work is most in conflict with family, and least in conflict with religion. Employees therefore feel that work is interfering more with their family roles than with their domestic or religion/spirituality roles. An explanation for this can be that the family identities for these employees are more salient than the religion/spiritual or domestic identities. Burke and Reitzes (1981) stated that the salience people attach to their identities influences how much effort they put into each role and how well they perform in each role. According to Stryker (1968), the various identities that consist of the self exist in a hierarchy of salience, where the identities ranked highest are most likely to be called upon in situations that involve different aspects of the self.

Regarding the nonwork-work conflict, the results indicated that the level of conflict from family roles (including parental and spousal roles) to the work role is higher than the conflict

of private roles (includes religion and domestic roles) to work. An explanation for this can be that, unlike a domestic role, individuals are not always able to plan according to a schedule, since some unplanned situations may occur in family roles. A parent, for example, may not always foresee a child being sick, which may force employees to turn up late for work or to put in family responsibility leave. According to the Employment Equity Act 55 of 1998 no person may unfairly discriminate against another person on the grounds of their religion (Venter, 2004); therefore employees might feel that they can freely live out their religion at work without prejudice as the situation was previously. This might contribute to the lower levels of work-religion conflict. Lastly, the results can also be attributed to the commitment that the employees have towards their family roles. Stryker (1987) stated that the greater the commitment of a person to a specific identity, the more salient the identity, and the more likely the person will be to choose behaviours confirming that identity; thus demonstrating that the participants' salience they attached to their family roles influenced the more effort they put into it, and consequently less effort they put into their domestic and religion roles.

In addition to the prevalence, another objective of this study was to identify the differences of work-nonwork role conflict and nonwork-work role conflict between various demographic groups within the mining industry. Multivariate analysis of variance was used to determine significance of differences between demographic groups with regard to work-nonwork role conflict. Results regarding the demographic differences revealed significant differences for employees' language and marital status. Although differences regarding gender, age, qualification and parental status were expected, based on previous studies (Oldfield & Mostert, 2007; Rost & Mostert, 2007; Van Tonder, 2005) in this study, no statistically significant differences were found.

Differences based on *language* indicated that African-speaking participants experienced higher levels of private-work conflict compared to Afrikaans and English-speaking participants. A possible reason for this may be that each culture has different characteristics that influence the ways of understanding conditions and situations. Rost and Mostert (2007) also stated that the cultural differences and backgrounds may influence the way the work environment is perceived. African-speaking individuals have a more collective culture where they are more socially orientated and more often merge the boundaries between work and home, and through this, experience more conflict between private and work life (Rost & Mostert, 2007). For example, Oldfield and Mostert (2007) stated that in the African culture it

is considered disrespectful not to attend family and/or community funerals and they are thus confronted with more family demands they should attend to. Also, a higher percentage of African children compared with other race groups, live with grandparents, (Amoateng, Heaton, & Kalule-Sabiti, 2007) who are usually in a different city/state than the workplace of the parents. This may result in parents missing specific events of their children such as birthdays, soccer matches or parent-teacher meetings which in turn may cause higher levels of conflict between private life and work. Changes that derived from Affirmative action have resulted in more women and dual-earning families entering the workforce, thereby changing the traditional role of men (Brink & De la Rey, 2001; Schreuder & Theron, 2001) especially for African-speaking people. African-speaking people are usually very traditional and don't always wish to adapt to changes in their way of life; thus causing African men to struggle to accept this new lifestyle. It might, for example, be difficult for some African men to accept the fact that his wife wishes to follow a career while neither his mother nor grandmother ever worked. This can serve as an additional explanation for the high levels of private-work conflict. This is in contrast with the findings of Frone et al. (1997) and Pieterse and Mostert (2005) who have found no differences with regard to work-home interaction for different language groups, even though they had a small sample size and were homogeneous in terms of the economic industry.

Results regarding how employees with different *marital status* experience the conflict revealed that those who are not married experienced higher levels of private-work conflict than those who are married. Similar findings were found by Grzywacz and Marks (2000) that indicated that non-married individuals tend to experience less positive work-family interaction. According to Ross, Mirowsky, and Goldsteen (1990), people who are unmarried display higher levels of depression, anxiety, and other forms of psychological distress when compared to married people. A person who lives alone may be isolated from an important network of social and economic ties (Mirowsky & Ross, 1989). These ties may help create a stabilising sense of security, belonging, and direction. Without them a person may feel lonely and unprotected. Because unmarried people often live alone but married people live with another adult, this could explain why unmarried people are more distressed (Ross, 1995). This can cause a negative interference from the person's private life to work. When considering the role identity theory, unmarried individuals will most probable have a family identity that is lower in their salience hierarchy, which means that the salience unmarried people attach to their family role is not as much as the salience married people attach to their

family role. As a consequence, an unmarried person's commitment to the family role might be less and therefore the effort and performance in that role might be less. Moreover, people who are not married also have to handle their responsibilities and conflict without support from a spouse and can consequently experience higher levels of private-work conflict

Alternatively, married employees may occasionally miss career opportunities when they need to put their marital responsibilities ahead of their work. For example, when a promotion is offered to a person that will cause him/her to be away from work from time to time, an unmarried person will have more motivation to take the promotion whereas a married person might reject it in order to maintain favourable relationships with his/her family. Furthermore, employees who are married share responsibilities and determine how to handle conflict together. Married people also have higher household incomes than unmarried people and therefore have higher economic support (Bianchi & Spain, 1986). This may imply that marital quality or spouse support is an important buffer for job-related stress (Barnett, 1996) that can have an effect on the lower levels of private-work conflict. In addition, Grzywacz and Marks (2000) stated that family-related social support was positively correlated to home-work interaction.

In conclusion, these findings suggest that there are different work-nonwork role conflicts and the experience of the interference of the nonwork roles (e.g. parent, spouse, religion/spirituality, and home/domestic) also differ. The findings also showed that demographic groups differ with regard to their experiences of work-nonwork conflict and nonwork-work conflict.

Although this current study showed promising results, it is not without limitations. The main limitation is the cross-sectional design of the study. With cross-sectional studies no concrete decisions can be made regarding the cause-and-effect relationship among the variables. The second limitation of this study is the use of self-report questionnaires. This may cause different kinds of problems, such as the participants not understanding the questions, or a phenomenon commonly referred to as "method-variance" or "nuisance". The size of the sample ($n = 245$) and the homogeneity of the sample is also another limitation. The sample was only taken from mining employees. It is therefore difficult to generalise the results to other occupational groups. This could also serve as explanation for little statistically significant differences between the different demographic groups being yielded with regard

to work-nonwork role conflict. Even though the instrument was proven valid and reliable within this study, it must be noted that it can be a limitation due to the fact that it is newly developed and should still be tested in different environments.

This study showed promising and valuable findings and can therefore provide helpful recommendations for the organisation as well as for future research. Some recommendations that arose from this study include that the mining industry should focus on providing support in terms of available resources and effectively managed work-nonwork role conflicts that are conducive to helping employees align their work and nonwork domains. Training people to use the most effective ways of coping with demands in their work environments may reduce their work-family conflicts.

The mining industry must be aware that the work domain is interfering with the different roles employees fulfil outside work (e.g. parent, spouse, religion/spirituality, and home/domestic) and vice versa. More specifically, they must be aware that the negative interference between the work and family roles are more prevalent than between work and other life roles. Therefore they will be able to focus on interventions and programmes that specifically address this problem. These interventions and programmes will contribute to the prevention of crisis situations, and to support in the everyday management of employees. The organisation can, for example, offer flexible working hours, childcare facilities or parental leave. Another example of an intervention to address the problem of private-work conflict may be extra family responsibility leave days specifically allocated for family and/or community funerals. As a consequence, individuals will experience less stress and less work-nonwork conflict if they know there are programmes in place for the above-mentioned. These specific interventions will not only result in the long-term well-being of employees but also in the success of the organisation.

Regarding recommendations for future research, larger sample sizes as well as administration of questionnaires to various occupational groups in South Africa are advisable. Future studies could also investigate the possible positive interaction between work and other nonwork roles of individuals as well as the combination of the studies of interference with certain antecedents and consequences. Finally, it is recommended that longitudinal research designs be used in work-nonwork conflict research because, for many people, work-nonwork conflict undoubtedly fluctuates over time.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter consists of conclusions concerning the literature review and the empirical study in accordance with the specific objectives. The limitations of this study are discussed, followed by recommendations for the research problem in the organisation. To conclude, suggestions and recommendations are made for future research.

3.1 CONCLUSIONS

Conclusions regarding the literature review

An extensive literature search of the concepts of work-nonwork conflict and nonwork-work conflict was undertaken. Various articles and other media were consulted. At an individual level, employees have difficulty in combining obligations in the work domain and the home domain (Geurts & Demerouti, 2003) and also experience difficulty managing different roles, such as work roles (e.g. employee, manager, union representative) and non-work roles (parental, spousal, religion, and domestic) (Frone, 2002). Work-family conflict arises when people believe that efforts to fulfil work role demands will interfere with efforts to fulfil nonwork role demands, or vice versa (Greenhaus & Beutell, 1985). Greenhaus and Beutell (1985, p. 77) explain that work-family conflict is “a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible – such that participation in the work (family) role is made more difficult by virtue of participation in the family (work) role”. Difficulties in combining work and family roles may either arise from time demands that make it physically impossible to be in two places simultaneously (time-based conflict), from the spill-over of strain from one domain to the other (strain-based conflict), or from the incompatibility of behaviours requested in each domain (behaviour-based conflict) (Greenhaus & Beutell, 1985).

Kirchmeyer (1992) stated that researchers need to accept individuals not only as workers but as parents, spouses and members of the community as well. The more a person demonstrates behaviours expected in a particular role, the more conflicting demands arise, resulting in the

strenuous involvement in multiple roles (Katz & Kahn, 1978). Whenever individuals experience difficulty managing these roles, imbalances occur which have significant consequences for the individuals, their families and the organisation (Geurts & Demerouti, 2003). In relation to this, the identity theory suggests that a particular identity (also related to roles) will be evoked in a particular situation and is determined by the commitment of the person to the different identities or roles that make up the self-concept (Stryker, 1987). The more meaning and participation an individual derives from participating in a role or identity, the more salient the identity to the individual (Thoits, 1986), which causes individuals to invest more time and emotion in that role or identity (Stryker 1987). According to Wiley (1991), individuals could experience stress when the performance of the behaviours to conform to the salient identity role is poor. To emphasise this, it can also be mentioned that interrole strain or conflict will arise when conflicting and competing expectancies are perceived from two or more roles enacted by an individual (Holohan & Gilbert, 1979) that makes the occurrence of work-nonwork conflict as well as nonwork-work conflict a possibility.

Conclusions regarding the empirical study

The first objective of this study was to determine the prevalence of work-nonwork conflict and nonwork-work conflict. Results indicated that mining employees reported more work-nonwork conflict than nonwork-work conflict. These findings also seem to be in line with other empirical studies (Bond, Galinsky, & Swanberg, 1998; Frone, 2002; Geurts, & Demerouti, 2003; Grzywacz & Marks, 2000) which revealed that interference from the work domain is more prevalent than interference from the home domain. According to Gutek, Searle, and Klepa (1991), it is due to the forced structure and obligatory nature of work, namely that workers are more inclined to prioritise work over private or family matters, and to reduce their effort investment at home rather than at work, leading to more conflict from work to home than the other way around. Geurts et al. (2005) also stated that the home domain may offer more promise to adjust behaviour to a person's need for recovery than is the case with the work domain. For example, a person may deal with the challenging aspects of the home domain easier if certain home resources (e.g., a babysitter, family, or household appliances) are available. In addition, the results indicated that employees experienced more work-family conflict than work-domestic conflict and work-religion conflict. However, employees also experienced more work-domestic conflict than work-religion conflict. According to Burke and Reitzes (1981) the salience people attach to their identities

influences the effort they put into the roles and the performance in the different roles. The assumption can therefore be made that the family identities are more salient than the domestic or religion identities of employees. Regarding the nonwork-work conflict, the results indicated that the levels of conflict from family (includes parental and spousal roles) to work is higher than the conflict of private (includes religion and domestic roles) to work. An explanation for this can be that the commitment the employees have towards family is higher; therefore they put more effort into their family roles and consequently less effort into their domestic and religion roles.

Interesting results were obtained considering the next objective regarding the different experiences of work-nonwork conflict for different demographic groups (gender, age, language, qualification, marital status, and parental status). Although differences regarding gender, age, qualification and parental status were expected, no statistically significant differences were found. Results regarding the demographic differences revealed only significant differences for employees' language and marital status.

It was found that differences based on *language* groups indicated that African-speaking participants experienced higher levels of private-work conflict compared to Afrikaans and English-speaking participants. It is assumed that each culture has distinguishing attributes and these affect the way situations and circumstances are interpreted. According to Rost and Mostert (2007) a possible reason for this is that the collective culture of African-speaking individuals often causes them to merge the borders between work and home, which leads to more conflict between private and work life. An additional reason for the higher levels of nonwork-work conflict may be the living arrangements of African-speaking individuals. Amoateng, Heaton, and Kalule-Sabiti (2007) stated that various African children live with their grandparents, which is usually not in the same city/state as the parents. More private-to-work conflict can derive from this arrangement due to parents missing specific events in the lives of their children (e.g. exams or birthdays) while being at work. Although differences were found in this study, it is in contrast with the findings of Kinnunen and Mauno (1998), Frone, Russell, and Cooper, (1997) and Pieterse and Mostert (2005) who have found no differences with regard to work-home interaction for different language groups.

With regard to *marital status*, it seems that unmarried individuals experienced higher levels of private-work conflict than those who are married. Similar findings were made by

Grzywacz and Marks (2000) that found that non-married people tend to experience less positive work-family interaction. As a result of the extremely stressful profession of mining employees, elements such as demanding work characteristics, job pressures, emotional stressors, and support at work (Singer, 2002), can be related to stress employees take from their work to their private life. Individuals who are not married will most probably have a family identity that is lower in their salience hierarchy. Moreover, unmarried people are more distressed because they often live alone while married people live with another adult (Ross, 1995). Unmarried people usually have more time for extra activities in their social life due to less responsibilities and more flexibility. This can have a negative influence on work, which causes higher private to work conflict. Another explanation for the findings of this study can also be that married people have higher earnings that lead to higher economic support (Bianchi & Spain, 1986). Consequently the monetary pressures for married people are less than for unmarried people. According to Grzywacz and Marks (2000), family-related social support is also associated with positive home-work conflict. In addition, married people handle their conflict together and share tasks and responsibilities together. Therefore, married people have the necessary social support structures to facilitate dealing with nonwork-work conflict as well as with work-nonwork conflict.

Even though this study has made valuable findings, a number of limitations are attached to it that should be noted.

3.2 LIMITATIONS

The first limitation was the use of a cross-sectional design, while the utilisation of a cross-sectional methodological design might have advantages; it does not allow measurement of changing variable values over time. Therefore no concrete decisions can be made regarding the cause-and-effect relationship among the variables. However, the aim of this study was merely to investigate the possible prevalence and differences that may exist regarding work-nonwork conflict for different demographical groups, and therefore cross-sectional data seemed adequate. According to Montgomery, Peeters, Schaufeli, and Den Ouden (2003), cross-sectional designs offer a valuable method of determining which causal hypotheses are likely to justify testing by way of longitudinal designs, even though they fail to prove causation.

The second limitation of this study was the use of self-report questionnaires. This may cause different kinds of problems, such as the participants not understanding the questions, or a phenomenon commonly referred to as “method-variance” or “nuisance”. The self-report questionnaires can also relate to a subjective test that unquestionably has an effect on the accuracy with which the participants may assess their levels of feelings, views, abilities and knowledge. Especially due to the diverse nature of the mining industry, it has to be questioned as to whether all participants understood the content of the questionnaire. Some of the participants may have struggled to understand the content of the questions as a result of language, demographic, and/or cultural differences. Therefore an objective measure is necessary to support the attainment of more accurate results.

The size of the sample ($n = 245$) was another limitation that should be taken into consideration. This study did not consist of equal numbers of participants representing each demographic group and the overall relatively small sample size. This could also serve as an explanation for obtaining little statistically significant differences between the different demographic groups with regard to work-nonwork role conflict. Future studies could benefit if they utilise a sample with proportionate inclusion of all the demographic groups and a larger sample size.

The fact that the study was conducted in a homogenous sample only consisting of individuals working in the mining industry could also serve as a limitation to this study. Therefore, one cannot generalise the results to other occupational groups. The mining organisation may have unique characteristics which include a specific organisational culture that could have affected the responses of the participants. Some of the working conditions of mining employees include working with dangerous materials, working in spaces with varying temperatures (Calitz, 2004) that are small, dark and damp (Singer, 2002) and working long hours – all of which can influence the experience of work-nonwork conflict of employees. As a result, it is important that the same study be conducted among other occupational groups. According to Geurts, Rutte and Peeters (1999), some of the work-related antecedents of work-family conflict are a high quantitative workload, a troublesome relationship with the supervisor and an unfavourable work time schedule. Work-home conflict has also been associated with a number of dysfunctional stress-related outcomes, including sleep deprivation, health problems (Geurts et al., 1999; Demerouti & Geurts, 2004), work-related outcomes (e.g. absenteeism and turnover), and nonwork-related outcomes such as life satisfaction (Allen,

Herst, Bruck, & Sutton, 2000). Even though many researchers have examined the antecedents and consequences of work-family conflict (Burke, 2004; Byron, 2005; Geurts & Demerouti, 2003; Kossek & Ozeki, 1998) no antecedents or consequences of work-nonwork conflict were included in this study which could have resulted in more specific findings regarding work-nonwork conflict. The last limitation that needs to be noted is the newly developed instrument used in this study. Although the instrument was found to be valid and reliable within this study, it is recommended that it should still be tested in different environments (e.g. nursing or educational staff) and with different populations in South Africa.

Despite these limitations, the current study has important implications for organisations and for future research.

3.3 RECOMMENDATIONS

In this section, the recommendations to solve the research problems as illustrated in Chapter 1 are examined and discussed. This is followed by recommendations for the organisation and for future research.

3.3.1 Recommendations for the organisation

The mining industry is driven by production targets with intense working environments, which could have negative implications for individuals if not managed efficiently. Singer (2002) stated that work-nonwork conflict can play a predominant role in the mining environment. Due to their important contribution to the economy of South Africa, various companies in the mining industry need to maintain a competitive advantage in complying with the demands of change, and accordingly, impose various forms of stressors on their employees. According to Frone et al. (1997), these stressors are related to negative outcomes for individuals (e.g. depression and loss of motivation) as well negative outcomes for the organisation (e.g. absenteeism and lower productivity). Therefore a recommendation that arises from this study includes that the mining industry should focus on providing support in terms of available resources and effectively manage work-nonwork conflicts that are conducive to helping employees align their work and nonwork domain. Some form of stress

management can also be offered in assisting people to apply the most effective methods of coping with stress that may reduce their work-nonwork conflicts.

More specifically, the mining industry must be aware that the work domain is interfering with the different roles employees have outside work (e.g. parent, spouse, religion/spirituality, and home/domestic) and vice versa. Organisations must be aware that the negative interference between the work and family role is more prevalent than between work and other life roles. Specific interventions and programmes can be put into place in order to address this problem as identified. Nevertheless, this would require the redesigning of ethical and work structures. Employers may perhaps offer flexitime opportunities to help reduce work-to-family and family-to-work conflict. The employees should take advantage of supportive practices and policies within the mining industry. However, the focus should not only be on formal policies (e.g. childcare facilities and parental leave), but also on the informal work environment. The mine needs to create an environment where employees feel at ease in utilising policies without being (or feeling) branded, even though there are policies that provide for family responsibility leave. When considering the results for nonwork-work conflict, another recommendation for the organisation can be to focus on some interventions to specifically assist employees with their high levels of private-to-work conflict. An example can be to incorporate extra days into employees' family responsibility leave each year that can be allocated for occasions such as family and/or community funerals. This will especially assist the African-speaking individuals with their high levels of private-to-work conflict. In addition, employees should also discuss supportive possibilities with their employer where it is non-existent. Bailyn and Harrington (2004) stated that work can be arranged in such a way that employees can deal with the family demands and still be productive in their work. The result is that the above could translate to the nonwork roles (e.g. parent and spouse), and this could have implications not only for the family concerned, but for the organisation as well.

3.3.2 Recommendations for future research

The first recommendation that can be made for future investigation and research is the use of a heterogeneous population. Since working conditions are unique within the different occupations, future research should be directed at including various occupational groups in South Africa with regard to their experience with work-nonwork conflict, since working

conditions are closely related to the experience of work-nonwork conflict. Research conducted over a range of occupational groups could lead to the establishment of norms and practices within specific professions, which can subsequently be compared and tested among the different groups. Future recommendations also need to include larger sample sizes. This could assist in obtaining more statistically significant differences between the different demographic groups with regard to work-nonwork role conflict.

Although the concept “positive interference between work and nonwork roles” was not accounted for in this study, future research should include the possibility of positive interaction between domains. Thoits (1986) has recognised that having multiple roles can hold advantages for people; therefore future research should investigate the possibility of multiple roles positively influencing the work and nonwork roles of an individual.

The final recommendation for future research is the use of longitudinal designs (Demerouti, Geurts, & Kompier, 2004) together with research regarding the antecedents and consequences of work-nonwork conflict, as the validation of the causalities and relationships as well as more specific findings will be made possible. Work-nonwork conflict undoubtedly fluctuates over time and with longitudinal data it would be possible to observe these relationships more accurately over a longer period. Even though Montgomery et al. (2003) have expressed the need for longitudinal studies within this field of study, they also suggested that it be reserved for conditions where their research influence can be used to maximum benefit instead of being worn out on exploratory investigations in new research domains.

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