CHAPTER 6
CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter focuses on the *conclusions*, *recommendations* and *limitations* of the research. The conclusions are structured in terms of the specific theoretical aims of the research, which are to describe and analyse job and family stress amongst firefighters in the South African context. Furthermore, conclusive comments are made with regard to the relationship between job and family stress amongst firefighters in the South African context. Conclusions are also formulated in terms of the specific empirical aims of the research, which are to evaluate job and family stress, and to evaluate the relationship between job and family stress amongst firefighters in the South African context.

The significance of this research on the effects of job and family stress amongst firefighters is that it has placed emphasis on the following: *firstly,* the fact that job and family stress amongst firefighters can be measured and verified in a scientific manner, *secondly,* that firefighters, as well as their authorities, should be made aware of the effects of these stressors, of which they are not always aware, *thirdly*, the relationship between job and family stress and, *fourthly* the need to institute support programmes and counselling facilities to assist firefighters and their families to cope with job and family stress and the possible effects of these two types of stress on the firefighters' work and personal life.

Recommendations are formulated in terms of the specific theoretical and empirical aims of the research. The recommendations relate to the importance of instituting support programmes and counselling, which could assist firefighters in coping with the job and family stress and the way each of these forms of stress is compounded by the presence of the other. Limitations are indicated in

terms of the theoretical viewpoint as well as the empirical approach of the research.

6.1 CONCLUSIONS

The conclusions in terms of the specific theoretical aims of the research (Chapter 1, section 1.3.2) will now be discussed.

6.1.1 Conclusions in terms of the specific theoretical aims of the research

The conclusions in terms of the theoretical analysis of job stress will be discussed in the next section.

6.1.1.1 Conclusions in terms of the theoretical analysis of job stress

The *first* specific theoretical aim of the research was to describe and analyse job stress amongst firefighters in the South African context. A unique model of job stressors of firefighters was developed. This comprehensive model indicates the causes of job stress arising outside the work situation as well as the causes of job stress originating within the work situation. These latter causes include task characteristics, organisational functioning, physical working conditions and job equipment, career and social matters and remuneration, fringe benefits and personnel policy. The uniqueness of this model can be explained by conceptualising of the following job stress reactions:

- Fourteen job stressors were identified for the task characteristics dimension of the model. The conclusion can be drawn that the main cause of job stress for firefighters in this dimension was the death of a child or children, followed by any other human fatalities. Terrible sensory experiences and traumatic incidents, as well as accidents in which people

are injured, were also very stressful experiences.

- Seventeen job stressors were identified for the organisational functioning dimension of the model. The conclusion can be drawn that the lack of leadership skills was the main cause of job stress for firefighters in this dimension. However, uncertainty and insecurity due to organisational changes, poor management decisions and lack of effective communication channels were also major causes of job-related stress.

- Sixteen job stressors were identified for the social dimension of the model. The conclusion can be drawn that poor relationships with supervisors were the main cause of job stress for firefighters in this dimension. The difference in the opinions expressed by executive and operational personnel was also a significant source of job-related stress.

- Thirteen job stressors were identified for this dimension, which depicts the causes of stress arising outside the work situation. The conclusion can be drawn that the lack of time spent with the family and anger and frustration directed at family members were the main causes of family stress for firefighters. The physical and psychological exhaustion experienced by firefighters were also contributing to stress in the family.

- Eleven job stressors were identified as stemming from the physical working conditions and job equipment dimension of the model. The conclusion can be drawn that insufficient equipment and physical resources were the main causes of job stress for firefighters in this dimension. Job stress was further compounded by manpower shortages.

- Three job stressors were identified for the career dimension of the model. The conclusion can be drawn that limited career and promotion opportunities were main causes of job stress amongst firefighters in this dimension.

- Two job stressors were identified for the remuneration, fringe benefits and personnel policy dimension of the model. The conclusion can be drawn that low social status of this profession, low salaries and low expectations were the main cause of job stress for firefighters in this dimension.

Furthermore, the reactions and symptoms of job stress amongst firefighters were identified. Somatic symptoms, obsessive-compulsive behaviour, interpersonal sensitivity, depression and anxiety were identified. It was concluded that the theoretical analysis of job stress provided the platform for the empirical investigation (with specific reference to the quantitative research). The first specific theoretical aim was achieved and an answer was provided to the first theoretical research question.

The conclusions in terms of family stress will be discussed in the next section.

6.1.1.2 Conclusions in terms of family stress

The *second* specific theoretical aim of the research was to describe and analyse family stress amongst firefighters in the South African context. Family stress amongst firefighters was described and analysed in terms of family stressors, and the impact of the cognitive, affective and behavioural reactions and physical symptoms to job stress on the family.

(a)   Conclusions in terms of the theoretical analysis of family stressors

The researcher found that family stressors manifested in terms of limited time with family The effects of shift work as another cause of stress on marital functioning and the family was explored. The shifts worked by firefighters in the Metropolitan Municipality consist of three day shifts, three night

shifts and three days off. If a marriage partner works, he or she may thus not seen the firefighter for several days if their work schedules do not coincide. Firefighters and law enforcement officers responds to shootings, car incidents and battered families, coupled with the immediate terror of an officer-involved shooting or a triple-fatality vehicle crash. The conclusion can be drawn that these type of situations may cause that they have to work longer hours resulting in limited time with their families.

There is evidence indicating, however, that family members – particularly the marriage partners of firefighters – report a greater need for help than do firefighters. Some of the concerns reported by firefighters' marriage partners have focussed on shift work and the separations resulting from it, and reactions to the dangers posed by the firefighters' work. The conclusion can be drawn that the need for understanding and forbearance, combined with a lack of social structures to cope with reactions to the dangers of the firefighters' job, may contribute to marital dysfunction between marriage partners. Marriage partners often lack the social resources needed to mitigate the inherent family stresses of being married to a person in such a dangerous profession. There are many indicators that being married to a firefighter puts additional stress on a marriage and on family life.

Furthermore, the researcher found that family stress manifested in terms of problems with children, the marriage partner being alone, firefighters not being available to help the family when needed, the effects of shift work and separation and financial problems. Several themes emerged. Firefighters reported that their children seemed much more aware of the danger in their parents' jobs than they had been previously. Among both younger and older children, there was increased separation anxiety. The conclusion can be drawn that the three most common parental problems with children were anger and temper tantrums, clinginess, and separation fears.

Although the most frequent stress reported by the marriage partner related to the danger of the firefighters' jobs, the firefighters reported feeling anxious about their marriage partners and family

being alone at night. The conclusion can be drawn that firefighters' marriage partners and families need to learn how to handle emergencies alone and how to tolerate long hours apart from the firefighter, as well as long hours together. Firefighters may also feel that previous traumatic incidents have prepared them to cope more effectively with a family crisis. Firefighters may aim at reducing the impact of a crisis on their family through their support, expression and normalisation of family reactions, as well as cognitive preparation of the family, for probable future experiences. The conclusion can be drawn that the varied repertoire of personal resources found in firefighters is a result of learning through both formal prevention and intervention programmes, and the direct and indirect (i.e. modelling) effects of work experiences.

It was found that shift work had negative consequences for role performance in a marriage. Ongoing shift work seems to remove family members from the household at the times when their presence is most required. The conclusion can be drawn that little is known, however, about the effect of rotating shifts - which is what most firefighters have - on marital success. It becomes apparent that longer shifts have a more negative influence on the family relationships of firefighters than shorter shifts. Firefighters also find it very difficult to provide in all the financial needs of their family. Firefighters are forced to work more shifts and longer hours to provide an additional income for their families. This also expose themselves to more trauma and dangers. They are also longer away from their families, with the subsequent negative impact on their marriage partners and children.

The introduction of a developmental/counselling programme could assist firefighters to cope with stress, both at work and in the family context. The conclusion was made that the theoretical analysis of family stress provided the background for the empirical investigation (with reference to the quantitative research). The second specific theoretical aim was achieved and an answer was provided to the second theoretical research question.

(b) **Conclusions in terms of the theoretical analysis of the impact of job stress of firefighters on family stress**

The conclusions in terms of the theoretical analysis of cognitive, affective and behavioural reactions, and physical symptoms to job stress on the family will now be discussed.

(i) **Conclusions in terms of the theoretical analysis of cognitive reactions to job stress on the family**

The researcher found that the cognitive reactions to job stress on the family manifested in terms of the perceived job image, and lack of leadership and job satisfaction. The conclusion can be drawn that firefighters' beliefs about the public's perception of their profession provide them with cues and information on how members of the public evaluate them as a result of their association with the fire service. For instance, when members of the public treat firefighters with a lack of respect and perceive them to be incompetent, such responses may serve as negative stimuli. Such stimuli may, in turn, evoke certain negative affective reactions from firefighters, leading them to experience less job satisfaction, lower organisational commitment, and intention to quit. The negative affective reactions from firefighters may spillover to their family. Firefighters may become frustrated and aim their aggression towards their family members. Furthermore, firefighters that quit, may place the financial security of their family in jeopardy, if they do not obtain an other job.

Furthermore, the conclusion can be drawn that a lack of consideration leadership will have a negative impact on the job satisfaction of firefighters. The firefighters may experience a lack of reasons for leading actions and concern about their well-being by their Station Officer. Typical spillover effects on the families of firefighters are characterised by families which have to cope with firefighters that, for example, experience depression and anxiety.

(ii) **Conclusions in terms of the theoretical analysis of affective reactions to job stress on the family**

The researcher found that the affective reactions to job stress on the family manifested in terms of depression, anxiety, anger and frustration at home, emotional exhaustion and emotional distance from the family. The conclusion can be drawn that typical effects of depression as a family stress reaction include that a firefighter who is suffering, might not be able to talk to his or her marital partner and retreats behind a wall of silence or suppressed anger. A loss of self-esteem, self-value and self-worth might also occur: 'I am useless. Why bother with anything?' The marital partner could respond by arguing or trying to convince the firefighter that it is not true by stressing the value of their relationship, the family and home. Loss of interest in work and hobbies, the desire for a career change and the search for new relationships or marital partners cause upheaval in the family and often seem unnecessary to others. Further effects may include the avoidance of anything that relates to the stressor incident by avoiding contact with people, including those who are there to help. Feelings of fear, guilt, and shame about behaviour, especially inability to cope at the time and subsequently are not uncommon: 'I should have done this and I should not be like this'. The firefighter might also feel like a complete failure: 'I did not do what I could or should have done. I feel utterly degraded'.

The conclusion can be drawn that firefighter's job stress have a dynamic impact on the life of their families. Evidence of trauma, anxiety and grief may be expressed directly by firefighters and their families, as loss of interest in work, family, or recreation, anxiety and ongoing feelings of great sadness, memory loss, diminished concentration, or flashbacks to the events. Avoidant or aggressive behaviour may indicate high levels of stress and trauma. Evidence may also surface indirectly, in the form of somatic or behavioural symptoms, such as sleep disturbances, headaches, chest pain, abdominal pain, relapse to unhealthy behaviours, such as tobacco use, or a general feeling of malaise. Firefighters and their families with a prior history of trauma may re-experience

painful memories that diminish their well-being and productivity. Also, firefighters and their families with existing mental illness may experience intense exacerbations of their illness.

It was found that marriage partners of firefighters reported greatest stress arising from the traumatic nature of the firefighters' work, but firefighters reported greatest stress from perceived changes in their marriage partners' behaviour. The conclusion can be drawn that a marriage partner' attitude could buffer or reduce stress in a family where the husband or wife had a dangerous job. It became apparent that the behaviour of marriage partners and families of firefighters change over time, especially when they experience that the firefighter are under tremendous job stress. Several studies have identified work-family conflict as an important predictor of psychological burnout amongst police and emergency services officers. This is particularly true for female officers because the demands of their domestic role as wife and mother are greater than those of male police and emergency services officers. For example, research findings suggest that marriage is distinctly beneficial for most husbands but less for most wives, and married women experience more strain than do married men.

The conclusion can be drawn that firefighters find it difficult to deal with emotional issues they confront daily in the populations to which they are providing assistance. It may indirectly influence the communication skills with their own children and families. An emotional distance may start to develop between the firefighter and his family which has a negative impact on their relationship. The culture of emergency work need to be taken in consideration. For example, firefighters often use a coping style of dealing with stress in ways that avoid directly dealing with feelings and limit communication about work-related stress with their family members.

(iii)   **Conclusions in terms of the theoretical analysis of behavioural reactions to job stress on the family**

The researcher found that the typical effects of alcoholism as a behavioural reaction to job stress on the family include changes in the way firefighters see themselves, their marital partners, or their children. Relationships can become very strained and difficult, and are frequently characterised by an increased lack of communication. Firefighters may also experience an inability to stop talking about a particular event. This can become irritating and boring for others, who might respond by telling them to keep quiet and forget about it. Intoxicated firefighters might experience nightmares and dreams, waking up in a panic or sweat. This can be very disturbing and frightening for marital partners. Inability to make even simple decisions, loss of concentration and lack of interest in their families, friends and hobbies may occur. The family becomes frustrated and angry. Pent-up feelings can also result in anger and violence in the relationship, sometimes without any apparent cause.

Typical effects of thoughts about suicide as a behavioural reaction to job stress on the family may include apathy and a feeling that life is a waste of time, which cause marital partners to become frightened, frustrated and angry. Feelings of vulnerability, anxiety about the same things happening again, confusion and disorientation might also became apparent. The response of the family may be to tell the firefighter to pull him/herself together. A constant preoccupation with the stressor incident may also take the form of keeping a diary of events or a scrapbook. This can be infuriating to the family. However, it is also possible that family stress may cause firefighters to experience job stress more intensely than would be the case if there were no stress in the family.

(iv)   **Conclusions in terms of the theoretical analysis of physical symptoms to job stress on the family**

The researcher found that physical symptoms to job stress on the family manifested in terms of lack of exercise, physical exhaustion, alcoholism and suicide. Firefighters that are stationed at fire brigades which do not receive a lot of emergency calls, are not regularly exposed to physical

demanding duties. The conclusion can be drawn that it may be difficult for firefighters which do not exercise regularly to participate in new training and to perform their work functions effectively, which may result in depression. Such feelings of depression may be transferred to the family. Research on job and family interface have long recognised that the personal lives of firefighters are affected by the unique nature of their work which, in turn, makes firefighters perceive their job as more physically and psychologically stressful. Stress is experienced in the family due to the constant tiredness of the firefighter.

The conclusions in terms of the theoretical analysis of the relationship between job and family stress will be discussed in the next section.

6.1.1.3 Conclusions in terms of the theoretical analysis of the relationship between job and family stress

The *third* specific theoretical aim of the research was to describe and analyse the relationship between job and family stress amongst firefighters in the South African context. An integrated job and family stress model for firefighters was developed. The dynamic interaction between job and family stressors, and stress symptoms and reactions can be summarised in the following six conclusions:

Firstly, the conclusion can be drawn that an interface seems to exist between job stressors arising outside the working situation and family stress.

Secondly, the conclusion can be drawn that a spillover effect (job and family conflict) seems to exist between job stressors arising outside the working situation and job stressors originating within the working situation.

Thirdly, the conclusion can be drawn that an interface seems to exist between job stressors and job stress symptoms and reactions.

Fourthly, the conclusion can be drawn that an interface seems to exist between job stressors, job stress symptoms and reactions and family stress.

Fifthly, the conclusion can be drawn that an interface seems to exist between job stress and family stressors.

Sixthly, the conclusion can be drawn that an interface seems to exist between job stress and its impact on family stress in terms of cognitive, affective, and behavioural reactions, and physical symptoms.

It was concluded that the theoretical analysis of the relationship between job and family stress provided the basis for the empirical investigation (with reference to the quantitative research). The third specific theoretical aim was achieved and an answer was provided to the third theoretical research question.

The conclusions in terms of the specific empirical aims of the research (Chapter 1, section 1.3.2) will be discussed in section 6.1.2.

6.1.2   Conclusions in terms of the specific empirical aims of the research

The conclusions in terms of the confirmatory study of the measuring instruments of the Experience of work and life circumstances and Stress questionnaire will now be discussed.

6.1.2.1 Conclusions in terms of the confirmatory study of the measuring instruments

The following conclusions were made in terms of the confirmatory study of the measuring instruments:

• The conclusion can be drawn that the Experience of work and life circumstances

questionnaire was reliable for the sample of firefighters, with Cronbach Alpha Coefficients ranging from 0.72 to 0.92. The coefficients were acceptable for most of the subscales, except for the task characteristics subscale, which was slightly lower than acceptable. This confirms the enhancement of the reliability of the research.

- The conclusion can be drawn that the Stress questionnaire was reliable for the sample of firefighters with Cronbach Alpha Coefficients ranging from 0.73 to 0.86. The coefficients were acceptable for most of the subscales, with the exception of the anxiety subscale, which was slightly lower than acceptable. This confirms the enhancement of the reliability of the research.

- The validity of the Experience of work and life circumstances questionnaire was confirmed for the sample. The retained factors with eigenvalues greater than one and the cumulative percentage per proportion were acceptable for all the subscales. This confirms the enhancement of the validity of the research.

- The validity of the Stress questionnaire was confirmed for the sample. The retained factors with eigenvalues greater than one and the cumulative percentage per proportion were acceptable for all the subscales. This confirms the enhancement of the validity of the research.

- It can be concluded that the Experience of work and life circumstances and Stress questionnaires were suitable for the evaluation of job and family stress for this specific sample of firefighters in the South African context.

The conclusions in terms of the empirical study of job stress will be discussed in the next section.

6.1.2.2 Conclusions in terms of the empirical study of job stress

The *first* specific empirical aim of the research was to quantitatively evaluate job stress amongst firefighters in the South African context. In terms of the descriptive statistics of the Experience of work and life circumstances questionnaire the conclusion can be drawn that firefighters regard family stress as a major cause of stress arising outside the organisation, whereas they experience task characteristics as the main cause of stress originating within the work situation. Organisational functioning, physical working conditions and inadequate equipment caused the least stress within the work situation. Firefighters experienced career and social matters as well as remuneration, fringe benefits and personnel policy as moderate causes of stress originating within the work situation. The analysis of the descriptive statistics of the Stress questionnaire indicated that very few firefighters had expressed thoughts about ending their lives (suicidal tendencies), but feelings of concern (depression) were generally indicated.

In terms of the inferential statistics it was found that firefighters in the age category 26 - 30 years experience high family stress due to causes arising outside the work situation. The conclusion can be drawn that firefighters feel that their everyday financial obligations and the general economic situation in the country makes life exceptionally difficult for them. The phase of life in which they find themselves, for example, to be married and the birth of children, and the family crisis that are common during this phase have an adverse effect on their lives. Firefighters in the age category 41-54 years experience high job stress due to causes originating within the work situation because they feel uncertain in their work, it is as if they are up against a wall and simply cannot make any progress. This may cause that they do not wish to participate in anything and have no real interest in their work activities.

The male firefighters experience higher levels of family stress due to causes arising outside the work situation than the female firefighters. They often feel in their everyday life that family stress caused

by, for example, death, the responsibility to provide for the family, illness and strife, have an adverse effect on their lives. Furthermore, it was found that the male firefighters experience higher job stress due to causes originating within the work situation than female firefighters. The conclusion can be drawn that they often feel that no-one wants to support them in their work and that their particular work situation compares unfavourably with others. Married firefighters experience high levels of family stress due to causes arising outside the work situation. They have limited time to spent with their families because they are often away from their families for several days at a time because they have to work shifts. Their absence may also cause that they experience problems with their children. Unmarried firefighters experience high job stress due to causes originating within the work situation. The conclusion can be drawn that they are often new in the fire service and inexperienced in their work with no support systems of marital partners and families to cope with traumatic incidents and sensory experiences.

Firefighters with 2 - 5 years' experience in their occupation experience high levels of family stress due to causes arising outside the work situation. The conclusion can be drawn that they often feel in their everyday life that rapidly changing technology poses a problem for them. Such feelings of insecurity about their abilities to cope with the new technology may be transferred to their families. They may feel that if they cannot cope, they may loose their jobs causing that they have no income to support their families. Firefighters with less than 2 years' experience in their occupation experience high levels of job stress due to causes originating within the work situation. They often feel sad in their work and are often emotionally disturbed when involved in more tragic rescue operations.

Firefighters in the category Grade 10 - 11 experience high family stress due to causes arising outside the work situation. They feel that their abilities and skills are not developed and that they are not making progress in their careers. They have no expectations to provide a better life for their families. Firefighters in the category of Grade 10 - 11 experience high family stress due to causes

originating within the work situation. The conclusion can be drawn that they often feel dissatisfied with their promotion. It was also found that the correlation statistics confirmed that firefighters do experience job stress due to a number of causes originating within the work situation. The first specific empirical aim was achieved and an answer was provided to the first empirical research question.

The conclusions in terms of the empirical study of family stress will be discussed in the next section.

6.1.2.3 Conclusions in terms of the empirical study of family stress

The *second* empirical aim of the research was to qualitatively evaluate the extent to which family stress is experienced amongst firefighters in the South African context (see conclusions in section 6.1.2.4). It was found, in terms of task characteristics, that death, in particular the death of children, is a severe source of job stress for firefighters. The conclusion can be drawn that firefighters may tend to become more concerned about and protective of their families when they are involved in stressful work situations involving loss of life, especially the lives of children. Rescue operations that involve accidents in which people are injured also produce high levels of emotional stress. Firefighters are continuously exposed to trauma. Exposure to human loss, terrible sights and noises, and accountability for decisions that have to be taken under pressure are additional factors that also contribute to anxiety. The conclusion can be drawn that firefighters may experience less job stress in serious fires that are related to their task characteristics and training than in situations that are not directly related to serious fires, for instance rescue operations.

Furthermore, in terms of organisational functioning, it was found that firefighters experience job stress due to poor management decisions and lack of support and interest in firefighting affairs. Job stress is further intensified by the lack of management skills and a shortage of personnel, which result in overloaded job schedules. The delegation of functions, and responsibility versus authority,

are also sources of job stress for firefighters. The feelings of uncertainty and insecurity owing to organisational changes in the fire service can be described as an intense source of job stress for the firefighters. The conclusion can be drawn that the amalgamation of the fire services of the former municipalities of Akasia, Centurion and Pretoria may contribute to feelings of uncertainty and unsafety about their ability to care for their families. Discrimination against certain firefighters and affirmative action further exacerbate the situation.

It was further found that firefighters experience high levels of job stress due to insufficient equipment and physical resources. The conclusion can be drawn that firefighters may experience frustration because they cannot execute their duties effectively due to a lack of equipment and physical resources, which may lead to their perception of themselves as being inadequate. Feelings of failure experienced by firefighters may be transferred to their families. The present situation is characterised by the fact that fire stations in more affluent areas have more equipment and physical resources at their disposal than the smaller fire stations. Firefighters stationed at smaller fire stations that are poorly equipped may experience envy and humiliation. It is also difficult to obtain new technology for the smaller fire stations.

Responses relating to social matters indicate that work relationships amongst firefighters are amongst the main sources of job stress. Poor relationships with supervisors and management are contributing factors to job stress. Job stress is further intensified by the conflict and negative attitudes that exist between colleagues. This conflict can sometimes be attributed to racial tension. Contact with offensive patients and drug abusers, unsocial working hours and the media on the scene are also social factors generating job stress. The pressure to conform to the firefighter's group and the lack of support from colleagues are important social factors to consider in addressing job stress. The conclusion can be drawn that firefighters who experience interpersonal conflict at work may also experience interpersonal anxiety, which may contribute to hostile behaviour towards the family.

In terms of career matters it was found that limited career and promotion opportunities also constitute a major source of job stress for firefighters. The conclusion can be drawn that firefighters may feel that their salaries and benefits will not increase if they are not promoted, which affects the financial support of their family. The insufficient training of firefighters to act in senior positions surfaced as another job stressor. Factors that are closely related to career matters are remuneration, fringe benefits and personnel policy. Poor status, poor salaries and low expectations are also a high source of job stress for firefighters. Awareness of the differences in the salary structures, fringe benefits and personnel policies of the former municipalities of Akasia, Centurion and Pretoria are experienced by firefighters as a job stressor. The conclusion can be drawn that firefighters who work overtime to supplement their poor salaries may have less time to spend with their families, in other words, family stress occurs when the system does not have the requisite variety of rules to comfortably transform inputs into outputs that meet desirable standards. Furthermore, if firefighters have to work overtime to supplement their poor salaries, they may become resentful towards the organisation and management, which could result in a negative attitude towards their work.

It was found that family stress manifested as divorce of three firefighters. Firefighters who are the victims of a serious crises or trauma may have serious symptoms that do not resolve for quite a while. Firefighters involved in crises or those who have been traumatically victimised, often report a disruption in their interpersonal relationships. A firefighter may not develop difficulties immediately, and it may take up to two years to feel that a certain level of normalcy has been re-established. Firefighters who do not receive some form of counselling often attempt to cope with the emotional disruption through a variety of methods that may be self-destructive. Often shame and anger are involved, which may get focussed on and played out in a significant relationship. Two of the firefighters indicated that personal problems had led to divorce, whereas the third indicated that job stress had been directly responsible for his divorce. The conclusion can be drawn that the interpersonal and emotional withdrawal of firefighters as a result of experiencing traumatic incidents

may contribute to the disintegration of their marriages and subsequent divorce.

Another characteristic is the limited time that firefighters have to spent with their families. Firefighters who have limited time to spend with their families due to work obligations may feel that they are neglecting their families, in other words, family strain may results from a mismatch at the point where pressures (limited time) occur and the supports are grounded. This may cause firefighters to feel guilty about their family, because they are unable to change their current work situation. The hours of the shifts require firefighters to leave home early in the morning and return late in the evenings, which contributes to the problems they experience with their children. These problems result directly from the fact that the firefighters do not have time to spend with their children. They are not at home to play an active role in the upbringing of their children which may leave the children feeling unsafe and insecure.

It was further found that negative lifestyle factors contribute to family stress. Firefighters abuse alcohol to escape from the stressful experiences of their work. The conclusion can be drawn that this abuse of alcohol may cause conflict with their marital partners, which could cause firefighters to lose control. Their children may feel unsafe when they witness their father or mother's out-of-control behaviour. This may cause them to feel afraid and lose their self-confidence, which may impede their functioning and development. The conclusion can be drawn that alcohol abuse may sometimes results in a family crisis. The family may experience a disturbance in the equilibrium that is so overwhelming, a pressure that is so severe, or a change that is so acute that the family system is blocked, immobilised and incapacitated. At least for a time, the family does not function. Family boundaries are no longer maintained, customary roles and tasks are no longer performed, and family members can no longer function at optimal levels, either physically or psychologically.

One of the firefighters had considered suicide as the only solution for personal and work-related problems. It can be regarded as the fourth level of family stress where the family has no control

over the working circumstances of the firefighter that impact directly on the sustainment of the family. Family members have no resources at their disposal to make changes to cope with the stressor. However, this firefighter indicated that steps would be introduced to prevent a tragedy. The conclusion can be drawn that firefighters who direct their aggression towards the self and do not know how to cope with it, may consider suicide as an alternative to escape the stressful situation permanently. Stress also occurs in families when anger and frustration are directed at the marital partner and children. Firefighters may direct their anger and frustration at their families, with whom they have a close emotional connection, since emotional outbursts are not allowed in the work context. They perceive the family as a safe place for such behaviour because they might not be rejected and might be forgiven. The conclusion can be drawn that if there are no healthy ways for firefighters to discharge these feelings of frustration, they may be directed at the family.

Furthermore, it was found that firefighters experience physical exhaustion due to the nature of their work. Stress is experienced in the family due to the constant tiredness of the firefighter. The emotional exhaustion of the firefighter contributes to his general fatigue. The conclusion can be drawn that firefighters may not perform their role in the family effectively because of physical and emotional exhaustion. They may not be able to cope with the physical and emotional demands placed on them, and this could result in withdrawal from the family. They may also blame the family for not understanding their situation. Stress occurs in families due to the loneliness of the marital partners of firefighters, and when the firefighter is not available to help the family in times of crisis. A further conclusion can be drawn that firefighters may feel concerned about the safety of their marital partners and children when they are working. They may feel that their families are vulnerable and that they cannot protect them. This may also keep them from concentrating fully on their work. They may also feel more guilty and blame themselves especially when a crisis develops in the family in their absence. Firefighters suffer from depression as a direct result of the stress of their job. The conclusion can be drawn that firefighters may experience depression, which is the result of having no control over the working conditions and environment, and that uncertainty and unsafety due to

organisational changes intensify this feeling of hopelessness. Such feelings may cause them to become emotionally inaccessible to their families.

It was also found that physical symptoms are a major source of stress for firefighters in their family life. Affective and cognitive stress symptoms are also determinants that should be considered. The conclusion can be drawn that firefighters who experience physical stress symptoms may feel that they are not in control of their bodies. They may fear that something is physically wrong with them. Furthermore, firefighters who experience affective stress symptoms e.g. sadness and anger may feel that they are emotionally out of control and weak. They may think that something might be wrong with them psychologically and firefighters who experience cognitive stress symptoms may feel that they are unable to control their own thoughts and behaviour which may leave them feeling out of control and insecure. Shift work contributes to stress in the family life of firefighters. They may feel frustrated because they are often away from their families for several days at a time because they have to work shifts. This may contribute to feelings of guilt because they do not spend enough time with their families, who may consequently be alone in crisis situations

The emotional distance from the family is a factor that needs to be considered as a family stressor. The firefighter tries to safeguard his/her family from job stressors by being emotionally distanced, but the family may become alienated in the process. Financial problems can also be regarded as a family stressor. The conclusion can be drawn that firefighters facing financial problems may experience anxiety about their own future and may feel afraid that they may not be able to support themselves or their families. It was further found that the anxiety experienced by firefighters in the work situation contributes to family stress. Anxiety experienced by firefighters as a result of not knowing what to expect when the next emergency call comes in may cause fear that each emergency call will be severe and traumatic. It seems that the impact on the family is more negative when stressors are unpredictable and extraordinary. The second specific empirical aim was achieved and an answer was provided to the second empirical research question.

The conclusions in terms of the empirical study of the relationship between job and family stress will be discussed in the next section.

6.1.2.4 Conclusions in terms of the empirical study of the relationship between job and family stress

The *third* empirical aim of the research was to quantitatively and qualitatively evaluate the relationship between job and family stress amongst firefighters in the South African context (see conclusions in section 6.1.2.3). It must be noted that the results indicated negative correlations between the causes arising outside the work situation and those originating within the work situation. This phenomenon can be explained by the fact that an increase in job stressors will not necessarily contribute to an increase in family stressors. The questionnaires measure stressors and not stress and the experience thereof. The possibility exist that a transfer effect may occur. An increase in job stress may influence the stress reactions rather than the stressors of the family. This transfer effect was therefore qualitatively explored. Although no significant correlations were found, the researcher investigated this matter further by exploring the following covariances between the dimensions of job and family stress:

- *The anxiety and COW (causes of stress arising outside the work situation) dimensions of job and family stress*. The conclusion can be drawn that anxiety which develop at work is a predictor of family stress. This implies that the anxiety from work is transferred to the family situation and this creates more stress in the family.

- *The physical working conditions and job equipment and career matters, as well as COW (causes of stress arising outside the work situation) dimensions of job and family stress*. Although a little below the general accepted level, a regression was found between the physical working conditions, job equipment, career matters and causes of

stress arising outside the work situation These three working conditions seems to predict family stress. The conclusion can be drawn that firefighters often feel that the job equipment at their disposal is not sufficient and that their abilities and skills are not developed to cope with the demands of the physical working conditions which may cause stress in their families.

- *The career matters and COW (causes of stress arising outside the work situation) dimensions of job and family stress*. A more significant regression was found between career matters and causes of stress arising outside the work situation. The conclusion can be drawn that limited career and promotion opportunities also constitute a major source of job stress for firefighters. Firefighters may feel that their salaries and benefits will not increase if they are not promoted, which affects the financial support of their family.

The third specific empirical aim was achieved and an answer was provided to the third empirical research question.

The recommendations of the research will be discussed in section 6.2.

6.2   RECOMMENDATIONS

The recommendations of the research will be discussed in terms of the specific theoretical and empirical aims of the research, and recommendations will be made regarding the formulation of an integrated developmental/counselling job and family stress programme for firefighters and their families in the South African context.

6.2.1   Recommendations in terms of the specific theoretical aims of the research

The following recommendations are made with reference to the specific theoretical aims of the research (Chapter 1, section 1.3.2).

The first recommendation relates to the description and analysis of job stress amongst firefighters in the South African context by expanding the unique model of job stressors of firefighters through further research in this area. Specific areas of the model that can be expanded include the physical working conditions. It is recommended that the exposure to risks and danger, traumatic incidents and terrible sensory experiences be further investigated. Other areas of the model that can be expanded include the job equipment (new technology), limited career and promotion opportunities (insufficient training), and differences in salary structures and personnel policies.

The second recommendation relates to the description and analysis of family stress amongst firefighters in the South African context by expanding the existing literature of family stressors, family stress reactions and symptoms and results of family stress through further research in this domain. Specific areas of the existing literature can be expanded by investigating stress reactions and symptoms other than those dealt with in the research that are evident amongst family members of firefighters. It will also be worthwhile to conduct further research of the family stress interventions associated with these other stress reactions and symptoms.

The third recommendation is to conduct further research to obtain more information with regard to job and family stress amongst firefighters in the South African context by describing and analysing the following relationships:

- *Families of firefighters that have developed rules of transformation cope better with family stress than those that have not developed such rules*. Further research will provide a deeper understanding of the process of stress as it occurs when the usual transformation processes are not sufficient for families to handle a change or new input into

the system. The information could assist industrial psychologist in the developmental/counselling job and family stress programme to guide families to develop rules of transformation to cope with family stress.

- *Longer shifts have a more negative influence on the family relationships of firefighters than shorter shifts.* Further research will provide more exact information on the negative consequences of longer shifts on the family relationships of firefighters. Such information could be made available to management in order to find possible solutions for the problem.

- *Increased job crisis in a given time, increases the family stress experienced by firefighters.* Further research may provide deeper insight why an increase in job stress, increases the family stress experienced by firefighters. The information could be valuable in the enhancement of the developmental/counselling job and family stress programme.

The recommendations in terms of the specific empirical aims of the research will be discussed in section 6.2.2.

6.2.2   Recommendations in terms of the specific empirical aims of the research

The following recommendations are made with reference to the specific empirical aims of the research (Chapter 1, section 1.3.2).

The first recommendation is to evaluate job stress amongst firefighters in the South African context by increasing the available population of firefighters that participated in the research in order to improve the quality of the research. The statistical results obtained from a larger sample may enhance the interpretation and analysis of the findings of job stress.

The second recommendation is to evaluate family stress amongst firefighters in the South African context by increasing the available population of firefighters that participated in the research in order to improve the quality of the research. The statistical results obtained from a larger sample may enhance the interpretation and analysis of the findings of family stress.

The third recommendation is to conduct further research to obtain more information with regard to job and family stress amongst firefighters in the South African context by evaluating:

- *The relationship between the causes of stress originating within the work situation (organisational functioning) and the causes of stress arising outside the work situation (family stress).* Further research may provide more information of the relationship between organisational functioning e.g. uncertainty and unsafety due to organisational changes, lack of leadership skills, responsibility versus authority etc. and family stress.

- *The relationship between the causes of stress originating within the work situation (task characteristics) and the causes of stress arising outside the work situation (family stress).* Further research may provide more information of the relationship between task characteristics e.g. accidents in which children die or are injured, traumatic incidents, terrible sensory experiences etc. and family stress.

- *The relationship between the causes of stress originating within the work situation (physical working conditions and job equipment) and the causes of stress arising outside the work situation (family stress).* Further research may provide more information of the relationship between the physical working conditions and job equipment e.g. shortage of manpower, insufficient equipment and physical resources etc. and family stress.

- *The relationship between the causes of stress originating within the work situation (career and social matters) and the causes of stress arising outside the work situation (family stress).* Further research may provide more information of the relationship between career and social matters e.g. limited career and promotion opportunities, poor relationships with supervisors, negative attitudes of colleagues etc. and family stress.

- *The relationship between the causes of stress originating within the work situation (remuneration, fringe benefits and personnel policy) and the causes of stress arising outside the work situation (family stress).* Further research may provide more information of the relationship between remuneration, fringe benefits and personnel policy e.g. poor status, difference in salary structures and low expectations etc. and family stress.

The fourth recommendation is to consider the inclusion of the 16-Personality Factor Questionnaire to obtain more information with regard to certain personality characteristics of firefighters that experience job and family stress. An analysis of the profiles and the second-order factors might provide the researcher with a better understanding of factors that make firefighters more prone to experiencing job and family stress.

The fifth recommendation suggests that the dynamics of job and family stress amongst firefighters will be better understood if more interviews are conducted with firefighters. The researcher might identify new emerging themes and subthemes and obtain a better understanding of the existing themes and subthemes.

The sixth recommendation relates to the enhancement of the value of the research by conducting interviews with the family members of the firefighters to obtain insight into how they experience job and family stress.

The seventh recommendation relates to the development of a comprehensive instrument that measures both job and family stress specifically amongst firefighters in the South African context.

The recommendations regarding the formulation of an integrated developmental/counselling job and family stress programme for firefighters and their families in the South African context will be discussed in the next section.

6.2.3 Recommendations regarding the formulation of an integrated developmental/counselling job and family stress programme for firefighters and their families in the South African context

The recommended developmental/counselling job and family stress programme is presented in Figure 6.1 on page 291. The main goals of the programme are:

- The enhancement of the psychological wellness of the firefighters and their families
- The enhancement of a positive culture and high levels of productivity
- The prevention of high levels of absenteeism
- The development of motivated and loyal firefighters
- The education and training of firefighters and their families to effectively cope with job and family stress.

The client-centred approach applies to this programme. The application value of the programme is twofold: The programme can be instituted to enhance the wellness and psychological health of firefighters and their families, or for counselling of firefighters and their families who are experiencing job and/or family stress. The multi-dimensionality and flexibility of the programme and the selection of the most appropriate intervention strategies makes this programme unique and one of its kind in the South African context. The target groups recommended for the programme are individual

firefighters, firefighters and their families, or only the families of firefighters. The programme will also be beneficial to new recruits in the firefighting service and their families. The orientation of new firefighters and their families through participation in the programme will serve as a pro-active step in the fostering of psychological well-being. The different phases of the programme will now be discussed.
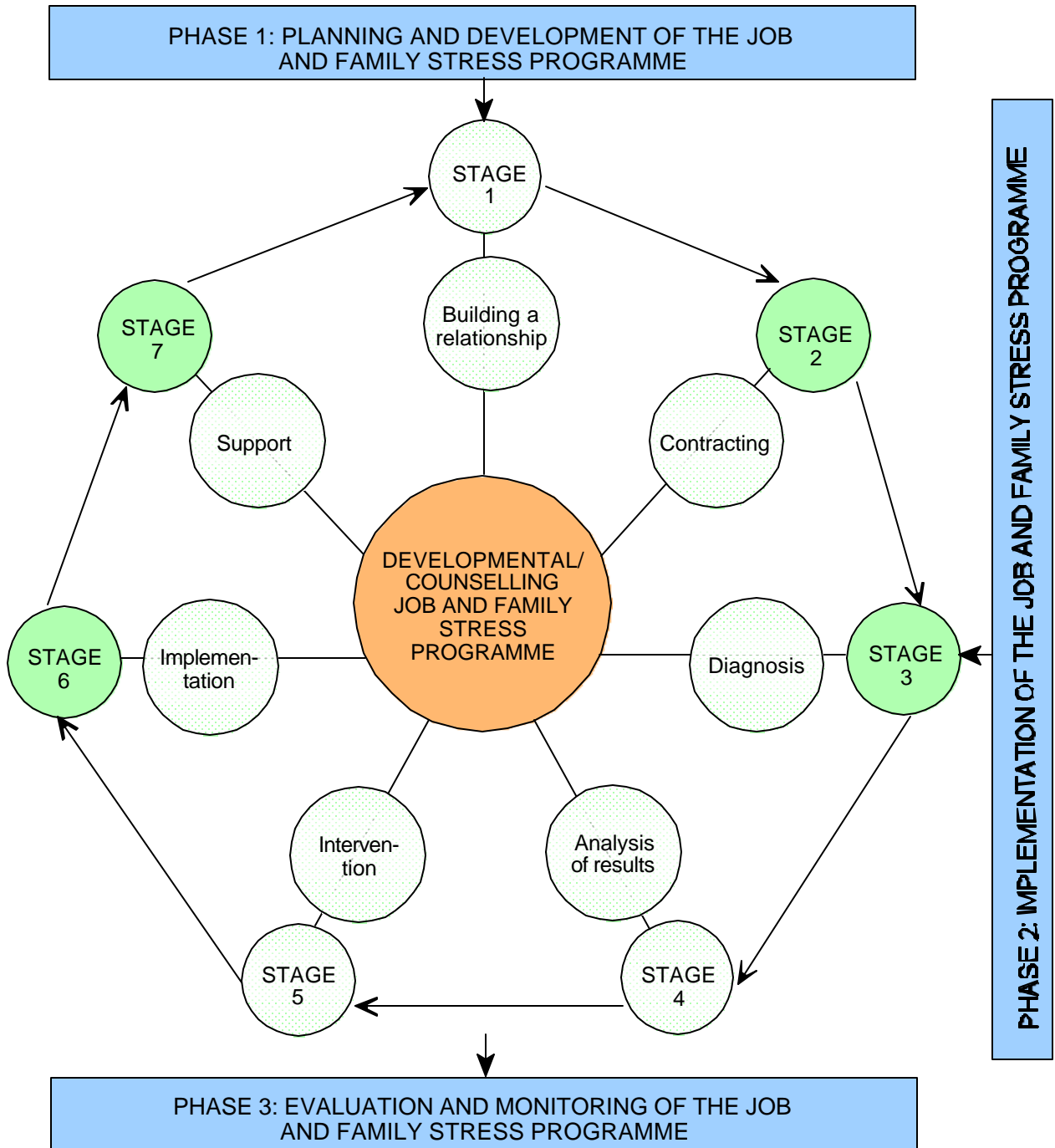
PHASE 1: PLANNING AND DEVELOPMENT OF THE JOB
AND FAMILY STRESS PROGRAMME

PHASE 2: IMPLEMENTATION OF THE JOB AND FAMILY STRESS PROGRAMME

STAGE 1

Building a relationship

STAGE 7

STAGE 2

Support

Contracting

DEVELOPMENTAL/
COUNSELLING
JOB AND FAMILY
STRESS
PROGRAMME

STAGE 6

Implemen-
tation

Diagnosis

STAGE 3

Interven-
tion

Analysis
of results

STAGE 5

STAGE 4

PHASE 3: EVALUATION AND MONITORING OF THE JOB
AND FAMILY STRESS PROGRAMME

Figure 6.1: Developmental/counselling job and family stress programme

6.2.3.1 Phase 1: Planning and development of the job and family stress programme

An important step before the commencement of the programme is to conduct thorough planning. The following aspects needs to be considered:

- The participation of the firefighters. In other words, determine when the firefighters will be able to participate in the programme, i.e. during their shifts or after shifts.
- The participation of the families. In other words, determine when the families will be able to participate in the programme, i.e. on weekdays or at weekends. If on weekdays, will it be during the day or after work?
- The duration of the programme. In other words, determine the time for the implementation of each stage of the programme and whether it will be conducted on a weekly or monthly basis.
- The venues where the programme will be presented.
- The facilitators of the programme. Industrial psychologists who specialise in this field will be recommended for this programme.
- The budget for the programme. A detailed budget will have to be compiled that reflects all the costs involved in the establishment and continued running of the programme.
- The provision of refreshments for the participants and facilitators.
- The development of programme material.

(a)   Obtaining commitment from senior management

Another important factor in ensuring the success of a developmental/counselling programme to assist firefighters who experience job and family stress is the commitment and support of senior management. Such commitment can be obtained through presentations of the main goals (as mentioned on page 235) of the programme to senior management which highlight the advantages

of such a programme. The senior management must 'buy' into the program and be convinced that the programme will succeed in its goals.

(b)   Marketing of the programme

The marketing of the programme is also an important factor that needs the following consideration:

- The time frame of the marketing. In other words, when will the marketing of the programme commence and how long will it continue?
- The identification of suitable people to market the programme, either public relation officers of the Metropolitan Municipality or industrial psychologists, to facilitate the programme.
- The method of marketing the programme. It is recommended that motivational speeches be presented at the various fire stations.
- The media to be utilised in the marketing of the programme. The website of the Metropolitan Municipality and invitations via e-mail, pamflets, flyers, posters, and banners are recommended as possible marketing media.

6.2.3.2 Phase 2: Implementation of the job and family stress programme

The different stages of implementation of the programme will now be presented for example in terms of firefighters and their families.

(a)   Stage 1: Building a relationship

Stage 1 is characterised by making contact with the firefighter and family experiencing stress. The programme makes provision for firefighters and their families who are referred for counselling or for those who reported to participate in the programme. It is important to establish a relationship

characterised by mutual trust and respect with the firefighter and family. Even before the first meeting, general background information about the unit in which the firefighter is working and the family should be obtained. Such information is often found in in-house journals, newsletters, annual reports and personnel records and can be utilised to ask relevant and pertinent questions at the first meeting (http://www.managingstress.com).

(b)   Stage 2: Contracting

In *Stage 2*, the ground rules for the programme are discussed and agreed upon by the firefighter and family. As a client-centred programme is undertaken, it is important that the firefighter and family should realise that they own the problem and are responsible for implementing the programme, which will be facilitated by the industrial psychologist (http://www.managingstress.com).

(c)   Stage 3: Diagnosis

The diagnosis of the causes of stress arising outside the work situation and originating within the work situation is important in *Stage 3,* as money spent on programmes that are not focussed on the stressors experienced by the firefighter and family will waste resources. At this stage a questionnaire completed by the firefighter and an interview with the firefighter and family can provide valuable information. The Experience of work and life circumstances questionnaire is very useful. It pinpoints areas of stress by analysing seven key factors, namely causes arising outside the work situation, task characteristics, organisational functioning, physical working conditions and job equipment, career and social matters and remuneration, fringe benefits and personnel policy. This provides a wealth of information about the firefighter and his/her family (http://www.managingstress.com).

(d) **Stage 4: Analysis of results**

Stage 4 is not always straightforward. Insufficient data may, for instance, have been collected, or there may be so much data that it becomes difficult 'to see the wood for the trees'. The firefighter and his/her family might misinterpret the data, whereas the Industrial Psychologist might clearly see that the firefighter and/or family's own attitude and subsequent behaviour may be a major cause of the stressor experienced. These issues usually need further exploration (http://www.managingstress.com).

(e) **Stage 5: Intervention**

In *Stage 5,* the industrial psychologist helps the firefighter and his/her family to generate interventions and to choose the most helpful one. However, they may not choose the best intervention and the industrial psychologist may need to help them to reconsider the decision. The industrial psychologist will normally predict the possible outcomes of each intervention based on experience and relevant research. The firefighter and family may opt for either individual, group, family, or multiple stressor debriefing interventions. Individual, group or family counselling may also be considered as interventions. Firefighters can be educated and trained in various interventions such as self-mastery, stress management, time management, relaxation techniques, nutrition, exercise, and self-hypnosis. The families of firefighters can be educated and trained in various interventions, such as understanding the impact of the working conditions on the family members, providing support to family members, how to support a traumatised family member, and the identification of symptoms and reactions of job stress and trauma. These solutions firmly place the burden of job and family stress and its management upon the firefighter and his/her family. Once a particular intervention has been chosen an action plan is developed which highlights the different stages involved and sets a date when it will commence. Action planning then leads to the

implementation stage (http://www.managingstress.com).

(f)   Stage 6: Implementation

During *Stage 6*, the industrial psychologist helps the firefighter and family to implement the intervention, but refrains from making a 'take-over' bid. Even if the firefighter and his/her family agree to undertake the intervention, it is important for the industrial psychologist not to assume that the intervention will occur in his/her absence. The industrial psychologist needs to help the firefighter and his/her family through this often difficult stage by giving support and encouragement. A tentative approach is recommended as any intervention can lead to slight changes, which can be inherently stressful (http://www.managingstress.com).

(g)   Stage 7: Support

During *Stage 7*, the industrial psychologist arranges for a support session, depending on the needs of the firefighter and family. For example, if the intervention involved family counselling, this can be evaluated and later modified as the counselling cycle is revisited. Sometimes it will be necessary to start at the contracting stage again, especially if contractual difficulties had been experienced. It is important to note that the developmental/counselling programme for alleviating job and family stress can be instituted at three different levels:

(i)   Primary level

The sources of job and family stress are removed, or the exposure of the firefighter and family to stress or its impact is reduced.

(ii)   Secondary level

The firefighter and family are better equiped to recognise and deal with job and family stress-related problems as they occur.

(iii)   Tertiary level

The firefighter and family are counselled to cope with and recover from problems related to job and family stress. The most effective developmental/counselling job and family stress programme will include all three levels (http://www.managingstress.com).

6.2.3.3 Phase 3: Evaluation and monitoring of the job and family stress programme

In order to develop an effective job and family stress programme, evaluation and monitoring must form an integral part of the programme. In essence this phase of the programme encompasses an ongoing monitoring of how well the programme is functioning, an assessment of the impact of the programme and an analysis of the programme's benefits relative to its cost. The programme should be evaluated by an evaluation team consisting of representatives from all the stakeholder groups. The evaluation should be done continuously and not only at the end of a cycle (Koortzen & Baloyi, 2004).

The evaluation and monitoring of the programme focus on the achievement of the objectives of the programme and the intrinsic ethical value and its performance for all the stakeholders. In the context of the programme, for example, families of the firefighters may not be targeted as clients, but it may be useful to evaluate the impact that the programme has on family relationships. Process evaluation is also important, since both the programme and its end result are important (Koortzen & Baloyi, 2004).

The evaluation and monitoring of the programme involves nine distinguishable steps. A   b r i e f

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(a)   Step 1: Determining the purpose of evaluation

Step 1 involves determining the purpose of evaluation. Purposes can include: how can delivery mechanisms can be improved to be more efficient and less costly, verifying what 'we are doing' versus 'what we think we are doing', clarifying programme goals, processes and outcomes for management planning, etc. Once the relevant purposes or goals have been determined, the evaluation can be done by consulting with the evaluation team on the appropriateness of set goals (Koortzen & Baloyi, 2004).

(b)   Step 2: Identifying the stakeholders and their information needs

Step 2 involves identifying the stakeholders and their information needs. A number of stakeholders will have to be identified and consulted and these may include line management (who have a direct stake in productivity), labour unions (who need to know if the organisation provides help for its members), firefighters (who need to know that the Metropolitan Municipality cares and that help is available), programme recipients (firefighters and their families who may need feedback on their recovery or progress), policy makers/executives (who need feedback on strategic issues such as manpower planning and finance) and industrial psychologists (who are constantly trying to improve service delivery) (Koortzen & Baloyi, 2004).

(c) **Step 3: Defining evaluation questions**

Step 3 involves consolidating the needs of the different stakeholders and identifying the areas that need to be investigated. A structured method for ensuring that all the stakeholders' needs are addressed involves defining a number of evaluation questions. Evaluation questions should ideally be identified for each stakeholder group. These questions, which are usually presented in questionnaire format, will be answered by stakeholders and will measure their perceptions of the wellness intervention (Koortzen & Baloyi, 2004).

(d) **Step 4: Conducting needs and evaluability assessments**

Step 4 is called the needs and evaluability assessments. The Assesment of unmet needs requires that all possible sources of information and all possible kinds of needs be explored by using different methods of data collection. The evaluator needs to evaluate this step by ensuring that all possible unmet trends and needs have been identified from all the sources and that ample provision has been made for the exploration of unmet needs in questionnaires or interview schedules (Koortzen & Baloyi, 2004).

(e) **Step 5: Identifying evaluation criteria**

Step 5 involves the identification of evaluation criteria according to which judgements on the impact, value, effectiveness and efficiency of the wellness programmes can be made. Evaluators can make use of process, outcome and cost criteria. Evaluation criteria describe possible standards that can be used to judge the effectiveness of each evaluation question. At times these are also expressed quantitatively (Koortzen & Baloyi, 2004).

(f)   **Step 6: Developing a full evaluation plan**

Developing the full evaluation plan involves finalising both the quantitative and the qualitative components of the formal evaluation. The quantitative component involves the completion of the questions to be used in the evaluation. The qualitative component involves interviews with the relevant stakeholders. The complete plan should be presented to the stakeholder for approval and the evaluation team should evaluate this plan critically (Koortzen & Baloyi, 2004).

(g)   **Step 7: Implementing the plan**

A critical task during implementation involves monitoring the evaluation activities, as well as the results obtained in the process, from a project management perspective. An informal analysis shortly after the first few interviews could give an indication of the value of the data and may provide valuable feedback on the process and the content, on the basis of which minor changes to the questions and methodology could still be made (Koortzen & Baloyi, 2004).

(h)   **Step 8: Consolidating and reporting**

Once the data have been analysed, the results of the evaluation should be presented in a concise and structured manner. The evaluator should uses a key evaluation checklist. The checklist should include all the important areas that need to be covered in the report and will assist the evaluator in consolidating the information into a structure. The following areas are normally covered in a report: preliminaries (executive summary, introduction and description of methodology), foundations (background, content, the descriptors and definitions of terms, the stakeholders and resources involved) and the results (Koortzen & Baloyi, 2004).

(i)   **Step 9: Corrective action and re-planning**

Once stakeholders have studied the results thoroughly, sessions should be scheduled during which they can provide feedback. When all the feedback has been received and integrated, management and practitioners can decide on appropriate corrective actions or the implementation of alternative programmes and services (Koortzen & Baloyi, 2004).

The aforementioned discussion presents nine steps for the evaluation and the monitoring of the job and family stress programme. The importance for a structured, scientific method for evaluating this programme cannot be over-emphasised. The fourth specific empirical aim was achieved and an answer was provided to the fourth empirical research question.

The limitations of the research will be discussed in section 6.3.

6.3   LIMITATIONS

The purpose of research in terms of theories and other research problems can be described as defining, explaining and predicting, and in some cases the changing or controlling of human behaviour. The holistic aim of scientific research is to make reliable predictions of incidents of which the outcome is not yet known. The question can be asked whether reliable predictions can be made in terms of the existing research.

The limitations of the research will be discussed in terms of the theoretical viewpoint and empirical approach.

6.3.1   Limitations in terms of the theoretical viewpoint

The following limitations were identified in terms of the theoretical viewpoint:

A lack of information with regard to job stress amongst firefighters in the South African context was experienced. The assumption can be made that the lack of resources in this area of study can be attributed to the fact that very limited research has to date been conducted on how South African firefighters experience job stress. This lack of information restricted the researcher in the development of the model of job stressors of firefighters.

A lack of information with regard to family stress amongst firefighters in the South African context was also experienced. The assumption can be made that the lack of resources in this area of study can also be attributed to the fact that very limited research has thus far been conducted on how South African firefighters experience family stress. This lack of information restricted the analysis of family stressors, family stress reactions and symptoms, and results of family stress. This confirmed the necessity of the research and the value of the results.

Limitations experienced in terms of the empirical approach will be discussed in section 6.3.2.

6.3.2   Limitations in terms of the empirical approach

The following limitations were identified in terms of the empirical approach:

The research was limited by the absence of a specific instrument for measuring both job and family stress amongst firefighters. However, this limitation was overcome by the administration of the Experience of work and life circumstances and Stress questionnaires, which were considered the best available questionnaires for measuring job stress and, to a certain extent, family stress. The dynamics of family stress were further investigated by way of interviews. However, this limitation can be turned into an opportunity for the development of such an instrument as a further research project.

A further limitation is presented by the fact that, since this was a convenience sample, generalisation to other fire departments in other metropolitan municipalities and to other first-line rescue personnel (e.g. police officers and paramedics) may not be possible. The sample in this kind of research is non-representative. However, the problem of not being able to generalise results can be overcome by use of replicated studies.

The concluding perspective will be discussed in section 6.4.

6.4   CONCLUDING PERSPECTIVE

The research with regard to *job and family stress amongst firefighters* was conducted through a systematic research process, which was performed by the researcher as follows:

The researcher provided an introductory chapter in which the problem statement and motivation of the research were presented. A detailed outline of the research procedures were also provided. Relevant literature was utilised by the researcher to analyse the incidence of job and family stress amongst firefighters in order to obtain a better understanding of the research domain. The researcher used the literature analysis as the foundation for the empirical investigation, from which specific results were obtained. The results of the research were interpreted and discussed, and conclusions and recommendations were made by the researcher.

The outcome of the research was the formulation of a developmental/counselling job and family stress programme for firefighters and their families. The recommendations that were made must be considered in terms of the psychological well-being of the firefighter and his/her family. The psychological well-being of firefighters and their families can be enhanced by support groups. Firefighters and their families indicated that they were able to cope more effectively with a stressor by communicating with support groups whose member experienced the same job and family stress

as they did.

A further strategy for the enhancement of the psychological well-being of firefighters and their families would be the establishment of a formal wellness programme such as the recommended developmental/counselling job and family stress programme.

Firefighters and their families have a limited knowledge of job and family stress reactions and symptoms, how to identify stress, or skills needed to effectively cope with stress. The researcher feel that the developmental/counselling programme for firefighters and their families experiencing job and family stress can provide in this need. Firefighters and their families can be taught how to cope effectively with job and family stress by fostering a consciousness of the destructive nature of the consequences of stress, both at work and in the family.

Effective strategies for coping with job and family stress can be constructively achieved if firefighters and their families are prepared to recognise the symptoms of stress and are willing to participate in a developmental/counselling programme designed to help them to deal with this problem.

The men and women in the fire service are committed to render a service to those who are in need. The firefighters and their families deserve that special care be taken of their health and psychological well-being.

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