# CHAPTER 3

FAMILY STRESS AMONGST FIREFIGHTERS

This chapter encompasses a literature review, which seeks to address the second theoretical aim of this research. In particular, this chapter aims to theoretically describe and analyse family stress amongst firefighters in the South African context, and to theoretically describe and analyse the relationship between job and family stress amongst firefighters in the South African context. The chapter starts with a description of family stress as it is experienced amongst firefighters. A differentiation is made between family stress, family crisis and family strain. The meaning of the stressful event to the firefighter his and family and the predictability of stressors and family reactions are discussed.

A discussion of family stress as a process is followed by the levels of family stress of firefighters. The family stressors and the impact of job stress of firefighters on family stress are described. The chapter is concluded with a model of job and family stress amongst firefighters. A summary will be provided at the end of the chapter. The following arrangement will be used:

Description of family stress experienced by firefighters → Family stressors and the impact of job stress of firefighters on family stress → Model of job and family stress amongst firefighters
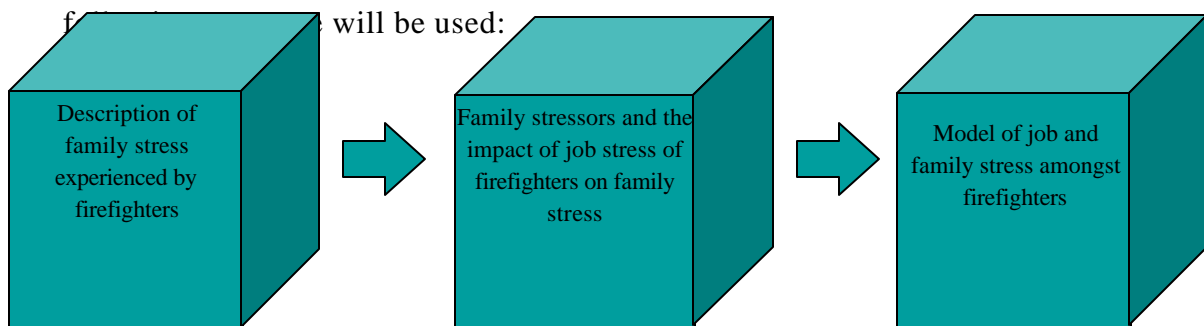
3.1   DESCRIPTION OF FAMILY STRESS EXPERIENCED BY FIREFIGHTERS

The uniqueness of family stress will be analysed in terms of the transfer effect of job stress to the family, a differentiation between family stress, crisis and strain, the meaning of the stressful event to the firefighter, and family and the family stress regarding the life span of a firefighter.

3.1.1   Transfer of job stress to the family

The family's degree of stress results from events or situations that have the potential to bring about change. Stress is change; in itself it is neither good nor bad; its effect depends on how the organism (in this case the family) reacts to it (Boss, 1988).

Family stress is defined as pressure or tension in the family system. It is a disturbance in the steady state of the family. This is normal and even desirable at times. Stress is inevitable because firefighters (and therefore their families) develop and change over time. With change comes disturbance, pressure – what we call stress. Family routines change patterns of interaction, people are born and people die (Boss, 1988). Even in the larger societal context, changes occur. Such events in the larger context cannot help but create stress inside the family system. The job conditions of firefighters are such that stress could be transferred to the family. Please refer to Figure 2.3: Synthesis of job stressors of firefighters in chapter 2 on page 52 (Simons, 1996).

Over time, the firefighter develops a variety of defence mechanisms to enable him to cope with the stress of working with crisis and trauma as a regular part of the job. One of the more common mechanisms is the unconscious transition into an **autopilot** reaction when at the scene; firefighters perform their duties with a sense of detachment

and disconnection (Simons, 1996). Certainly this is a beneficial protective defence against the anguish of seeing other humans in pain, turmoil, or the victims of traumatic injury. However, for many firefighters the autopilot response is easy to initiate as it becomes conditioned in response to the sound of an alarm, a radio call, etc. (Lewis, 1994).

Even though the autopilot response is activated automatically, many firefighters maintain that it is difficult to terminate the response. Many may return home after their shift and still be in an autopilot mode. The family members may experience the individual as being distant, remote and uncaring (Simons, 1996). The autopilot response tends to be all-inclusive. It has the effect of a protective shield that descends and mutes all incoming and outgoing emotional interactions, including loving feelings and feelings of intimacy. The firefighter experience a numbness, a feeling of 'I feel nothing' and denial. The firefighter returns home with an 'I do not care' attitude (Boss, 1988).

Family members may sense the distance or discomfort, but will be unable to understand what it is all about. Oftentimes they will personalise the remoteness, assuming that it is a reflection of a deteriorisation of the relationship, which may contribute to family stress (Lewis, 1994). If family members attempt to inquire, the firefighter may not be open to discussing his/her feelings for several reasons, e.g. he/she does not want to appear vulnerable, he/she wishes to protect the family from what has been witnessed or experienced, or he/she is unable to respond at that time because he/she is experiencing job stress (Simons, 1996). The families of firefighters may experience a mini-crisis of their own in response to seeing their loved ones overwhelmed by emotions as a result of job stress. Now the husband/wife (the firefighter) is in the position of the victim, and family members are attempting to be intervening personnel (Boss, 1988).

Working in an **at risk** profession is certainly difficult for firefighters. However, those who love them and care about them also may be in a stressful situation. Further, if findings indicating a higher-than-average divorce rate among police officers represent a trend, then the evidence is available to suggest that employment in the firefighting service may place strain on a marriage (Boss, 1988). This is a complicated issue. It is not clear whether these professions attract individuals who are not *adept* at marriage, or, whether there is something about the work and the defences required that interfere with interpersonal relationships. Regardless, family stress may serve only to cultivate the development of job stress and hence interfere with the performance of duties and responsibilities (Lewis, 1994).

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 (Simons, 1996). 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 (Lewis, 1994).

In view of the definition of family stress, a differentiation between family stress, family crisis and family strain will be provided.

3.1.2 Differentiation between family stress, family crisis and family strain experienced by firefighters

Family stress experienced by firefighters will be discussed as the first concept in the differentiation between family stress, family crisis and family strain.

3.1.2.1 Family stress experienced by firefighters

Family stress places pressure on the family. It is a disturbance of the family's state, that is, the system is upset, pressured, disturbed, and not at rest. Family stress, therefore, is *change* in the family's equilibrium. This is not necessarily bad. It becomes problematic when the degree of stress (pressure or change) in the family system reaches a level (either too low or too high) at which family members become dissatisfied or show symptoms of disturbance (Friedman, 2003). If even one family member is dissatisfied or manifests physical or emotional symptoms, then the *degree of family stress* is not optimal for that family. They are in trouble (Boss, 1988; Simons, 1996).

If an engineering metaphor is used, family stress can be likened to a force pressing, pushing, or pulling on the family structure. Although this force can originate either inside or outside the family system, it is the pressure *inside* the family system that indicates the level of stress (Simons, 1996). An engineer checking a bridge for degree of stress looks for an increase in weight exerted on the bridge, a physician checking an individual's health looks for an increase in blood pressure, but a family therapist or researcher assessing *family stress* looks for lowered performance in the family's usual routines and tasks and the occurrence of physical or emotional symptoms in the individual family members (Boss, 1988; Friedman, 2003).

On a bridge, if just one pillar in the structure is weak, then the whole bridge is strained. The same is true for families. Lowered performance in family roles and psychosomatic

symptoms signal danger when the level of stress on a family's structure increases (Boss, 1988). It must be kept in mind that family stress does not have to end in trouble. A high-tension bridge, for example, is intact and functional despite the tension; and some high-tension families remain solid and functional. Like the bridge, high-tension families must have flexibility and "sway" in their structure if they are to avoid collapse (Simons, 1996). However, in highly stressed but functional families, there must be flexibility in family rules, roles, and problem-solving skills. They must be able to change constantly to adapt to the situation at hand, and there must be a continuing negotiation between the family's *pressures* and *supports*. Such flexible family systems can withstand a lot of pressure, because not only do they have support and strength behind them, but they also have the ability to sway under pressure (Friedman, 2003).

It is likely that some families experience and tolerate stress more than others. This characteristic also points to the importance of the family's perception or appraisal of a stressor event or situation (Simons, 1996). It may be that some families get bored without a constant string of stressful events to excite them, or without the challenge of constant problems to solve. Such families may actually seek out new stressors. They *like* to move often, they travel often, they seek out competition and they like a challenge. They may engage in all sorts of stressful activities without negative effects (Boss, 1988; Friedman, 2003).

Family stress is a neutral construct. It is neither negative nor positive. It simply means pressure on the family (Boss, 1988). The degree of stress that results in the family and the appearance of deleterious or positive effects depend largely on the family's perception and appraisal of the situation (Simons, 1996). By itself, family stress is neither negative nor positive. It simply means change, a disturbed equilibrium in the family system (Friedman, 2003).

Family crisis experienced by firefighters will be the next point of discussion in the differentiation between family stress, family crisis and family strain experienced by firefighters
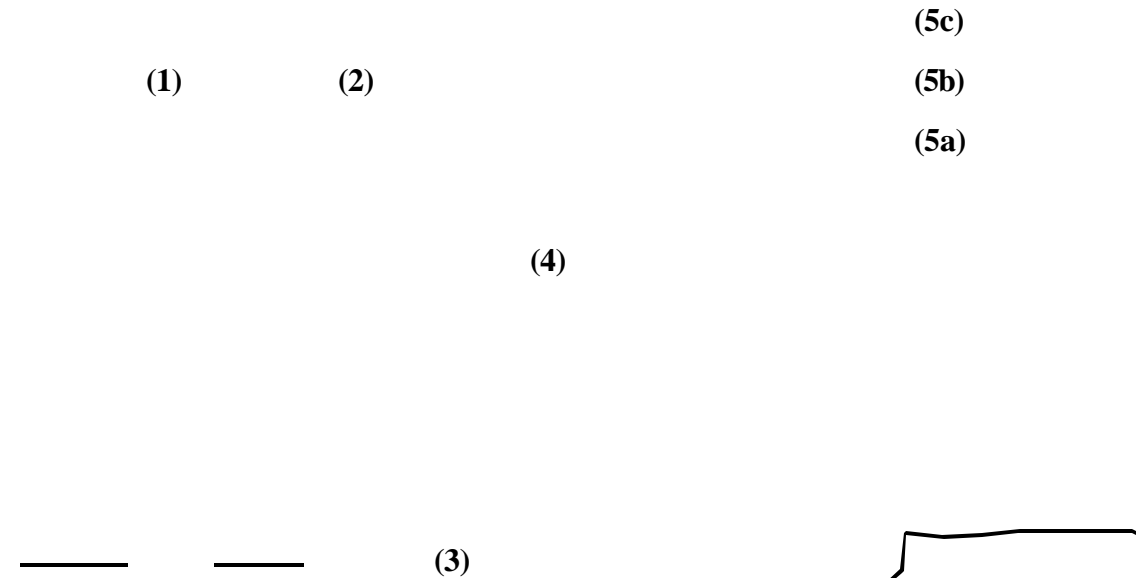
3.1.2.2 Family crisis experienced by firefighters

Family stress sometimes results in crisis (see Figure 3.1 on page 90). A family crisis experienced by a firefighter is 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 (Cohen, 2003; Dattilio, 2001). At least for a time, the family does not function (Bomar, 1996). 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 (Simons, 1996).

When a family is in crisis, it means, continuing the engineering metaphor, that the bridge has collapsed. The structure has broken down and is no longer functional, it cannot support people or maintain boundaries (Boss, 1988). Specific indicators of family crisis are the inability of family members to perform usual roles and tasks, the inability to make decisions and solve problems, the inability to care for each other in the usual way, and the focus shifting from family survival to individual survival (Bomar, 1996; Simons, 1996).

Figure 3.1 can be explained as follows: Number 1 in the figure represents the level of family functioning before an event occurred, whereas Number 2 describes the occurrence of an event. Number 3 indicates the event as 'Hitting the bottom', and Number 4 the turning point, after which the period of recovery commence. Number 5

represents the level of reorganising either (a) below the previous level of functioning, or (b) equal to the previous level of functioning, or (c) higher than the previous level of functioning (Boss, 1988; Bomar, 1996; Simons, 1996).

(5c)

(1)   **(2)**   **(5b)**

(5a)

(4)

(3)

Figure 3.1: The turning point in family crisis experienced by firefighters (Boss, 1988; Bomar, 1996; Simons, 1996).

Family members no longer take care of each other. They may not even be able to take care of themselves for a time (Boss, 1988). Friends and neighbours may have to shore up the family for a while. Many families avoid crisis by holding the degree of stress at a tolerable level, a process called coping, adapting, management, or problem solving. Not all families in crisis have had long-term stress; they may have been doing well until a disaster struck (Bomar, 1996). The strongest of families will fall into momentary crisis when an accident takes away a limb, when an earthquake swallows a house, or

when a loved one suddenly dies (Simons, 1996).

(a) **The turning point: family recovery after crisis**

Crisis is painful and may debilitate the family. The length of the debilitation may vary from hours to years. A family crisis does not mean that the family is immobilised forever; it can "hit bottom", begin the recovery process, and repair itself (see Figure 3.1 for illustration). This ability to recover marks the major difference between a mechanical system (the bridge) and an organic system (the family) (Boss, 1988; Bomar, 1996). A family system has the potential to grow and learn from a crisis, whereas a bridge does not. For human systems, therefore, crisis may be simply a turning point, not an end point. This important difference provides a very hopeful note for families in crisis (Simons, 1996).

(b) **Recovery**

When the ratio between the *family system's support* and the *pressure* on it shifts so that the pressure lowers and the supports become stronger, recovery is taking place (Boss, 1988). Turning points result from a change in the stressor event, a change in the availability of resources for coping, or a change in the family's *perception* of both factors (Bomar, 1996; Simons, 1996).

In the case of incurable illness, or where the pressure of the event cannot be lessened, the stress level can be eased with factors (ii) and (iii) (Boss, 1988; Simons, 1996). If, however, the family's resources cannot be increased, then intervention is only possible with (iii), changing the family's perception of what is happening to them (Bomar, 1996).

Family strain experienced by firefighters will be discussed as the last concept in the differentiation between family stress, family crisis and family strain experienced by firefighters.

3.1.2.3 Family strain experienced by firefighters

Family strain can be linked to a bridge shaking, but not yet collapsing. The structure is still functional – at least minimally – but it is bent out of shape, creaking, and it shakes under pressure (Boss, 1988). Strain results from a mismatch at the point where pressures occur and the supports are grounded. In a family system, that means supports (resources and strengths) may exist, but they are not where they are most needed (Friedman, 2003). For example, the family may have enough money (a resource), but the resources needed to meet the pressures they are facing at the moment (for example, illness of an elderly parent, moving, or a hyperactive child) are more psychological than monetary. More often, the opposite is seen: psychologically strong families who are economically poor. Such a mismatch causes family strain. When a family has a mismatch between the location of their strengths and pressures, it may function shakily, that is minimally, and with great difficulty (Simons, 1996).

The danger of strain for a family is that if their structure begins to change at some time (and that is quite likely just because children grow up and parents grow older), the existing mismatch limits the family's degree of tolerance to adapt to stress (Boss, 1988). A strained family is brittle. Thus in an already strained family, the chance for total collapse (crisis) is high when stress is added. The family becomes what is called "highly vulnerable" (Friedman, 2003; Simons, 1996).

It may be more critical, then, to avoid the mismatch of strain than it is to avoid stressor

events (Boss, 1988). It is necessary for the family to know how much pressure it can handle; there are times when the family can handle more pressure than at other times. The family that is not strained can more easily manage and cope with everyday stressor events because resources can be easily directed to match pressures where they occur (Friedman, 2003). In addition, although the mismatch that defines family strain does not always depend on the accumulation of stressor events, the mismatch is more likely to occur when events pile up persistently and exert increasing pressure at different points of the family structure, thus aggravating the dangerous mismatch (Simons, 1996).

For professionals working with families, the identification of vulnerable families may be easier if they look for this *mismatch* between stressors and strengths, between pressures and supports, to indicate which families are fragile and which are strong. Some families can handle a lot of pressure; others cannot (Friedman, 2003; Simons, 1996). Strain, more than stress or crisis, may be a distinguishing variable in identifying vulnerable families (Boss, 1988). The following question can be asked namely: When do families of firefighters experience the most stress? When they experience a stressful event, a crisis, or a strain?

The meaning of the stressful event to the firefighter and family will now be discussed in more detail. The impact of a stressor, a crisis or a strain experienced by firefighters and their families, may be determined by the cognitive and affective interpretation or meaning that firefighters and their families attribute to the event.

3.1.3   The meaning of the stressful event to the firefighter and family

The meaning of a stressful event for a firefighter and family is also called the family's perception or appraisal, definition, or assessment of the event. The term perception is

preferred because it embodies both cognitive and affective (feeling) processes (Gardner, 2002). The family's perception of the event is important in explaining *why*, given the same event, some families can manage the resulting stress whereas others can go into crisis. *How* the family perceives the event or situation that is happening to them is critical in determining the degree of stress felt by the family and the outcome, that is, crisis or coping (Friedman, 2003). What seems stressful to one family may not be stressful to others. How the family sees an event also determines how they cope, or what alternative (if any) they see for resolving the problem. Some families endure; some overcome. The big question is *Why?* (Simons, 1996).

When individual perceptions in a family are congruent, a collective perception exist. Everyone in the family sees the event and the alternatives for coping with it the same way (Boss, 1988; Friedman, 2003). At first it might be thought that such congruence is ideal, but too often in clinics it is witnessed that families share only a distortion of reality. In such cases, all members of the family have the same unrealistic view to the event (Simons, 1996).

An appropriate example is the family of a firefighter who was declared clinically dead after an accident. The family (as a whole) perceived the firefighter as alive for an extended period of time, despite clear evidence to the contrary (Boss, 1988). It was as if the whole family had implicitly agreed to believe something else, and they did. They talked to the firefighter as if he were alive and, as a unit, they interacted as if he were alive (Friedman, 2003). The family suffered increasingly from their delusion, a phenomenon that is labelled "folie à familie" (*folie* is French for "delusion"). This denial of reality by the family put them on the path to trouble (Simons, 1996).

Delusional systems can be maintained only until some change occurs, for example,

when a retarded child is removed from a regular class and placed in special education, or the child is now an adult but cannot function independently (Boss, 1988; Friedman, 2003). Change is inevitable in family systems, if for no other reason than that people mature and grow older. Family systems that share a distortion of reality are very fragile. Unfortunately, the tragedy is that some delusional families can go for generations before denial of reality is broken. Incest, for example, thrives in families only under delusional conditions (Simons, 1996).

Besides the interpretation that firefighters and their families attribute to events, their reactions are determined by the predictability of the stressors.

3.1.4   Predictability of stressors and family reactions amongst firefighters

Under the general rubric of stress, family social scientists have made a concerted effort to document the normative and non-normative stressor events and their specific hardships that impact on family functioning of firefighters throughout the life span (Boss, 1993; McCubbin, Cauble and Patterson, 1982).

Normative events include predictable developmental changes over the life span of a firefighter and in individual members of the family unit and in the family as a whole. The family unit is called upon to adapt to individual changes (human development) and family system changes (roles, relationships, organisation, etc.) as a natural consequence of performing its function of evolving as a family unit *over time* (McCubbin et al, 1982). Operating together, family and individual changes may create psychological and interpersonal disturbances that call for coping and adaptation. The more commonly referenced developmental stressors include transition to parenthood, raising adolescent children, launching children, and retirement (Boss, 1993).

Non-normative events include unanticipated situational family experiences, which usually place the family in a state of instability and call for some creative effort to cope with the situation. Since these events are often unforeseen, families generally are not prepared to cope and may not have available the social, psychological, or material resources needed to manage such events (Boss, 1993). Common situational events include accidental injury to a firefighter or family member, illness of a firefighter or in the family, hospitalisation of a firefighter or a family member, or the death of a firefighter or a family member. It is possible that family members struggling with these stressor events may emerge less healthy and more vulnerable than before (McCubbin et al, 1982).

However, conversely it might be argued that changes during family crisis may move members toward increased health and maturity, and in this sense, provide an opportunity for growth through morphogenesis (Boss, 1993). By identifying family changes and transitions over the life span and trying to define the stresses and strains associated with each, the paradox of family stress can be grasped. They present the family unit and its members with the opportunity for personal and family system changes and growth, while also creating increased vulnerability to the emotional well-being of family members and the stability of the family unit (McCubbin et al, 1982).

SUMMARY

The uniqueness of family stress can be summarised in four main points. *Firstly*, in terms of the transfer effect of job stress to the family. 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.

Secondly, a differentiation were made between family stress, crisis and strain. Family stress refers to pressure on the family. The degree of stress that results in the family and the appearance of deleterious or positive effects depend largely on the family's perception and appraisal of the situation. By itself, family stress is neither negative nor positive. It means change, a disturbed equilibrium in the family system. A family crisis experienced by a firefighter is 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. Strain results in the family system from a mismatch at the point where pressures occur and the supports are grounded.

Thirdly, the meaning of a stressful event for a firefighter and family is also called the family's perception or appraisal, definition, or assessment of the event. The family's perception of the event is important in explaining why, given the same event, some families can manage the resulting stress whereas others can go into crisis. How the family perceives the event or situation that is happening to them is critical in determining the degree of stress felt by the family and the outcome, that is, crisis or coping. What seems stressful to one family may not be stressful to others. How the family sees an event also determines how they cope, or what alternative (if any) they

see for resolving the problem. Some families endure; some overcome.

Fourthly, in terms of the predictability of normative and non-normative stressor events and their specific hardships that impact on family functioning of firefighters throughout the life span. Normative events include predictable developmental changes over the life span of a firefighter and in individual members of the family unit and in the family as a whole. Non-normative events include unanticipated situational family experiences, which usually place the family of a firefighter in a state of instability and call for some creative effort to cope with the situation.

Family stress experienced by firefighters as process will be discussed in section 3.2 to provide a better picture of family stress in relation to job stress.

3.2   FAMILY STRESS EXPERIENCED BY FIREFIGHTERS AS PROCESS

The term stress needs a systems-type definition. The best way to do this is to define stress as a process that is interrelated with several other processes in the system. One way to conceptualise these processes is to begin by describing several processes that occur in family systems when they are not in stressful situations (Burr & Klein, 1994). When family systems are not experiencing stress, there is a fairly predictable repetition or redundancy in the patterns of the daily routines and events. The family members interact with little difficulty, and the family systems are involved in processes of transforming inputs into outputs with relative ease (He, Zhao & Archbold, 2002). Families transform inputs such as energy, time, and space into outputs such as meaning, affection, and power. Other inputs include behaviours, money, and information, while other outputs include love, attention, discipline, growth, development, satisfaction, bonds, heritage, learning, and security (Burr & Klein, 1994).

To carry out these transformation processes, families develop a large number of rules, sometimes called *rules of transformation*. These rules govern the hourly, daily, and weekly routines and cycles of life. Some of the rules are explicit, but most are implicit understandings. Family systems continually monitor the negative and positive feedback to see if the outputs are within the agreed-upon standards or limits the family has set (Shakespeare-Finch, Smith & Obst, 2002). Developmental changes and unexpected changes constantly create some change (morphogenesis) in family systems, but during relatively calm periods the morphogenetic tendencies are moderated by morphostatic tendencies (He et al, 2002). The result is that systems have manageable levels of change and order, innovation and constancy, and creativity and predictability. There is a continual balancing and rebalancing of the needs people have for togetherness and separateness, and the system is always responding to generational, emotional, affective, economic, social, and ecological factors both outside and inside the family (Burr & Klein, 1994).

Even during rare times when family systems are able to settle down to "normal", the systems are an evolving and dynamic flow of energy, resources, activity, tensions, agreements, diversity, consensus, loving, anger, new information, and old and new traditions. Also, there is always a changing composition of age, gender, involvement, distance regulation, and interaction with the environmental systems (Shakespeare-Finch et al, 2002). As families evolve through time, they develop what systems theorists call a *requisite variety of rules of transformation*. This means they develop enough rules about how things should be done to enable them to transform the inputs into outputs in ways that comfortable meet minimal standards in attaining individual and family goals (Burr & Klein, 1994).

Family stress occurs when feedback indicates that the system does not have the

requisite variety of rules to comfortably transform inputs into outputs that meet desirable standards. In other words, the process of stress occurs when the usual transformation processes are not sufficient for families to handle a change or new input into the system (Burr & Klein, 1994). For example, if a firefighter is injured and the family has the requisite variety of rules (resources) to cope with the injured firefighter, then the family does not experience stress. However, if the family does not have the requisite variety of rules to cope, then it tends to have difficulty dealing with this input, which is stressful for the system (He et al, 2002).

When stress occurs, it interferes with the normal transformation processes. Rather than engaging in their usual and preferred activities, families find themselves asking, "What are we going to do?" and "How are we going to deal with this situation?". Some of the outward manifestations of this systemic stress are that meals may not get fixed and cleaned up in the usual way, other daily routines are disrupted, tension tends to increase, rituals are not performed in the usual manner, attention is diverted to the stressful situation, and normally desired interactions with the environment are disrupted (Burr & Klein, 1994).

SUMMARY

Manifestations of the process of family stress experienced by firefighters can be summarised in the following three points. *Firstly*, when firefighters and their families are experiencing stress, there is no predictable repetition or redundancy in the patterns of their daily routines and events. Firefighters and their families which are not able to transform inputs such as energy, time, space, behaviours, money, and information into

outputs such as meaning, affection, power, love, attention, discipline, growth, development, satisfaction, bonds, heritage, learning, and security may experience family stress.

Secondly, to carry out these transformation processes, families develop a large number of rules, sometimes called rules of transformation. Families of firefighters that have developed rules of transformation, cope better with family stress than those that have not developed rules of transformation.

Thirdly, as families evolve through time, they develop requisite variety of rules of transformation. Families of firefighters that have developed requisite variety of rules of transformation, cope better with family stress than those that have not developed requisite variety of rules of transformation. Firefighters with very busy work schedules or that are emotionally overwhelmed, may not maintain the rules of transformation. The result may be that their children become out of control and undisciplined.

Family stress will be further explored in the discussion of the levels of family stress experienced by firefighters in section 3.3.

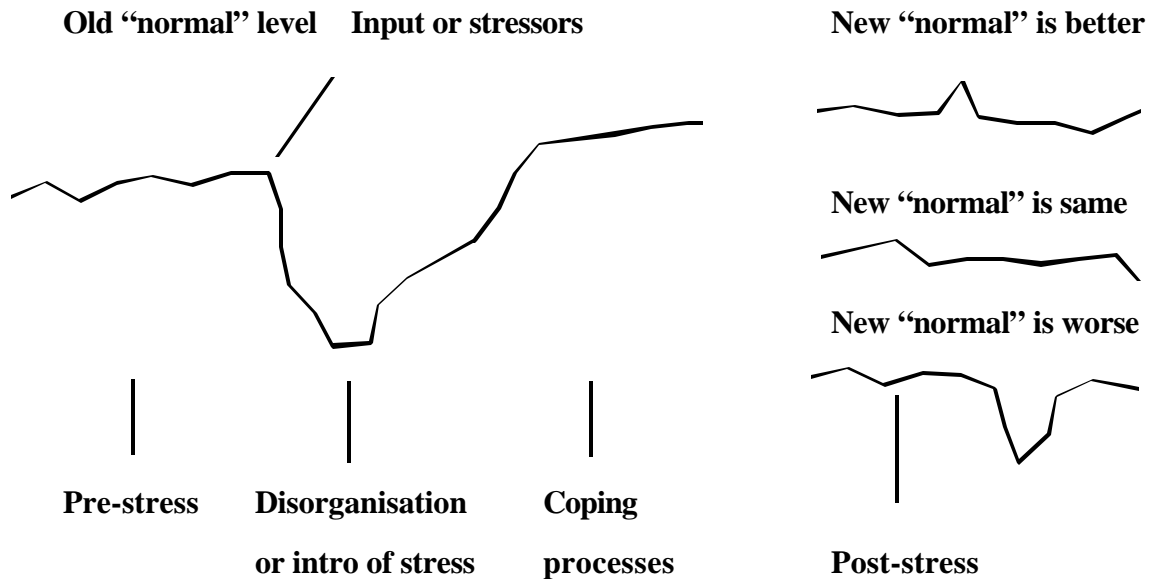**3.3   LEVELS OF FAMILY STRESS EXPERIENCED BY FIREFIGHTERS**

Family stress experienced by firefighters can be categorised in terms of three stress levels. *Level I* is used to refer to the stability and change in the fairly specific processes in family systems of firefighters such as rules and transformations processes. The term *Level II* is used to refer to stability and change in processes that are in an intermediate level of abstraction (Wells, 2003). These would include second-order change. The term *Level III* is used to refer to highly abstract processes, such as family paradigms and

values. Thinking about three levels of abstraction leads to an exciting new theoretical idea: Family coping processes have three different levels of abstraction, and families of firefighters probably move through them in a developmental way (Burr & Klein, 1994).

Figure 3.2 on page 102 is an attempt to present this idea in the form of a diagram. It is proposed that when families encounter stressful situations, they first try to change their Level I processes.   For example, they may change family rules, rearrange responsibilities, or change who does what. They change the way they are disciplining or the way they are spending money (Burr & Klein, 1994). If changes in Level I processes are successful, then the family moves into a period of recovery and has no need for coping processes that create Level II or III change. However, if the Level I processes are not successful, then families try to create changes in the more fundamental Level II processes (Galinsky, Bond, & Friedman, 1993).

It is likely that many coping strategies may be used to make changes at any level, and a family may try to change at any level for a long period of time before moving to a different level. Also, it may be that all families fo not go through this developmental sequence all of the time (He et al, 2002). There may be certain stressor events, types of families, and situations in which families may skip a level or vary in other ways. To better clarify what is involved in the proposed development sequence, the following paragraphs explain in more detail what is involved at each level, with the commencement of Level I stress (Burr & Klein, 1994).

The above-mentioned discussion of families that experience stress referred to the Level I, Level II and Level III stress that families in general may encounter. Level I stress, Level II stress and Level III stress also apply to the families of firefighters (Wells, 2003).

Old "normal" level   Input or stressors

New "normal" is better

New "normal" is same

New "normal" is worse

Pre-stress   Disorganisation   Coping

or intro of stress   processes   Post-stress

Figure 3.2: Levels of stress in family systems of firefighters (Burr & Klein, 1994; Galinsky et al, 1993).

The different stress levels of families of firefighters will be explained in the following examples. The arrival of a first child may be a *Level I* stress for the family of a firefighter. It is stressful because the family is not able to attain its goals with its customary transformation processes, and new rules and new processes need to be devised. The family must cope with the arrival of a first child on the one hand and the job stress of the firefighter on the other hand (Burr & Klein, 1994). The couple may be unable to work through this job and family stress without changing the basic structure of family processes. The firefighter and his family need to be equipped to make rules, make decisions, and relate to each other in the same basic ways after the family has settled down with the new child (Shakespeare-Finch et al, 2002).

A child that is misbehaving in a fairly serious way, may also be a *Level II* crisis for the family of a firefighter. This crisis may be increased by the effect of the job stress

experienced by the firefighter on the family. It is suspected that the family will initially try to use Level I strategies to cope (He et al, 2002). In some situations, these Level I changes are adequate, but if not, the parents may need to reevaluate their entire approach toward discipline and coping with job stress; this would involve thinking about a Level II process (Burr & Klein, 1994).

Another example occurs in some marriages of firefighters when one spouse wants to change the relationship. This change may be the result of the impact of the job of firefighters on their marriage partners and families, and the effects of shift work and separation (refer to sections 3.4.2.2 and 3.4.3). The marriage partner of the firefighter may request the firefighter to change shift work (Burr & Klein, 1994). Changes such as these are more complicated, abstract and fundamental than Level I changes, because they deal with the rules about the rules. When the effect of these changes is not satisfactory, it may later result in a divorce. It is a known fact that the rate of divorce amongst firefighters is among the highest for all professions (Galinsky et al, 1993).

Many examples can be used to illustrate *Level III* stress. A family that has never considered the possibility of alcohol abuse would face a stressor event if they were to discover that the firefighter is abusing alcohol to cope with job stress. The family may first use one of many Level I coping strategies to create change. For example, the marriage partner could talk to the firefighter about the dangers of alcohol abuse, or could express her disapproval (Wells, 2003). If this particular Level I method does not work, then the marriage partner and family might try other Level I changes. If the Level I methods do not work, then the family would eventually resort to more fundamental Level II changes. They might get professional assistance to make other changes and to cope with job stress, or otherwise change the basic family structure. If these Level II methods do not work, the family might eventually question some of its basic beliefs.

For example, the family may adopt a more fatalistic view of the job of the firefighter and conclude that things will happen as they will, and that the family has less control over the working conditions of the firefighter than was thought (Burr & Klein, 1994; He et al, 2002).

SUMMARY

According to the literature, family stress experienced by firefighters can be summarised in three distinctive levels. The *first level* refers to the stability and change in the fairly specific processes in family systems of firefighters such as rules and transformations processes. The *second level* refers to stability and change in processes that are in an intermediate level of abstraction. These would include second-order change. The *third level* refers to highly abstract processes, such as family paradigms and values.

In terms of the context of this study, *a fourth level* of family stress amongst firefighters is proposed in situations 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. An examples of Level IV stress in families of firefighters is for instance a critical incident where many firefighters lost their lives in a rescue operation. Another example of Level IV stress in families of firefighters is the suicide of a firefighter. It is therefore necessary to formulate an integrated developmental/counselling job and family stress programme for firefighters and their families in the South African context, based on the results of the research.

Family stressors and the impact of job stress of firefighters on family stress will be described in detail in section 3.4.

3.4 FAMILY STRESSORS AND THE IMPACT OF JOB STRESS OF FIREFIGHTERS ON FAMILY STRESS

Family stressors amongst firefighters will be the first point of discussion in this section, followed by the impact of the cognitive, affective and behavioural reactions and physical symptoms to job stress on the family.

3.4.1 Family stressors

The family stressors will be analysed in terms of the limited time that firefighters have with their families and, marital dysfunction and divorce, 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.

3.4.1.1 Limited time with family

Firefighters have limited time with their families as illustrated by the following examples of traumatic incidents. On 19 April1995, the Alfred J. Murrah building in Oklahoma City was attacked by terrorists. One hundred and sixty-eight lives were claimed in the blast, many children, and hundreds were wounded (Herron, 2001). Within minutes, law enforcement, emergency services and fire personnel converged on the scene and worked frantically to rescue those still trapped. For long days, emergency responders struggled to remove tons of concrete and steel in the hope of finding just

one more person alive (Everly & Mitchell, 1999).

Long after the survivors of the blast were removed, the emergency responders remained with the building, long after all hope was lost that another living person might be found. They stayed with the building until the end, when the building was collapsed and the final three victims were returned to their families (Geller & Scott, 1992). On 20 April 1999 Colorado law enforcement officers responded to shootings at Columbine High School. For several hours, SWAT team members combed a large school building, searching for shooters and victims (Herron, 2001).

While these types of situations are fortunately the rare events, 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. These type of situations may cause that they have to work longer hours resulting in limited time with their families. A presumption can be made that firefighters who have limited time to spend with their families due to work obligations may feel that they are neglecting their families. This may cause firefighters to feel guilty about their family, because they are unable to change their current work situation. Furthermore, the less time that firefighters spend with their children may result in undisciplined behaviour of their children. The mother may be unable to provide all the family structure and support for the children to feel save and secure (Everly & Mitchell, 1999).

Shift work can also be regarded as a major factor contributing to the limited time that firefighters have with their families. Research conducted in terms of extended shifts in ambulance work highlights the role that organisational and psychosocial variables play in alleviating the negative health effects of 10- and 14 hour shifts (Pisarski, 2002).

Social support from various sources such as supervisors, co-workers and family are recommended. It is therefore, necessary for firefighters to spend more time with their families to obtain the support needed to cope with their work (Pisarski, 2002).

Marital dysfunction and divorce will be discussed in the next section.

3.4.1.2 Marital dysfunction and divorce

The emotional spillover from work into a marriage can be very harmful, as illustrated by the following example of a wife of a police officer. For 26 years she suffers through her husband's sleepless nights as he struggles to reconcile his rage over sex crimes against children he must investigate. Other nights, he cannot eat spaghetti because it is red and he just witnessed a brutal murder scene. The stress of her husbands job 'travels straight into the heart of the family, and over time mounts into a series of problems from which cannot be escaped. Many police marriages end in divorce as a result thereof (Roberts & Levenson, 2001).

Similarly, 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 among marriage partners. Marriage partners do not have the same symbols and social interactions to mitigate against the inherent family stresses of being married to a person in such a dangerous profession. According to N Swanepoel (personal communication, 2002) there are many indicators that being married to a firefighter puts additional stress on a marriage and family. Statistics showed that divorce among firefighters is higher than in the general population (Noran, 1995).

One particular study investigated whether "*the paradox of challenge and boredom*"

inherent in a firefighter's job had an adverse effect on marriage and other family adjustments. The study utilised a questionnaire given to 100 Fort Worth firefighters. In addition to finding a higher divorce rate than in the general population, 45 percent of the men in the sample thought that being a firefighter adversely affected their marriages and families (Lemanski, 2003). Among the reasons given by the men for adverse effects on their marriages and families were the wife and family worrying about the hazards of the job, long shifts interfering with sex life, wives being alone at night, and not being available to help the family when needed. Twenty-nine percent of the men thought that a change in working hours would be desirable (Noran, 1995).

A study of 61 male firefighters and 44 wives in two Sacramento, California fire districts also contended that the incidence of divorce was higher among firefighters. According to the findings, the job stress of firefighters increased with length of time in the fire service. A presumption can be made 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. An interesting finding was that firefighters with greater self-esteem, who identified more strongly with the fire service and who had fewer children, had the greatest success with their marriages.

Problems experienced with children will be discussed in the next section.

3.4.1.3 Problems with children

Problems experienced with children were highlighted in the research conducted by Vogel et al (2004). Focus groups were used to elucidate the common experiences inherent to firefighters' work, the related stress, and the impact on their families. The impact of 11 September 2001 on family relationships, parenting, and child functioning

were investigated. The average age of the firefighters was 30 years, and more than two thirds of their children were under the age of 10. A focus group was held with firefighters who were parents of younger (predominantly preschool-age) children and a second with a group that had children of a wide range of ages, including older children and adolescents (Vogel et al, 2004).

Several themes emerged. Some issues were related directly to 11 September 2001. One firefighter reported knowing 14 people who had died. They reported that their children seemed much more aware of the danger in their parents' jobs than they had been previously. In the group with younger children, a preschool child was still engaging in repetitive play of crashing objects into play towers (Vogel et al, 2004). Among both younger and older children, there was increased separation anxiety. Parents felt more of a need to call and check on their families. Child care needs and shift work were major stressors that predated 11 September 2001. Parents of younger children discussed the importance of extended family supports when these were available. It was generally very important for the firefighters to have someone who could pick up children if they could not be home on time or needed to cover someone else's shift. A presumption can be made that problems with children may results from the fact that the firefighters do not have time to spend with their children. The firefighters are not at home to play an active role in the upbringing of their children which may leave the children feeling unsafe and insecure (Vogel et al, 2004).

At the Year Two family workshops Vogel et al (2004) collected a brief needs-assessment survey concerning behavioural and emotional symptoms that their children might be presenting. It was not a normed instrument that could provide information about the level of distress in comparison to reference groups, however, they learn that the three most common parental problems with children were anger and temper

tantrums, clinginess, and separation fears. The first was reported primarily by parents of young (preschool) children, but the latter two were not age specific. This was consistent with the focus group information that separation issues had increased (whether or not to clinical levels) in the aftermath of 11 September 2001 for a wide range of age groups of firefighters' children (Vogel et al, 2004).

The Year Two family workshops centred on stress inherent in managing family life and raising children in the context of shift work. Participants also revealed the tragedy of losing friends and family members on 11 September 2001 and the impact of terrorism on their children. Parents face child development challenges regarding how to talk with their children about difficult topics, such as death. Some children were continuing to exhibit anxiety, inhibitions, insomnia, sadness, or externalisation behaviours (Vogel et al, 2004).

The marriage partner being alone will be discussed in the next section.

3.4.1.4 Marriage partner being alone

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. 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. Only 11 percent of the marriage partners worked as compared to the national average of 30 percent at the time of the study (He et al, 2002). A presumption can be made that firefighters may feel concerned about the safety of their marriage 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. Firefighters may also feel anxious about their marriage partners and family being alone, if they should die in the line of duty (Noran, 1995).

The marriage partners of the firefighter may also experience loneliness. This loneliness may be attributed to, for example, a firefighter which is suffering from post-traumatic stress disorder (Noran, 1995). The firefighter may be experiencing symptoms of intrusive memories, such as nightmares of the event and flashbacks, avoidance and numbing, such as an inability to face reminders of the event and feeling isolated, distant and numb, and hyperalertness, which includes sleeplessness and feeling keyed up, jumpy and easily startled. These symptoms may cause a severe disruption in the communication and affection between the marriage partner and firefighter, resulting in feelings of being 'shut-out' and loneliness by the marriage partner (North, 2002).

The 'spillover' effect (job-family conflict) is further demonstrated by marriage partners which experience loneliness due to burnout of firefighters. Firefighters are still reluctant to expose their feelings and anxieties, thus internalising tension, and further affecting family life. The burnout syndrome is a common fragility of those whose jobs require them to give too much, too often, to other people in need (He et al, 2002). A further factor contributing to the loneliness of marriage partners is financial difficulties. Firefighters are sometimes compelled to work overtime and more shifts to supplement their household income which also result in loneliness of their marriage partners (North, 2002).

Firefighters not being available to help the family when needed will be discussed in the next section

3.4.1.5 Firefighters not being available to help the family when needed

Previous research reveals that exposure to trauma can have a significant negative impact on an individual's well-being (Grevin, 1996; Paton & Violanti, 1996; Robinson, 1993).Owing to the nature of their work, firefighters are particularly vulnerable to the deleterious effects of work stress and trauma (Miller, 1995; Mitchell & Everly, 1995). Research findings supporting the more popular 'spillover' effect of the job-family interface (Barnett & Marshall, 1992; Lambert, 1990) suggests that job stress may impact on family functioning (McCammon, Durham, Jackson Allison &Williamson, 1988).

Trauma reactivity occur when the coping strategies an individual employs are overwhelmed (Lazarus & Folkman, 1984; Van der Kolk & Fisler, 1995). Inversely, coping strategies are activated only when required. A study by Shakespeare-Finch et al (2002), indicated that ambulance officers used a broader range of coping resources than the control group and that range impacted differentially on the various scales of family functioning. Whereas social support was the only significant correlate or predictor of family functioning in the control group, social support, self-care, and cognitive rationalisations were all found to have a significant relationship with family functioning in the ambulance worker population (Shakespeare-Finch et al, 2002).

A presumption can be made that firefighters may feel more guilty and blame themselves if a crisis develops in the family in their absence. They may 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. It is possible 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 (Shakespeare-Finch et al, 2002).

The effects of shift work and separation on the family will be discussed in the next section.

3.4.1.6 The effects of shift work and separation on the family

The effects of shift work as another stress on marital functioning and the family was explored in several studies. Professional firefighting in every state is characterised by rotating shifts. In New York City, for example, firefighters work two day tours (nine hours each), have one and a halfday off, then work two night tours (fifteen hours each), followed by three days off. The marriage partners of firefighters are therefore alone at least two nights every eight days. Because many firefighters work at other jobs, they may be away from home for several days at a time if a job intervenes and follows two night tours. F de Beer (personal communication, 2002) stated that the shifts of the firefighters in the Metropolitan Municipality consist of three day shifts, three night shifts and three days off. If a marriage partner works, the marriage partner may thus not seen the firefighter for several days if their work schedules do not coincide (Noran, 1995).

Barling(1990) found that shift work had negative consequences for role performance in a marriage. (He defines role performance as the extent to which activities required for the maintenance of the household are accomplished.) After looking at several American and Israeli studies, he concluded that the subjective meaning of the shift, such

as the inability of marriage partners to spend weekend time with the firefighters, was an important variable, as well as the kind of family functions that were performed at different times of the day. Ongoing shift work seems to remove family members from the household at the times when their presence is most required. He concludes 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 (Noran, 1995).

Shift work often leads to separations, as mentioned above. An extreme example of this is the long separations required of military personnel and their families. Military life is similar to that of firefighting in that it involves dangerous work and separations - although military families are forced to endure much longer absences. Wexler and McGrath (1991) were interested in studying the effects on military wives of separations that involved deployment of their husband to combat zones. They initially postulated that the combination of danger and separation would lead to post-traumatic stress symptoms (Noran, 1995).

In the aforementioned study, the majority of feelings reported centred around experiences of loneliness and anxiety, but these were balanced with strong feelings of pride and patriotism. What was most interesting about the study was the finding that wives of different ethnicities and ages responded differently to the stress. The highest risk group were the wives between the ages of 25 and 30 who were the most concerned about the separation and danger. Caucasian women were able to use their patriotic feelings to cope with stress, but they had more psychological and physical symptoms. The ethnic minority groups felt more concerned about their children's reaction to the separation (Noran, 1995).

Wexler and McGrath provided at good model for research about stress reaction to dangerous occupational events and demonstrated that employee assistance professionals need to tailor interventions for specific populations. One gap in the study was the lack of information about what was meant by "minority" wives. Were these wives African-American, Latino, or Asian, and what was the distribution of ethnicities in the sample? (Noran, 1995).

Financial problems will be discussed in the next section.

3.4.1.7 Financial problems

It is a well know fact that firefighters receive poor salaries and inadequate fringe benefits in relation to the dangerous work that they perform. Firefighters 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 (Vogel et al, 2004). 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. A presumption can be made 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 (Vogel et al, 2004).

A study by LaVan, Katz and Carley (1993) conducted an analysis of 259 police and fire fighter arbitration cases. Although prior literature suggested that salaries were the issue of predominant concern, only 15% of these cases involved issues of salaries or benefits. It was also found that 44.4% of the cases were interest arbitration cases and 55.6% were rights arbitration cases. While the salary cases were not as frequent as expected, work assignment cases were more frequent than expected. Unions which were

not predominantly public sector unions represented police and firefighters in a different way on issue of performance appraisal than did unions which were predominantly public sector unions. The existence of multiple grievances or issues of off-the-job behaviour had impacts on other case characteristics or case outcomes (LaVan et al, 1993).

The following section will describe the impact of job stress of firefighters on family stress.

3.4.2   The impact of job stress of firefighters on family stress

The description of the family stress amongst firefighters will be done in this section by analysing the impact of the cognitive, affective and behavioural reactions and physical symptoms to job stress on the family.

3.4.2.1 Cognitive reactions to job stress on the family

The cognitive reactions to job stress on the family will be analysed in terms of the perceived job image, and lack of leadership and job satisfaction.

(a)   Perceived job image

A good image is important in any industry or profession, but in few occupations is a good image more important than in the realm of firefighters for various reasons. *Firstly*, to attract the best candidates into careers in the fire service, firefighters, as compared with members of other professions, for example police officers, must project a

favourable image. *Secondly*, to be effective service providers, firefighters need the cooperation and assistance of citizens (Kerber, Andes & Mittler, 1977). To a certain extent, the public's willingness to render assistance and cooperation with firefighters during, for example rescue operations, depends on the image of firefighters. To elicit favourable responses from members of the public, firefighters must cultivate a positive image of the fire service profession (Kohan & Mazmanian, 2003). *Thirdly*, firefighters' perceptions of how members of the public assess members of the fire service affect their pride and confidence as members of that profession. Consequently, such feelings of pride and confidence influence their ability to function effectively in their jobs and at home (Vivien, Thompson & Sean, 2000).

Perceived job image refers to the ideology or shared beliefs about the meaning of occupational membership with respect to the social status, capability, and behaviour patterns of individual members (Birnbaum & Somers, 1986). These shared beliefs are, to a certain extent, influenced by how individual members think that others perceive them as members of that occupation or profession. Outside perceptions of a particular profession or occupation act as a sensitising influence affecting the behaviours and work attitudes of job incumbents when they interact with others (Birnbaum & Somers, 1989).

With respect to the fire service, 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 (Kohan & Mazmanian, 2003). 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 (Vivien et al, 2000).

Firefighters that experience less job satisfaction will be analysed in the next section.

(b)   Lack of leadership and job satisfaction

Aviation accidents are a reminder that airline safety and efficiency is reliant upon the effective teamwork of aviation rescue firefighters as effective teamwork is assumed to save lives. Leadership behaviour in these circumstances may be related to teamwork effectiveness. Effective teamwork is defined as positive team member interaction, such that leadership behaviour relates with high employee satisfaction with their supervisor and co-worker (Bartolo & Furlonger, 2000).

According to Iiardi, Leone, Kasser and Ryan (1993) job satisfaction (positive work attitude/s: cognitive or affective evaluation/s of work) has considerable implications for employee psychological and physical well-being. Empirical findings also suggest job satisfaction is related to employee work performance and workplace accidents (Porac, Ferris & Fedor, 1983; Vroom, 1964).

Fire service effectiveness is seen to be dependent upon supervisor leadership and positive employee attitudes (e.g. job satisfaction) (Butler, 1986; Jensen, 1986; Miller, 1986), therefore recent changes have been made to leadership behaviour in the Australian aviation fire service. For example, supervisors have been trained to practise

consideration leadership behaviours. Consideration leadership is relationship-focussed behaviour and refers to the degree to which the leader explains to the workers reasons for their leading actions and is concerned about the well-being of the workers. Traditionally initiating structure leadership is predominant in the fire service (Aviation Rescue & Fire Fighting Australia, 1996). Initiating structure leadership is goal-orientated behaviour and indicates the degree to which the leader plans, organises and controls group tasks (Harre & Lamb, 1983).

A presumption can be made 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 (Bartolo & Furlonger, 2000).

Depression, anxiety and other identified affective reactions to job stress on the family will be discussed in the following section.

3.4.2.2 Affective reactions to job stress on the family

The affective reactions to job stress on the family will be analysed in terms of depression, anxiety, anger and frustration at home, emotional exhaustion and emotional distance from the family.

(a)   Depression

The common features of depression include changes in emotional states, motivation,

functioning and motor behaviour, and cognitive states. Changes in emotional states are characterised by persistent periods of feeling down, depressed, sad or blue, tearfulness or crying, and increased irritability, jumpiness, or loss of temper (Nevid et al, 2005). Features of changes in motivation are reduced level of social participation or interest in social activities, having difficulty getting going in the morning or even getting out of bed, loss of enjoyment or interest in pleasurable activities, reduced interest in sex, and failure to respond to praise or rewards (Nevid et al, 2005).

Changes in functioning and motor behaviour include moving about or talking more slowly than usual, changes in sleep habits (sleeping too much or too little, awakening earlier than usual and having trouble getting back to sleep in early morning hours - so called early morning awakening), changes in appetite (eating too much or too little), changes in weight (gaining or losing weight), and functioning less effectively than usual at work (Nevid et al, 2005). Cognitive changes are characterised by difficulty concentrating or thinking clearly, thinking negatively about oneself and one's future, feeling guilty or remorseful about past misdeeds, lack of self-esteem or feelings of inadequacy, and thinking of death or suicide (Nevid et al, 2005).

Research conducted by Fullerton, Ursano and Wang (2004) in terms of acute stress disorder, posttraumatic stress disorder, and depression in disaster or rescue workers highlighted the importance of understanding the effects of trauma on disaster workers. The increased rate of depression at seven months (16%) and the even higher rate at 13 months (21.7%) indicate the importance of the diagnosis to health care planning for disaster workers. Approximately 8.5% of firefighters exposed to a bush fire met criteria for depression at 42 months (McFarlane & Papay, 1992). Nearly 23% of the individuals directly exposed to the Oklahoma City terrorist bombing had major depression at six months (North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, &

Smith, 1999). In a survey of 1,300 Canadian soldiers returning from Bosnia, 20% endorsed symptoms of depression, anxiety and , posttraumatic stress disorder (Deahl, Earnshaw & Jones, 1994).

Exposed disaster workers with more early dissociative symptoms were at greater risk for posttraumatic stress disorder and depression at seven months. Early dissociative symptoms have been found to be predictive of posttraumatic stress disorder (Marmar, Weiss, Metzler, Delucchi, Best & Wentworth, 1999; Weiss, Marmar, Metzler & Ronfeldt, 1995) but have not previously been reported as a predictor of depression. Identification of early dissociative symptoms may identify individuals for early pharmacological or behavioural interventions. The neurobiology of early dissociative symptoms and their relationship to depression and posttraumatic stress disorder require further study (Fullerton, Ursano, Epstein, Crowley, Vance, Kao & Baum, 2000; Ursano & Fullerton, 2000).

Typical effects of depression on the relationship of firefighters include that if a firefighter is suffering, the firefighter might not be able to talk to his or her marital partner and retreat behind a wall of silence or suppressed anger. The loss of self-esteem, self-value and self-worth may 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 and stress the value of their relationship, the family and home. Loss of interest in work and hobbies, changing to a another job and looking for new relationships or marital partners causes upheaval in the family and seems so unnecessary to others (Parkinson, 1993).

Further effects may include the avoidance of anything that relates to the stressor incident by keeping away from people, including those who are there to help. Feelings

of guilt, shame and fear about behaviour, especially inability to cope at the time and subsequently: "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"(Parkinson, 1993). A presumption can be made 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.

Anxiety which is closely related to depression will be discussed in the next section.

(b)   Anxiety

Firefighters, emergency services personnel, and police officers are by the nature of their job, frequently exposed to traumatic incidents, often of a life-threatening nature. As a result of dealing with these traumatic events, they may experience a range of normal, yet stressful, reactions (Rivers, 1993). Characteristic events giving rise to traumatic stress include natural and manmade disasters, terrorist attacks, road traffic accidents, and domestic violance. Any one such incident may incur a normal and distressing set of reactions within individuals. These reactions include guilt, anxiety, apprehension, sleeplessness, irritability, aggression, and lack of motivation, with any one of these reactions affecting the quality of service that firefighters give to the public (Rivers, 1993).

At times of terrorism or disaster, firefighters and emergency medical services personnel often are both care providers and find themselves at risk. There may be risk

to personal safety, as well as considerable psychological risk based on destruction witnessed and personal threat experienced (Marmar et al, 1996). The impact of such stressors accumulate over time and poses risk to the health and mental health of the firefighter and his family (Heldring, 2004). Studies about the immediate emotional impact of disasters confirm significant incidence of acute stress disorder, posttraumatic stress disorder, depression, anxiety, somatisation, and increased use of substances such as tobacco, marijuana, and alcohol. Immediately following 11 September 2001, studies suggested that 44% of Americans experienced substantial symptoms of stress (Schuster, Stein, Jaycox, Collins, Marshall & Elliot, 2001).

A needs assessment conducted by the Columbia University School of Public Health predicted that 500,000 New Yorkers would experience a level of trauma requiring intervention. In addition, 10.6% of New York City schoolchildren were thought to meet criteria for posttraumatic stress disorder (Hoven, Duarte & Mandell, 2003). Follow-up data on recovery from trauma suggest that 85% of the population recovers baseline psychological health with time and the support of family and friends, but the other 15% develop new or exacerbated psychological and physical symptoms (Harvard Program in Refugee Trauma & Mollica, 2001). In a national study of primary-care environments one year after 11 September 2001, a partnership know as Facing Fear Together found that anxiety, depression, and family stress were the most common psychological complaints and that sleep disorders, headaches, and gastrointestinal distress were the most common physical complaints (America's Health Together & The Robert Wood Johnson Foundation, 2003).

Certain factors appear to shape the anxiety reactions of firefighters and families to terrorism and disaster. Direct exposure to the event, death of firefighters or family members, personal injury or witnessing death and injury, and the degree and duration

of disruption in critical social systems are strong factors (Heldring, 2004). For children of firefighters, the primary predictor of their anxiety reactions is the level of distress experienced by their parents. Postdisaster psychological recovery is strongly influenced by several factors including the following: amount of television stories of the disaster watched, the experience and level of panic at the time of the event, preexisting exposure to trauma, preexisting mental or physical chronic illness, multiple life stressors following the event, and low income and employment status (Heldring, 2004).

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 (Heldring, 2004). Avoiding 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 (Heldring, 2004).

For firefighter's families, some of the major stressors include the following: firefighters work can involve critical incidents, that is, exposure to grotesque scenes of injury and death. On 11 September 2001, the trauma exposure was raised to a new level. There was direct or indirect involvement for many of the firefighters, as well as a very high level of loss within the close-knit emergency responder community (Vogel

et al, 2004). On an ongoing basis, firefighters parents work shifts, with long and unpredictable hours. There frequently is the need for two parents to be working for financial reasons, resulting in child-care issues. Their children have shown increased awareness of the dangers involved in emergency work in the aftermath of 11 September 2001, highly publicised anthrax incidents, and so on. These type of major stressors creates intense anxiety reactions within the family system of firefighters (Vogel et al, 2004). The presumption can be made that 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.

Anger and frustration at home or in the family will be discussed in the next section.

(c)   Anger and frustration at home or in the family

Firefighters experience anger and frustration due to their working conditions. The following examples illustrate this point. On 11 September 2001 emergency medical services personnel were at or near Ground Zero. Dispatchers at their Centre for Emergency Medical Services watched the television images of the collapse of the World Trade Centre on their monitors and attempted to cope with breakdowns in communication with their workers and uncertainty about the well-being of friends, coworkers, and loved ones (Vogel et al, 2004). Within that week, approximately 120 employees from the Centre for Emergency Medical Services participated in rescue and recovery efforts in lower Manhattan. Staff members expressed some combination of shock, disbelief, sadness, anxiety, or anger. Many were starting to recognise that they had lost family members, friends, and a coworker from the North Shore-Long Island Jewish Health System (Rose, Bisson & Wessely, 2003).

The director of the Centre for Emergency Medical Services believed that many on the staff knew between 20 to 40 individuals who had perished, people with whom they had worked in the emergency services community over the years. Employees who had been part of the response at the towers were dealing with their own close calls, for example, one recalled making a phone call from the lobby moments before one of the towers collapsed (Vogel et al, 2004). Personnel deployed around the health system campuses and Long Island were concerned about not knowing the whereabouts of colleagues and family members who were first responders (police, firefighters and emergency medical services personnel) involved in more direct activities in Manhattan. In addition to grief for those who had perished, there were expressions of guilt about surviving. Some regretted not being able to participate in the rescue efforts. Some expressed feelings of frustration and helplessness about the expected victims who never arrived at hospital centres (Rose et al, 2003).

Personnel who had been in lower Manhattan and Brooklyn were vocal about their difficulties reaching loved ones and communicating with Centre for Emergency Medical Services headquarters to receive orders and track colleagues efforts and safety (Rose et al, 2003). Varying reactions were shown by those who had been in the midst of the chaos in and around the Twin Towers moments before their collapse. One worker returned with a camera that he had used to capture the scene, to the dismay of some of his peers. Several had been doing double shifts and were unhappy to yield their tour of duty because there were rescue efforts underway in which they wanted to participate (Vogel et al, 2004).

Another example is a study on the relationship between marriage partners and prison guards' perceptions of stress, it was found that marriage partners of prison guards reported greatest stress arising from the violent nature of the prison guards' work, but

prison guards reported greatest stress from perceived changes in their marriage partners' behaviour (Noran, 1995). A key concept in this study was 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 (Noran, 1995).

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.

Emotional exhaustion will be discussed in the next section.

(d)   Emotional exhaustion

Emotional exhaustion, also referred to as neurasthenia, can be defined as a functional disorder characterised by feelings of weakness and a general lowering of bodily and mental tone. The term is passing out of technical use, but the adjective neurasthenic is still applied to a neurotic general fatigability. It is a misnomer, since the disorder is neither an organic weakness nor a deficiency of the nerves (English & English, 1974).

In the context of this study, emotional exhaustion, also referred to as the burnout syndrome, can be defined as depersonalisation and a decrease in personal achievement of firefighters. It can be considered as a form of job related stress as a result of the

social interaction between the helpers (firefighters) and the receivers of it. Job burnout is a enduring and intense form of job dissatisfaction which is characterised by emotional blunting, cynicism and low productivity (Plug et al, 1991).

Maslach and Jackson (1981) have described burnout as consisting of three components. The first component involves increased feelings of emotional exhaustion. Individuals in the helping professions are particularly susceptible to burnout and emotional exhaustion. They may develop negative, cynical attitudes and feelings toward their patients. As their emotional resources are depleted, they are no longer able to be as supportive as they need to in order to be effective. This emotional exhaustion occurs as a result of excessive psychological and emotional demands made on them as they attempt to provide rescue and therapeutic services to victims (Vettor & Kosinski, 2000).

The second component of burnout involves the tendency to deindividuate and depersonalise victims. Depersonalisation is used to minimise the intense emotional arousal that could affect the performance of the helping professional in crisis situations (Nevid et al, 2005). A third component of burnout is the tendency for helping professionals to evaluate themselves negatively when assessing their work with victims. Paramedics and firefighters are very susceptible to burnout (Angerer, 2003). They face daily exposure to human tragedy and chronic stressors such as dealing with injury, mutilation, and death. They must make do in their immediate environment and, in some instances, in the presence of physical danger. Their job performance is often scrutinised by bystanders and the traumatised relatives of the victims (Vettor & Kosinski, 2000).

Emergency services are often delivered in a hostile world where darkness, adverse

weather conditions, difficult terrain, and unpredictable dangers magnify the pressure (Kop & Euwema, 2001). Added to these environmental stressors is the constant pressure for firefighters to perform competently. Firefighters often perceive that the public takes advantage of them by calling them to perform routine nonemergency services. Decrease in overall work performance have also been reported. When faced constantly with such precarious situations, firefighters over time develop a 'thick skinned' approach to providing services to victims (Lloyed, Kind & Chenoweth, 2002; Vettor & Kosinski, 2000).

The inability to cope effectively with stressful events can result in undesirable psychological and somatic outcomes, leading to chronic stress, burnout and quitting the profession (Anshel, 2000; Wiese et al, 2003). Several studies have identified work-family conflict as an important predictor of psychological burnout amongst police and emergency services officers (Jackson & Maslach, 1982; Burke, 1993). 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 (Martin, 1980). For example, research findings suggest that marriage is distinctly beneficial for most husbands but less for most wives (Bernard, 1972), and married women experience more strain than do married men (He et al, 2002).

Research by Westman and Etzion (1995) focused on the crossover of burnout and of coping resources from husbands to wives and vice versa. Findings reveal that the husbands' sense of control and burnout were positively related to the corresponding variables measured for their wives. A positve effect of the wives' burnout on the husbands' burnout was obtained after controlling for the husbands' own job stress and coping resources. The husbands' burnout likely affected their wives' burnout (Westman & Etzion, 1995).

Increased levels of stress and burnout can result in high job-turnover rates, increased absenteeism, and low morale. A presumption can be made that firefighters may not perform their role in the family effectively because of emotional exhaustion. They may not be able to cope with the emotional demands placed on them, and this could result in emotional distance from the family. They may also blame the family for not understanding their situation.

Emotional distance from the family will be discussed in more detail in the next section.

(e)   **Emotional distance from family**

Emotional distance can be defined as the difficulty of a relationship due to a sense of difference in manners, ideology, personality, or status, or to an awareness of inapproachability or unfriendliness (English & English, 1974). Psychic distance in this sense is topologically described as a function of the accessibility to one personality of the several regions of another personality, or of the amount of communication possible between their respective central regions. A distinction must be made from valence, which characterises the desirability rather than the difficulty of a relationship. Valence refers to that property of an object or region in the life space by virtue of which the object is sought (positive valence) or avoided (negative valence) (English & English, 1974).

Furthermore, emotional distance refers to the relative length of the path over which a psychic force travels, the minimum number of boundaries to be crossed in moving from one psychic cell to another) (English & English, 1974). It can also be described as the means by which one avoids making reactions that would reveal how far one is falling short of attaining one's life aim. Four forms can be distinguished namely: (i)

retrogressive movements (as in functional paralysis or suicide), (ii) cessation from effort, (iii) hesitation and abulia, and (iv) the fabrication of obstacles to be overcome before putting oneself to the crucial test (Vogel et al, 2004).

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 (Vogel et al, 2004). 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 (Alexander & Klein, 2001).

A presumption can be made that firefighters may try to safeguard their families from job stressors by becoming emotionally distanced. Firefighters may have the ability to compartmentalise their experiences effectively so that exposure to traumatic incidents in the workplace do not 'spillover' into the family environment. The result of such action is that the family is alienated in the process (Shakespeare-Finch & Smith, 2002).

The behavioural reactions to job stress on the family will be discussed in the following section.

3.4.2.3 Behavioural reactions to job stress on the family

The behavioural reactions to job stress on the family will be analysed in terms of alcoholism and suicide.

(a)   **Alcoholism**

Alcoholism is an addictive disorder. It undermines the core of the alcoholic's life and affects all those around him. Alcoholism is a powerful disease which leaves in its wake victims who frequently feel helpless and powerless to change their situation (He et al, 2002).

For the alcoholic firefighter, problems associated with overcoming denial and developing an awareness that the disease exists are compounded by the fact that alcohol consumption is such an integral part of the firefighter's culture (Boxer & Wild, 1993). Drinking, for many firefighters, is an occupational expectation and a primary means of socialising and "unstressing" after a shift (Fishkin, 1992).

For the untreated alcoholic firefighter, termination is often inevitable (Boxer & Wild, 1993). As his dependance on alcohol increases, his impaired judgment and adverse public image can create a condition of liability not only for the firefighter and his department, but for the public he is sworn to protect and serve. The alcoholics and their emotional relationships are important and will be discussed in the following section (North et al, 2002).

(i)   **Alcoholics and their emotional relationships**

The marital partner or significant other of the chemical-dependent firefighter may unwittingly act as a co-dependent by denying the existence of the chemical dependency. The spouse of the alcoholic may be passive and emotionally dependent upon his or her mate (Boxer & Wild, 1993). Fearful of saying anything about chemical abuse which would create further disharmony within the family or relationship, they give quiet or

implied approval of the excesses they frequently observe or even participate in (Fishkin, 1992).

At some point, however, the spouse or "friend" of the alcoholic firefighter proclaims that he or she "cannot take it any longer!" Criticism is often met with violent outbursts or further withdrawal from the chemical-dependent mate (He et al, 2002). The marital partner or "friend" may no longer want to go along for the ride, and may no longer continue to play the role of the accepting, dependency-reinforcing co-alcoholic (Fishkin, 1992).

The marital partner of the alcoholic may become frustrated and tired of being forced into the dual role of mother *and* father, because the alcoholic relinquishes all family responsibility, often taking the position that being a firefighter is demanding enough of his time and energy (Fishkin, 1992; He et al, 2002).

This is the crossroads of the relationship. It is at this point that the relationship is at risk of disintegrating. Either a cry for help goes out, or a change in living arrangements ensues (He et al, 2002). When the co-alcoholic begins to recognise the effects of his or her participation, the scenario changes, usually out of necessity. The first step toward recovery for the alcoholic is the overcoming of denial.(North et al, 2002).

Typical effects of alcoholism on the relationship of firefighters include changes in the way firefighters see themselves, their marital partner, or their children. Relationships can become very strained and difficult with an increased lack of communication (Boxer & Wild, 1993). Firefighters may also experience the inability to stop talking about the 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 (He et al, 2002). This can be very disturbing and frightening for marital partners. Inability to make even simple decisions, loss of concentration and lack of interest in 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 (Parkinson, 1993).

A presumption can be made that firefighters abuse alcohol to escape from the stressful experiences of their work. 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.

Suicide and suicide attempts will be discussed the next section.

(b)   Suicide and suicide attempts

The firefighter's funeral is over. Now the questions - so many unanswered questions and those awfully painful, empty feelings that simply will not go away. This is the legacy commonly left to those who remain when a friend, an employee or a loved one has chosen suicide (Mitchell & Everly, 1995). It gnaws at people, disturb their sleep, and leaves them feeling torn and vulnerable. *"Why?"* is the question repeatedly asked. People ask themselves if there was some signal, some hint that suicide was imminent. *"Could it have been stopped?"* *"Why didn't he tell us he needed help?"* *"Why?"*(Mitchell, 1987).

The suicide of a firefighter always seems even more tragic than that of the average person. Those who help others should somehow be exempt from the ultimate act of frustration and violence directed at the self. Unfortunately suicide does occur among firefighters, and although no one keeps national statistics, it seems to be occurring with some frequency. Twelve times in the last six months Mitchell (1987) has been called upon to assist firefighters, police, military personnel, paramedic an other emergency personnel in Maryland who have suffered the loss of one of their own to suicide. In every state there are other horror stories. Three firefighters in New York City recently committed suicide in a recent six-month period (Nelson, 2004; Violanti, Roth, Dowling & Moynihan, 2004).

Firefighters will commit suicide for one of more of the same reasons, which can include loss of love, major illness, death of a close family member, financial troubles, failure to achieve personal goals or expectations, loneliness, job failure, family problems, severe humiliation in the presence of peers, or retirement after an active career (Mitchell, 1987). Information from recent cases suggests that firefighters who commit suicide are generally deeply troubled by a variety of such problems. Only rarely have job-related factors alone caused a suicide (Mitchell & Everly, 1995). The job may *contribute* to a suicide, as when a firefighter cannot shake the guilt associated with a perceived failure to perform a duty to the level of the persons's own expectations, but rarely would the job function as the sole cause (Mitchell, 1987).

It is important to recognise that anyone could become suicidal when the circumstances of the person's life become so distorted that they cause serious depression and a loss of hope (Nevid et al, 2005). Researchers report that most adults consider suicide at least once in their lifetime, but most do not act on these thoughts, because they have the personal resources available to find better solutions to their problems (Albert,

2000). Suicide is usually a by-product of circumstances, not of personality; it occurs when people lose all hope. There is no one clearly identified personality that is prone to committing suicide (Mitchell, 1987).

Suicide is basically a dramatic effort to communicate desperate feelings. The communication usually works: A hint to answering the question "*Why did the person do it?*" is to recognise one's own feelings. If a person is feeling angry after a friend or fellow firefighter has committed suicide, it is likely the firefighter was feeling intensely angry (Mitchell & Everly, 1995). If a person are left frustrated, the firefighter most likely felt enormous frustration. One of the most important clues a command officer or fellow firefighter should be noting is a serious and prolonged change in a firefighter's usual behaviour. This is generally a downward change toward more pronounced depression and a loss of self-esteem (Mitchell, 1987).

Angry outbursts over seemingly insignificant issues which the firefighter would usually ignore, are an example of such a change. Another is a dramatically more quiet attitude around the station that persists longer than a few days (Mitchell & Everly, 1995). This is relatively easy to see in a firefighter who can usually be counted on for a joke or wisecrack under most circumstances. A firefighter who is spending excessive amounts of time alone and is obviously withdrawn from routine contacts with fellow firefighters may be exhibiting a sign of distress which can set the stage for suicide (Mitchell, 1987).

Another danger signal is the loss of optimism and hope. A firefighter may engage in discussions that are almost related to depressing topics. Or the firefighter may bring up the same old problems again and again without resolution (Mitchell & Everly, 1999). In a firefighter who is considered to be withdrawn or pessimistic as a matter of course,

the clearest indication of potential suicide is a deepening negative reaction to everyone and almost everything. Intensified sleep disturbance, irritability, anger, negative comments, and alcohol abuse are most common in this type of personality (Mitchell, 1987).

Other danger signals in any type of personality are agitation, crying spells, poor concentration at work, a noticeable decline in performance, excessive passivity (the loss of fight and spirit), excessive drinking, drug abuse, eating disorders and sleeplessness or, by contrast, excessive sleeping or fatigue (Mitchell & Everly, 1999). A firefighter considering suicide may begin preparing for death by becoming preoccupied with writing a will, getting insurance, or giving away prized possessions. Or the firefighter may buy expensive items or take big trips he cannot afford, or when he is obviously experiencing many other difficulties (Mitchell, 1987).

There may be subtle suicide threats – comments such as *"I cannot take much more"*, *"You would be better off without me anyway"*, *"You will be sorry when I am not around anymore"*, or *"You will not have to put up with me much longer"*. A single sign is usually not indicative of impending suicide. A firefighter with a variety of signs is involved in a growing potential for suicide. A person should be especially concerned about these signs if other risk factors are present (Nevid et al, 2005). For example, firefighters who are divorced, separated, or single have a higher potential for suicide than those who are married. If a relative of the firefighter has committed suicide, especially a mother or father, there is generally a higher risk. A previous suicide in the fire brigade may also cause other firefighters to contemplate the act for themselves (Albert, 2000; Mitchell, 1987).

Typical effects of suicide on the relationship of firefighters 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 (Violanti et al, 2004). The response of the family may be to tell the firefighter to pull him or herself together. A constant preoccupation with the stressor incident may also occur by keeping a diary of events or a scrapbook. This can be infuriating to the family (Parkinson, 1993). A presumption can be made 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.

The physical symptoms to job stress on the family will be discussed in the following section.

3.4.2.4 Physical symptoms to job stress on the family

The physical symptoms to job stress on the family will be analysed in terms of the lack of exercise and physical exhaustion.

(a)   Lack of exercise

The challenges associated with the working conditions of firefighters and police officers, emphasise the importance of regular exercise, to enable them to cope with their job demands. An example to illustrate this point is the two commuter trains which crashed on the main railway line a mile outside Paddington Station in London (Kinchin, 2000). Those first on the scene found two burning trains and a handful of civilians from a local supermarket who were doing their best to rescue victims from the crashed piles of metal. The air smelled of burning fuel, burning hot metal and burning flesh. Many of the injured had burns over 50 percent of their body (Kinchin, 2000).

Early casualty reports estimated the death toll at as high as 120 on the basis of calls from relatives inquiring about family members they believed had been on the train. Complicating matters, some of the bodies had been burned beyond recognition. The fire had been so intense that some bodies had, it was feared, been burned to dust (Kinchin, 2000). Emergency teams crawled on hands and knees to carry out a fingertip search of the crash scene, looking for even the tiniest clues that might be significant in establishing who was on those two trains (Kinchin, 2000).

Firefighters, emergency workers and law enforcement officers must be fit and in very good physical condition to perform such work as cited in the above example. The training they receive is also very physical demanding. They are trained in every aspect of special operations: diving, rope rescue, structural rescue, confined space rescue, HAZMAT, chemical and biological warfare, safe cracking, water rescue, hostage negotiation, vehicle extrication, elevator rescue, aircraft, and firefighting.(Arterburn, 2001).

The Promoting Healthy Lifestyles: Alternative Models' Effects (PHLAME) firefighters' study by Elliot, Goldberg, Duncan and Kuehl (2004) indicated that physical activity can affect mood, and regular physical activity can be therapeutic for mild to moderate depression (Meyer & Brooks, 2000; Young, 2002). Accordingly, the significant increase in personal exercise habits amongst team-based firefighters favourably alter their mood. Interestingly, only firefighters from the one-on-one intervention station demonstrated a significant improvement in mood. That observation may relate to motivational interviewing being highly client centred and fostering self-awareness of connections between behaviours and outcomes. Making those associations is a component of cognitive behavioural therapy, which, when appropriately applied, has prevented and treated depression (Elliot et al, 2004;

Lewinsohn & Clarke, 1999).

Firefighters that are stationed at fire brigades which do not receive a lot of emergency calls, are not regularly exposed to physical demanding duties. A presumption can be made 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 feeling concerned about themselves and worthlessness. Such feelings of worthlessness and self-pity may be transferred to the family. Furthermore, firefighters that do not exercise, may find it difficult to cope with their emotions. Firefighters may not be able to cope with the emotional demands of their families which may result in conflict. Firefighters may also display hostile behaviour and project their aggression towards their families.

Physical exhaustion which may be the result of a lack of exercise will be discussed in the next section.

(b)   Physical exhaustion

Physical exhaustion can be regarded as a given factor in the working environment of firefighters. Firefighters are sometimes exposed to disasters events such as the terrorist attacks on the World Trade Centre on 11 September 2001. The firefighters and rescue personnel worked constantly for days to rescue people that were trapped in the rubble. This circumstances contributes to severe physical exhaustion (Brunei, Boyer, Weiss & Marmar, 2001; Ursano & Fullerton, 2000).

A further example is the terrible fire which broke out just before midnight in a crowded Rhode Island nightclub on 20 February 2003. It killed almost 100 people immediately

and left more than 200 injured, many of them critically (Dacey, 2003). Firefighters rushed to the scene and saw scores of injured and panicked people, some packing their wounds in snow in an attempt to relieve their pain. Almost all the victims had burns to their face, neck, and arms. By 4 a.m., the kinds of victims rescued by firefighters had begun to change (Dacey, 2003). They were still severely burned, but the injuries were not immediately life threatening. As the sun began to rise, there were some problems that simply could not be solved. There were however, courageous firefighters who risked their own lives in pulling victims from the building, despite physical exhaustion (Ursano & Fullerton, 2000).

Roberts and Levenson (2001) examined the impact of job stress and physical exhaustion on the physiological and subjective components of emotional responding during marital interactions between 19 male police officers and their spouses. Couples completed 30-day stress diaries and particpated in four weekly laboratory interaction sessions. During interactions on days of greater stress, both spouses were more physiologically aroused, husbands reported less positive and more negative emotion, and wives reported less emotion (both positive and negative). On days of greater exhaustion, husbands were more physiologically aroused. All of these findings are indicators of heightened risk of poor marital outcomes and document an emotional mechanism by which job stress and exhaustion can negatively impact marriage (Roberts & Levenson, 2001)

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 (Galinsky et al, 1993; Hughes, Galinsky & Morris, 1992). Stress is experienced in the family due to the constant tiredness of the firefighter. A presumption can be made that

firefighters may not perform their role in the family effectively because of physical exhaustion. They may not be able to cope with the physical demands placed on them, for example, the children of a firefighter may ask him or her to play with them, or a firefighter may be to exhausted to perform household duties. This could result in withdrawal from the family. They may also blame the family for not understanding their situation (Galinsky et al, 1993).

SUMMARY

Family stress experienced amongst firefighters was conceptualised in two domains. The *first* domain constituted family stressors. Firefighters experienced the limited time with their families, marital dysfunction and divorce, 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 as major family stressors.

The *second* domain constituted the impact of job stress of firefighters on family stress. A distinction was made between the cognitive, affective and behavioural reactions and physical symptoms to job stress on the family. The cognitive reactions to job stress on the family emerged in terms of the perceived job image and the lack of leadership and job satisfaction. Depression, anxiety, anger and frustration at home, emotional exhaustion and emotional distance from the family were identified as the main affective reactions to job stress on the family. The behavioural reactions to job stress on the family emerged in terms of alcoholism and suicide. The lack of exercise and physical exhaustion were identified as the main physical symptoms to job stress on the family.

! This concludes the literature review undertaken to support the empirical aims of this research, and in particular to provide a theoretical description of family

stress amongst firefighters in the South African context.

The model of job and family stress amongst firefighters will be presented in section 3.5.

3.5   MODEL OF JOB AND FAMILY STRESS AMONGST FIREFIGHTERS

The model of job and family stress amongst firefighters is depicted in Figure 3.3 on page 139. The dynamics and interaction between the stressors, stress symptoms and reactions, will now be analysed.

3.5.1   Job stress

A thorough analysis of the literature indicated that firefighters are subjected to, and experience intense job stress due to the emergency services that they render to the public. Owing to their high level of exposure to traumatic incidents, firefighters can become secondary victims of trauma, exhibiting symptoms akin to direct victims. Job stress may be the result of certain job stressors, which may result in certain job stress symptoms and reactions amongst firefighters.

3.5.1.1 Job stressors

Causes of job stress are depicted as job stressors. According to the literature, two major job stressors were identified, namely stressors arising outside the working situation and stressors originating within the working situation.

(a)   Stressors arising outside the working situation

An interface seems to exist between job stressors arising outside the working situation and family stress. Stressors arising outside the work situation are characterised by marital dysfunction and divorce, limited time with family, problems with children, and lifestyle factors such as the abuse of alcohol, excessive smoking and lack of exercise. Further issues include the long shifts, which interfere with their sex lives, loss of friends (not firefighters), suicide of colleagues or family members, lower social status, anger and frustration at home
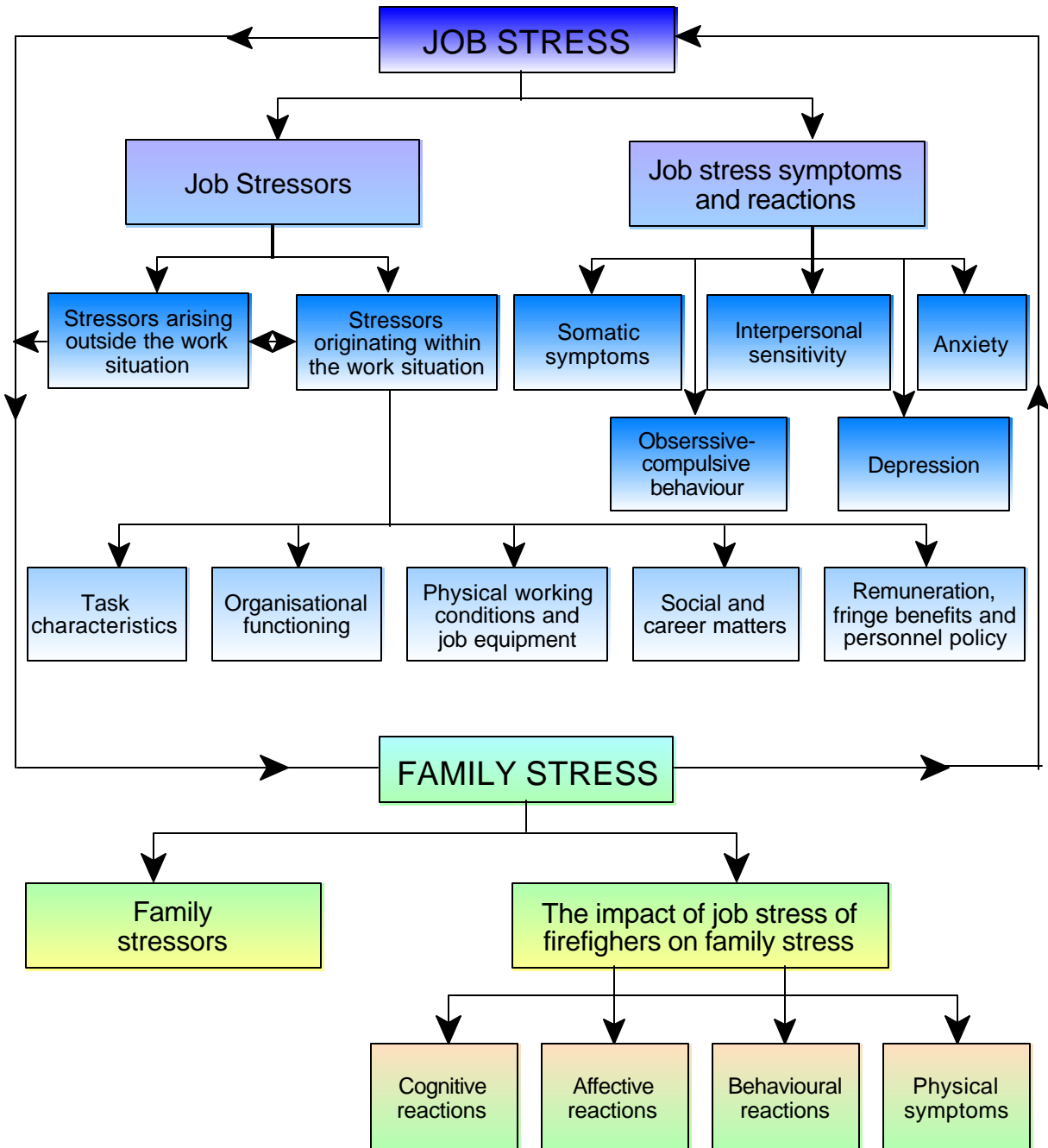
Figure 3.3:   Model of job and family stress amongst firefighters

or in the family, emotional, intellectual and physical exhaustion, wives being alone at night and not being available to help the family when.

(b)   Stressors originating within the working situation

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. Job stressors originating within the working situation are characterised by task characteristics, organisational functioning, physical working conditions and job equipment, social and career matters, and remuneration, fringe benefits and personnel policy.

(i)   Task characteristics

The degree of uncertainty, exposure to human loss, interpersonal tension, shift work, overloading, underloading and traumatic incidents seems to be the major task characterisics resulting in the spillover of conflict from the job to the family. Further contributing task characteristics are accountability for decisions taken under pressure, death of people, terrible sensory experiences, serious fires in which people are trapped, accidents in which many people are injured, the danger of injuries to and illness of firefighters, and slow response time.

(ii)   Organisational functioning

It seems that the functioning of the organisation have the potential to negatively impact on the family. Uncertainty and unsafety, and administrative stressors such as poor

administrative support, lack of leadership skills, policy and procedures, job schedules, excessive paperwork and red tape, delegation of functions, evaluation system and measurement of effectivity, responsibility versus authority, continuos focus on problems, and a lack of positive feedback emerged to be particularly pertinent.

(iii)   Physical working conditions and job equipment

It seems that the interface between job stressors and family functioning exist as a result of insufficient equipment and resources, physical working conditions, lightning, noise, vibration, climate, temperature, ventilation, humidity, hygiene, new technology, exposure to risks and dangers, travel, shortage of human resources and vastness of areas.

(iv)   Career and social matters

Limited career and promotion opportunities, insufficient training, and failure to optimally utilise the abilities and potential of firefighters seems to be the major career matters resulting in the spillover of conflict from the job to the family. Further contributing social matters are long or unusual working hours, absenteeism, attitude of hospital personnel, the place of residence, conflict with colleagues, offensive and intoxicated or poisoned patients, media on the scene, pressure to conform with the group, and lack of privacy.

(v)   Remuneration, fringe benefits and personnel policy

It seems that compensation and employee benefits have the potential to negatively impact on the family. The lack of social status, low salaries and low expectations emerged to be particularly pertinent.

The job stress symptoms and reactions will be analysed in the next section.

3.5.1.2 Job stress symptoms and reactions

An interface seems to exist between job stressors and job stress symptoms and reactions. Job stress symptoms and reactions amongst firefighters are characterised by somatic symptoms, obsessive-compulsive behaviour, interpersonal sensitivity, depression and anxiety.

(a)   Somatic symptoms

The continuous exposure to job stressors over a long period may cause certain somatic symptoms amongst firefighters. The spillover of conflict from the job to the family become evident when firefighters are preoccupied with the belief that they have a serious disease, yet no evidence of a physical abnormality can be found. The marriage partners may become very concern over the physical condition of the firefighters and anxious that no medical treatment seems to be helping. This cause a lot of stress for the marriage partners and children.

(b)   Obsessive-compulsive behaviour

Obsessive-compulsive behaviour amongst firefighters may be the result of continuous exposure to job stressors over a long period. Obsessions can be potent and persistent enough to interfere with their daily life and can engender significant distress and anxiety. It include doubts, impulses, and mental images. A firefighter may wonder endlessly whether or not he or she has locked the doors and shut the windows, for example. The spillover of conflict from the job to the family become evident when a

firefighter may be obsessed with the impulse to do harm to their spouse. Checking rituals, such as repeatedly checking that the doors are securely locked before leaving the house, cause delays and annoy marriage partners and children, and cleaning can occupy several hours a day.

(c) **Interpersonal sensitivity**

The continuous exposure to job stressors over a long period may cause that firefighters become oversensitive in their interpersonal relationships with their marriage partners and children. The spillover of conflict from the job to the family become evident when firefighters tend to fear rejection, disapproval, neglect, and other adverse interpersonal situations with their marriage partners because of the perceived threat to their self-definition.

(d) **Depression**

For some firefighters, however, the combination of life's calamities coupled with continuous exposure to job stressors over a long period, become too much to bear. The result is often a breakdown of psychological defences, leading into the downward mental and emotional spiral of despair, ultimately resulting in the emotional state of depression, from which the road is often painful and difficult. The spillover effect (job and family conflict) manifest when 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.

(e)   Anxiety

The continuous exposure to job stressors over a long period may cause that firefighters experience anxiety reactions. Firefighters may experience physical features of anxiety, for example, trembling or shaking of the hands or limbs, heavy perspiration, shortness of breath or shallow breathing, heart pounding or racing, dizziness, weakness or numbness, stiffness of the neck or back, upset stomach or nausea, diarrhea, and feeling irritable or 'on edge'. Behavioural features of anxiety may include avoidance behaviour, clinging, dependent behaviour and agitated behaviour. Cognitive features of anxiety may include worrying about something, a nagging sense of dread or apprehension about the future. The spillover effect (job and family conflict) manifest when marriage partners of firefighters feel that they are not able to cope with these anxieties, and that they do not know how to help.

Family stress amongst firefighters will be analysed in section 3.5.2.

3.5.2   Family stress

An interface seems to exist between job stressors, job stress symptoms and reactions and family stress. Family stress is depicted in terms of family stressors and the impact of job stress of firefighters on family stress.

3.5.2.1 Family stressors

An interface seems to exist between job stress and family stressors. According to the

literature, the limited time that firefighters have with their families, marital dysfunction and divorce, problems with children, the marital partner being alone, firefighters not being available to help the family when needed, the effects of shift work and separation, and financial problems emerged as major family stressors.

(a)   Limited time with family

The spillover of conflict from the job (physical working condition) to the family become evident when firefighters have to work longer hours resulting in limited time with their families. A presumption can be made that firefighters who have limited time to spend with their families due to work obligations may feel that they are neglecting their families. This may cause firefighters to feel guilty about their family, because they are unable to change their current work situation. Furthermore, the less time that firefighters spend with their children may result in undisciplined behaviour of their children. The mother may be unable to provide all the family structure and support for the children to feel save and secure. An interface also seems to exist between limited time with family and depression.

(b)   Marital dysfunction and divorce

According to the findings, the job stress of firefighters increased with length of time in the fire service. The interaction between job stressors (causes originating within the working situation) and family stress symptoms and reactions becomes evident in the interpersonal and emotional withdrawal of firefighters as a result of experiencing traumatic incidents. It may contribute to the disintegration of their marriages and subsequent divorce.

(c)   Problems with children

The spillover effect (job and family stress) may occur when problems with children results from the fact that the firefighters do not have time to spend with their children. The firefighters are not at home to play an active role in the upbringing of their children which may leave the children feeling unsafe and insecure.

(d)   Marital partner being alone

The spillover effect (job and family conflict) may be demonstrated by marriage partners which experience loneliness due to burnout of firefighters. Firefighters are still reluctant to expose their feelings and anxieties, thus internalising tension, and further affecting family life. The burnout syndrome is a common fragility of those whose jobs require them to give too much, too often, to other people in need.

(e)   Firefighters not being available to help the family when needed

The spillover of job stress to the family may occur when firefighters feel more guilty and blame themselves if a crisis develops in the family in their absence. They may 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.

(f)   The effects of shift work and separation

The spillover effect (job and family conflict) may be demonstrated when firefighters

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.

(g)   Financial problems

The spillover of job stress to the family may occur when 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.

The impact of job stress of firefighters on family stress will now be analysed.

3.5.2.2 The impact of job stress of firefighters on family stress

An interface seems to exist between job stress of firefighters and its impact on family stress in terms of cognitive, affective, and behavioural reactions, and physical symptoms.

(a)   Cognitive reactions to job stress on the family

According to the literature, the perceived job image and the lack of leadership and job satisfaction emerged as cognitive reactions to job stress on the family.

(i)   Perceived job image

With respect to the fire service, 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.

(ii)   Lack of leadership and job satisfaction

Fire service effectiveness is seen to be dependent upon supervisor leadership and positive employee attitudes (e.g. job satisfaction), therefore recent changes have been made to leadership behaviour in the Australian aviation fire service. Consideration leadership is relationship-focussed behaviour and refers to the degree to which the leader explains to the workers reasons for their leading actions and is concerned about the well-being of the workers. A presumption can be made 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.

(b)   Affective reactions to job stress on the family

According to the literature, depression, anxiety, anger and frustration at home,

emotional exhaustion and emotional distance from the family emerged as affective reactions to job stress on the family.

(i)   Depression

Typical spillover effects (job and family conflict) of depression on the relationship of firefighters include that if a firefighter is suffering, the firefighter might not be able to talk to his or her marital partner and retreat behind a wall of silence or suppressed anger. Feelings of guilt, shame and fear about behaviour, especially inability to cope at the time may also emerged. 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.

(ii)   Anxiety

For firefighter's families, some of the major stressors include the following: firefighters work can involve critical incidents, that is, exposure to grotesque scenes of injury and death. These type of major stressors creates intense anxiety reactions within the family system of firefighters. It seems that there is a transfer and counter transfer of anxiety between firefighters and their families as a result of not knowing what to expect when the next emergency call comes in. It may cause fear that each emergency call will be severe and traumatic.

(iii)   Anger and frustration at home

The interface between job and family conflict manifest when behaviour of marriage partners and families of firefighters change over time, especially when they experience that the firefighter are under tremendous job stress. The spillover of job stressors originating within the work situation to the family, become apparent if firefighters 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.

(iv)   Emotional exhaustion

Increased levels of job stress and burnout can result in high job-turnover rates, increased absenteeism, and low morale and may spillover to the family. The interface between job and family stress become apparent when firefighters do not perform their role in the family effectively because of emotional exhaustion. They may not be able to cope with the emotional demands placed on them, and this could result in emotional distance from the family. They may also blame the family for not understanding their situation.

(v)   Emotional distance from family

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. A presumption can be made that firefighters may try to safeguard their families from job stressors by becoming emotionally distanced. Firefighters may have the ability to compartmentalise their experiences effectively so that exposure to traumatic incidents in the workplace do not 'spillover' into the family environment. The result of such action is that the family is alienated in the process.

(c)   Behavioural reactions to job stress on the family

According to the literature, alcoholism, suicide and suicide attempts emerged as behavioural reactions to job stress on the family.

(i)   Alcoholism

The spillover effect (job and family conflict) of alcoholism on the relationship of firefighters include changes in the way firefighters see themselves, their marital partner, or their children. Relationships can become very strained and difficult with an increased lack of communication. Firefighters may also experience the inability to stop talking about the 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. An interface also seems to exist between alcoholism and anxiety. This can be very disturbing and frightening for marital partners. Inability to make even simple decisions, loss of concentration and lack of interest in 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.

(ii)   Suicide and suicide attempts

Typical effects of suicide on the relationship of firefighters may include apathy and a feeling that life is a waste of time, which cause marital partners to become frightened, frustrated and angry. An interface seems to exist between suicide and feelings of vulnerability, and anxiety about the same things happening again. The response of the family may be to tell the firefighter to pull him or herself together. A constant preoccupation with the stressor incident may also occur by keeping a diary of events or a scrapbook. This can be infuriating to the family. The spillover of conflict from the job (physical working condition) to the family become evident when firefighters direct their aggression towards the self and do not know how to cope with it. They may consider suicide as an alternative to escape the stressful situation permanently.

(d)   Physical symptoms to job stress on the family

According to the literature, the lack of exercise and physical exhaustion, emerged as physical symptoms to job stress on the family.

(i)   Lack of exercise

Firefighters need to be fit and in very good physical condition to perform their work. The training they receive is also very physical demanding. The spillover of conflict from the job (physical working conditions) to the family become evident when firefighters that are stationed at fire brigades which do not receive a lot of emergency calls, are not regularly exposed to physical demanding duties. 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 feeling concerned about

themselves and worthlessness. Such feelings of worthlessness and self-pity may be transferred to the family. Furthermore, firefighters that do not exercise, may find it difficult to cope with their emotions. Firefighters may not be able to cope with the emotional demands of their families which may result in conflict. Firefighters may also display hostile behaviour and project their aggression towards their families. An interface also seems to exist between lack of exercise and interpersonal sensitivity.

(ii)   Physical exhaustion

Stress is experienced in the family due to the constant tiredness of the firefighter. Firefighters may not perform their role in the family effectively because of physical exhaustion. They may not be able to cope with the physical demands placed on them, for example, the children of a firefighter may ask him or her to play with them, or a firefighter may be to exhausted to perform household duties. This could result in withdrawal from the family. They may also blame the family for not understanding their situation. An interface also seems to exist between physical exhaustion and interpersonal sensitivity.

SUMMARY

The dynamic interaction between job and family stress amongst firefighters can be summarised in the following six points.

Firstly, an interface seems to exist between job stressors arising outside the working situation and family stress.
Secondly, 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, an interface seems to exist between job stressors and job stress symptoms and reactions.

Fourthly, an interface seems to exist between job stressors, job stress symptoms and reactions and family stress.

Fifthly, an interface seems to exist between job stress and family stressors.

Sixthly, 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.

!   This concludes the literature review undertaken to support the empirical aims of this research, and in particular to provide a theoretical integration between job and family stress amongst firefighters in the South African context.

A summary of the chapter will be provided in section 3.6.

3.6   CHAPTER SUMMARY

In this chapter family stress amongst firefighters was described. Family stress was defined and a differentiation was made between family stress, family crisis and family strain. The meaning of the stressful event to the family and predictability of stressors and family reactions were discussed. The focus was also directed at family stress as process. The levels of family stress, namely Level I, Level II, Level III and Level IV Stress were described.

Family stressors were analysed in terms of the limited time that firefighters have with their families, marital dysfunction and divorce, problems with children, the marital partner being alone, firefighters not being available to help the family when needed, the

effects of shift work and separation, and financial problems. Furthermore, the impact of job stress of firefighters on family stress was discussed in terms of cognitive, affective, and behavioural reactions, and physical symptoms. The cognitive reactions to job stress on the family were analysed in terms of the perceived job image and the lack of leadership and job satisfaction.

The affective reactions to job stress on the family were analysed in terms of depression, anxiety, anger and frustration at home, emotional exhaustion and emotional distance from the family, whereas the behavioural reactions were analysed in terms of alcoholism and suicide. The physical symptoms to job stress on the family were analysed in terms of the lack of exercise and physical exhaustion. The chapter was concluded with a model of job and family stress amongst firefighters. The empirical study of the research will be discussed in **Chapter 4**.