AN ANALYSIS OF EXPERIENCES OF
PSYCHOSOCIAL RECOVERY FROM ROAD TRAUMA

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Understandings of the longer-term experiences of recovery from road trauma are limited. Many studies to date have examined the psychological and psychiatric consequences of road accidents in the short term, but few have moved to a focus on the psychosocial and subjective aspects of recovery, and the longer-term challenges of this process.

This research is based on an ecological understanding of the recovery experience. Such an understanding enables a focus on a range of adaptations - negative, positive and neutral - as well as a range of risk and protective factors. In doing so, it argues that all of the biopsychosocial-spiritual risk and protective factors may interplay to determine the various trauma recovery experiences. In approaching the recovery process in this way, a number of complex, often competing, voices have been brought together to offer new insights into the ways in which survivors of road trauma were experiencing their recovery in the longer-term.

79 survivors of road trauma, all of whom received treatment at the Victorian Rehabilitation Centre during 1996/7, completed a mail-out survey. 24 of these respondents participated further, by taking part in in-depth, telephone interviews. The survey gathered both quantitative and qualitative data related to their experiences of post-traumatic stress symptoms, post-traumatic growth, social support, and optimism at 3-4 years post-injury. Survivors’ perceptions of trauma, of recovery and recovery resources, and of the future were also analyzed using both statistical and qualitative methods. The telephone interviews were used to illuminate and validate these survey findings.

There was evidence of many different pathways of recovery. One third of the sample was continuing to experience severe distress, as measured by the Impact of Event Scale (IES), but nearly two thirds of the sample were subjectively reporting ongoing psychological difficulty. 99% of the sample reported at least very small degrees of posttraumatic growth. A range of risk and protective factors was examined in relation to these experiences of distress and growth. The most common experiences for the
survivors were experiences of posttraumatic growth and distress, perceiving the accident and its aftermath to be the most traumatic event of their lives, and experiencing ongoing physical difficulties. Social support factors were found to be both the most important protective and predictive factor of distress and growth.

In addition to these themes of distress and growth, some critical understandings of recovery, and recovery expectations emerged. Four other themes identified as central to the recovery experiences were (a) finding a new fit, (b) the privacy of suffering, (c) anticipatory coping and (d) survivor pride. These themes are discussed and incorporated into an ecological understanding of recovery experiences.

To conclude, some implications of these findings for social work research and practice are considered.
DECLARATION

This is to certify that

(i) the thesis comprises only my original work towards the PhD,

(ii) due acknowledgment has been made in the text to all other material used,

(iii) the thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

Signed:

Louise K. Harms
I am indebted to so many people who have made this research possible:

To the 79 respondents for their willingness to share their stories. I hope this thesis captures some of the depth and breadth of their experiences, and, in many instances, both the horrors and the joys of the recovery they have been through.

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PART ONE

THEORETICAL CONTEXT OF THE RESEARCH

INTRODUCTION

In Australia, the road toll reflects hundreds of people who die as a result of road trauma\(^1\) every year. There is a lesser known road toll, however, that reflects the people who are physically and psychologically injured in road trauma. While there is no death as such, these experiences of road trauma can dramatically affect the survivor’s well-being for the rest of their life.

These survivors tend to disappear from the relevant health and legislative systems as soon as their immediate ‘recovery’ is made. As a result, the psychosocial consequences of their experiences and their longer-term recovery pathways remain unknown (Cagnetta & Cicognani 1999; Jeavons, Greenwood & Horne 1996). This research aims to develop a deeper understanding of some of the key themes of the longer-term psychosocial pathways of recovery from road trauma.

The stimulus for this research came primarily from eight years of social work practice with survivors of trauma, particularly road trauma. Four of these years were spent working at the Royal Children’s Hospital (neurosurgery and intensive care units) and at the Transport Accident Commission (TAC) Rehabilitation Centre (now the Victorian Rehabilitation Centre, VRC), both being treatment sites for seriously injured road trauma survivors. From this practice with individuals and families, many ways of ‘recovering’ were evident – some individuals and families were able to ‘recover’ relatively quickly; others seemed unable to do so. Alongside these various experiences were the assessments of the health professionals, myself included, whose criteria for recovery often seemed markedly different from that of the survivor of the trauma.

\(^1\) During the period of 1990-1995 in the State of Victoria, the road death toll was 2679. A statistical overview of road trauma is provided in Chapter Five.
These observations led to an interest in the differences and similarities between subjective accounts of recovery and more objective, clinical assessments made by health professionals. How divergent were these two viewpoints? These broad issues led to the questions that became the core concern of this thesis, outlined below:

1. What are the psychological consequences\(^2\) of road trauma, and the core themes of the experience of recovery, from a survivor perspective?

2. What are the current notions of recovery in the aftermath of road trauma according to:
   - the theoretical frameworks and instruments available to measure trauma responses?
   - the subjective experiences of survivors?

In order to address these questions, 79 people who survived road trauma and who participated in rehabilitation at the Victorian Rehabilitation Centre (VRC) in the financial year of 1996 – 1997 were recruited into this research. Using quantitative and qualitative data, the longer-term experiences of road trauma survivors were analyzed.

**THE NATURE OF ROAD TRAUMA**

Further research is needed to determine whether acute stress reactions vary according to the type of disaster

Koopman, Classen and Spiegel (1996 534)

... in order to serve as a generally useful concept, 'trauma' has to be understood as resulting from a constellation of life experiences as well as from a discrete happening, from a persisting condition as well as from an acute event.

Erikson in Caruth (1995 185)

In turning to the trauma literature, much of it is written with the assumption that the theories apply across a broad range of life experiences, without necessarily distinguishing the types of events that can provoke a trauma response. A number of

\(^2\) The term ‘consequence’ is used throughout, referring to ‘A thing or circumstance which follows as an effect or result from something preceding’ (Brown 1993 484).
researchers question this assumption (Kleber, Figley & Gersons 1995 13, for example) and have examined the various aspects of accidents and injuries that may function as either protective or risk factors. These are discussed in more detail in Chapter Four. In view of this concern, this discussion begins with an analysis of the typical nature of road trauma.

While no road trauma experiences are ever alike, are there features of road trauma that can distinguish it from other trauma experiences? Bulman and Wortman (1977 363) highlight the different adjustments accident survivors face in view of the fact that their life is ‘normal one day’ and in the case of their sample, ‘paralyzed the next’. This presents quite different adaptations when compared to the adaptations of chronic illness where there is a gradual deterioration in health or the adaptations to war where there is a pre-existing sociopolitical context.

Generally speaking, road trauma:

- is totally unexpected and therefore the individual has only seconds, if that, to cognitively and physically prepare for the moment of impact and its aftermath
- is a short-lived, resolved incident, although some people are trapped in their vehicles for a period of time following the moment of impact
- involves human error of some sort, or at least the perception that in some way, something could have been done to prevent it occurring - thus, someone, somewhere has failed to act in some way either in causing the accident itself or in failing to take preventive, averting action
- as a result, is a random, purposeless event, compared to other politically-motivated traumas such as war.
- in many instances, it involves a threat to life, or, perhaps more importantly, the perception of a threat to life.

Particular to the sample that will be examined in this research, road trauma has some additional features:

- it has involved severe physical injury

---

3 Howarth in Mitchell (1997 Chapter 12) provides an important discussion of the language of ‘accidents’ - the definitional connotations of ‘chance nature’ and ‘blamelessness’.
• it has involved hospitalization
• it has carried with it further potential for other traumatic experiences in the experience of hospitalization and rehabilitation and disruption to daily life and functioning (Watts, Anson & Battistel 1997).

Thus, Mayou (in Mitchell 1997 44) concluded from his five year study that, while road accidents are immediately less distressing than many other forms of trauma and associated with less severe intrusive memories, their continuing impact on everyday life is considerable, so that, in the long term, morbidity may be comparable to that reported following rape and other initially more distressing traumas.

**THE CONCEPTUAL FRAMEWORK: THE PATHWAYS TO RECOVERY**

... like any abstract concept, these stages of recovery are a convenient fiction, not to be taken too literally. They are an attempt to impose simplicity and order upon a process that is inherently turbulent and complex.

Herman (1992 155)

Following the experience of serious road trauma, the task before each person is one of ‘recovery’. Yet a glance at the literature, where one would expect lengthy discourses on the various experiences and pathways of recovery, reveals a disappointing reality. Within the major road trauma research, the typically examined pathway of recovery is one that focuses on the moment of the traumatic event, on various negative traumatic consequences, and finally on an eventual stage of recovery or non-recovery. The notion of recovery implicit in this pathway, as will be discussed in Chapter One, is one marked by the abatement of certain psychological symptoms (Harvey 1996), particularly the symptoms associated with posttraumatic stress disorder (PTSD; American Psychiatric Association (APA) 1994).

Over the past twenty years or so, however, a growing body of research on human behaviour in the face of adversity has demonstrated that there is not only one recovery

---

4 Serious road trauma is used to define any trauma/injury that requires hospitalization and usually more than 24 hours of hospitalization. See Chapter Four for further discussion of this issue.
pathway humans traverse in the aftermath of traumatic life events (Carver 1998). People who have survived a range of traumas have been found to experience no change at all (Granot 1996) and others have been found to experience posttraumatic growth (PTG) and other forms of positive change (Affleck & Tennen 1996; McMillen & Fisher 1998; McMillen, Smith & Fisher 1997; Moos & Schaefer 1986; Tedeschi & Calhoun 1995; Tedeschi, Park & Calhoun 1998). With the exception of three studies (Bulman & Wortman 1977; Malt, Blikra & Hoivik 1989; Jeavons et al 1996), the research to date has not begun to address the possibility of positive growth outcomes following road trauma. Nor has the research adequately examined the experiences of those who remain relatively unaffected by trauma experiences. As a result, many of the important qualitative dimensions of the experiences of recovery have been overlooked. The experiences and meaning of recovery for road trauma survivors, as a result, remain unexamined. It is the aim of this thesis to examine these experiences and meanings of recovery.

In Chapters One and Two, the negative and positive psychological consequences of trauma generally, then specifically in relation to road trauma, will be considered. Following this critical review, an ecological model of trauma recovery is developed in Chapter Three, enabling then a focus on risk and protective factors in Chapter Four. Chapter Five overviews the method and the three phases of research - the survey and telephone interviews with a sample of road trauma survivors and the discussions with members of the Australian Association of Social Workers (AASW) Trauma Special Interest Group. Chapters Six to Eleven report the findings of these phases of research. Chapter Twelve then draws the findings together into a number of themes, establishing the implications of applying an ecological understanding of the recovery pathways from road trauma.
CHAPTER ONE

THE NEGATIVE PSYCHOLOGICAL CONSEQUENCES
OF TRAUMA

But those are no more than details to everyone else ... because it is how people react to them rather than what they are that give events whatever traumatic quality they can be said to have. The most violent wrenchings in the world, that is to say, have no clinical standing unless they harm the workings of a mind or body, so it is the damage done that defines and gives shape to the initial event, the damage done that gives it its name.

Erikson in Caruth (1995 184-5)

Research spanning more than a century has identified a number of key psychological disturbances or negative consequences following experiences of trauma. The theoretical understandings of these consequences and their causes are varied, and tend to be interconnected across a number of theories\. Given this complexity, the theories of causation are discussed thematically rather than as belonging within a particular theoretical domain. The dominant themes of the negative consequences of trauma, therefore, include the disturbance of:

a) ego boundaries and libidinal energy
b) cognitive processes
c) personal narratives and worldviews
d) existential understandings
e) usual coping mechanisms
f) neurobiological processes
g) ‘ecological’ domains

Each of these areas of disturbance will be briefly overviewed in this chapter. A summary of these areas is then outlined on page 35 in Figure 1.

5 It is well beyond the scope of this thesis to provide an in-depth analysis of the history and development of the traumatology field. Extensive overviews and critiques have been provided elsewhere. See, for example, Bowman 1997; Caruth 1995; Everly & Lating 1995; Figley 1995; Garland 1998; Herman 1997; Horowitz 1992; Janoff-Bulman 1992; Joseph, Williams & Yule 1997; Kleber, Figley & Gersons 1995; Marris 1993, 1996; O’Brien 1998; Watts & Horne 1994; Raphael 1986; Showalter 1997; Tedeschi & Calhoun 1995; Tedeschi, Park & Calhoun 1998; Wilson & Raphael 1993; Leys 2000; and Harvey & Miller 2000.
THE DISTURBANCES OF TRAUMA

(A) DISTURBANCE TO EGO BOUNDARIES AND LIBIDO

Both patients give us an impression of having been 'fixated' to a particular portion of their past, as though they could not manage to free themselves from it and were for that reason alienated from the past and the future.

Freud in Strachey and Richards (1982:313)

It may happen, too, that a person is brought so completely to a stop by a traumatic event which shatters the foundations of his life that he abandons all interest in the present and future and remains permanently absorbed in mental concentration upon the past.

Freud in Strachey and Richards (1982:316)

Psychoanalytic theory is the earliest and most extensively incorporated theory of the negative consequences of trauma. This body of theory, albeit adapted in many ways, provides the foundation for the current understanding of the trauma experience in its understanding of the disturbances trauma causes to the ego. The development of this body of theory is largely attributed to the work of Freud, although it was significantly influenced by others such as Charcot and Breuer (Gay 1988). The complexities and controversies, both from an historic and theoretical perspective, are well documented and are beyond the scope of this discussion.

In the early understandings of hysteria (Gay 1988), and the use of hypnosis as a means of cathartic release, Freud (1982:324) proposed that in the trauma reaction, links were made between two events in a person’s life - the first being a memory of an early experience that had a traumatic effect, and the second being one that, in some way, connected with this earlier repressed memory. Thus, he argued that neither event was inherently traumatic but the memory of the experience became connected with a trauma response (Leys 2000:20). The influence of early childhood experiences remains central to understandings of adult trauma reactions.

Freud (1982, 1984) proposed that there were four core disturbances of trauma. They

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6 Refer, for example, to Garland (1998), Caruth (1995), Herman (1992), Showalter (1997), and Ulman
included, firstly, the breach of the protective shield around the ego, due to the lack of any preparedness for the anxiety evoked by the event. Secondly, the person becomes fixated on the event, or preoccupied by the event, and as a consequence becomes separated from both the past and the future. Thirdly, he adopted an ‘economic’ view of mental processes, arguing that the overwhelming nature of the traumatic encountered, in presenting too powerful a stimuli in the first place, then led to permanent ongoing disturbances of energy in the individual’s psyche. Fourthly, he argued that there was an accompanying loss of libido - the future fantasy was lost. There was an abandoning of all future interest, as noted frequently in today’s grief and trauma literature (Tedeschi et al 1998 2).

While Freud later (in 1897) infamously retracted his sexual theory of the origins of the trauma response, his work on the traumatic neurosis became heavily influential in the treatment of traumatized World War One soldiers, and remains influential today. Many of these Freudian notions can be seen as implicit notions in both conceptual models of the trauma and grief response, and in therapeutic models. For example, Leick and Davidsen-Neilsen (1991 10) outline the stages of grief, and put the final stage as relating to the ‘experience of having a new future, with new possibilities, new pathways’, similar to the Freudian notion of reinvesting libidinal energy in a new object.

For recovery to occur, according to psychoanalytic theory, there is a need for a conscious connection to be made with the traumatic memory, and for there to be an appropriate cathartic release of emotion (Garland 1998; Laub in Caruth 1995). Many therapeutic models today hold these tasks as essential for recovery. For example, Herman (1992 155) proposes a three-stage model of recovery:

The central task of the first stage is the establishment of safety. The central task of the second stage is remembrance and mourning. The central task of the third stage is reconnection with ordinary life.

Or Weiss (1988 44-45) provides a list of ‘reasonable expectations’ for recovery from grief and loss, echoing many of the disturbances outlined above. He argues that ‘recovery means the return of various aspects of personal and social functioning, and

and Brothers (1988).
it also implies that recovery may be partial or incomplete’. He identifies the list of reasonable expectations as including:

- an ability to give energy to everyday life
- an ability ‘to find psychological comfort (as demonstrated by freedom from pain and distress’
- an ability ‘to experience gratification (to feel pleasure when desirable, hoped-for, or enriching events occur)’
- a sense of ‘hopefulness regarding the future’
- ‘being able to plan and care about plans’
- and an ‘ability to function with reasonable adequacy in social roles as spouse, parent, and member of the community’

Importantly, he emphasizes that rather than being either complete or absent, recoveries ‘tend to be either more or less adequate’ (Weiss 1988 50).

Very similar to the psychological tasks outlined by Weiss are those of Macnab (2000 218) who identifies recovery as occurring in five major areas: feelings, functioning, fantasy about the future, reconstruction and focus of the self, and facilitation of growth and enrichment in the human context. This conceptualization moves beyond Weiss’ in that it includes the issue of spiritual or soul recovery.

If the above begins to provide some conceptualization as to how recovery might be viewed, how is non-recovery conceptualized? Weiss (1988 48) outlines the ‘likely expressions of failure to recover’ and four possible impediments to recovery. These include the fact that the loss may make no sense, the ambivalence towards the attachment figure that can impede emotional acceptance, low sense of self esteem leading to a hopelessness about the future and feelings of responsibility to the attachment figure. While these impediments are specific to grief and loss situations, they may have transferability across to a traumatic situation, particularly the issues of making sense of the event and the importance of a sense of self-esteem.

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7 In this context, the attachment figure is usually either the primary caregiver, in childhood, or the adult/s who come to take on this primary attachment role in adult life.
(B) DISTURBANCE TO COGNITIVE PROCESSES

There is a range of cognitive theories about the negative consequences of trauma, with the core themes of these understandings being:

(1) that the event is so cognitively overwhelming it cannot be processed in the same way as other experiences. Therefore the cognitive processing of the event occurs slowly over time through the oscillating experiences of intrusive and avoidant thoughts (Horowitz, Wilner & Alvarez 1979; Horowitz 1992).

(2) that the event is so cognitively overwhelming that the memory of it is not coded in the same way as normal event memory (Schacter 1996; van der Kolk 1994). Therefore, both different memory storage and retrieval mechanisms apply.

(3) that the event, through its unfamiliarity and unpredictability shatters the assumptions or inner schemas of the individual, so that the worldview that the individual previously held, no longer holds (Janoff-Bulman 1979; Marris 1986, 1996).

From a cognitive perspective, the key to the victim’s recovery is the re-establishment of an integrated memory of the event and a newly organized set of basic assumptions or schemas. In order to do this, the individual oscillates between intrusive memories, thoughts and flashbacks of the experience, and avoidant thoughts until the traumatic event can be assimilated into the survivor’s cognitive world (Horowitz et al 1979; Horowitz 1992; McFarlane 1992). Intrusions are the ‘unbidden thoughts and images, troubled dreams, strong pangs and waves of feelings, and repetitive behavior’. Avoidance refers to ‘ideational constriction, denial of the meanings and consequences of the event, blunted sensation, behavioral inhibition or counter-phobic activity, and awareness of emotional numbness’ (Horowitz et al 1979 210). This state of oscillating between intrusive and avoidant thoughts is matched by a hyperarousal, a readiness for the unexpected event to occur again. Horowitz argued that over time the individual was able to incorporate the event into everyday life, as part of an innate human ‘completion tendency’. These notions of intrusion and avoidance, and later, hyperarousal, formed the key symptoms of a trauma response.

Underpinning this cognitive approach is a number of key assumptions. There is the assumption that:
- each individual holds a consistent worldview or narrative
- a repertoire of learned behaviour is acquired over the lifespan, consistent with this worldview
- the event has the capacity to disrupt this internal coherence
- the impact of the event is primarily cognitive and the resolution of the trauma response requires cognitive integration of the event.
- examining the beliefs and appraisals one has about an event is vital as distortions or faulty beliefs may be maintaining the high level of rumination about the event.

The cognitive approach is complex in that the focus of recovery is on how one perceives the event. Issues of personality and neurobiology then become vital parts of this understanding (discussed in later sections of this chapter). As a result, the cognitive approach can fail to see the impact of other variables on the trauma response, for example, social, economic or political factors.

The diagnosis of Posttraumatic Stress Disorder (PTSD)

The conceptualization of posttraumatic stress as being primarily experiences of intrusion, avoidance and hyperarousal (Horowitz et al 1979; Horowitz 1992) formed the basis of the DSM-III criteria for PTSD. In 1980 the APA included for the first time a diagnostic category for reactions arising from traumatic events in the Diagnostic and Statistical Manual of Mental Disorders IV (APA 1994). The category in the current edition now includes Acute Stress Disorder (ASD), a phenomenon that differs from PTSD primarily in terms of its shorter timeframe of onset and resolution.

The current criteria statement for PTSD (APA 1994) recognizes that,

The essential feature of Posttraumatic Stress Disorder is the development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one’s physical integrity; or witnessing an event that involves death, injury or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm or threat of death or injury experienced by a family member or other close associate.
It is variously specified as being acute (less than three months), chronic (symptoms last for more than 3 months) or with delayed onset (more than 6 months since the event). The lifetime prevalence is estimated to be 1-14%, although other studies have indicated prevalence rates ranging from 3% to 58% for high risk populations (APA 1994 425-426).

The 5 diagnostic criteria include:

a) exposure to traumatic event
b) persistent re-experiencing of event
c) persistent avoidance of stimuli associated with event and numbing
d) persistent symptoms of increased arousal
e) persistence of symptoms as above for a period of more than 4 weeks

Thus, the key features of this diagnostic category are the disturbances of cognitive processes as a direct result of exposure to a traumatic event. Of vital importance in this definition is the recognition of the nature of a traumatic event. This is the only diagnostic category in the DSM that has as its causal factor an event external to the individual, and thus it remains a highly contentious diagnostic category, fraught with political and legal implications.

The widespread appeal of the PTSD diagnosis is at least two-fold:

1) A readily diagnosable list of symptoms gives not only a clear checklist of symptoms on an individual basis, but provides a generalizable yardstick for those involved in subsequent compensation, legal and research processes
2) A ready label exists, validating the devastating experiences people have been through, and while placing it within a psychiatric category, identifies an external source of causation rather than an intrapsychic cause of psychiatric disturbance.

To counteract the widespread appeal of the PTSD diagnosis, there have been numerous criticisms mounted against it. They include:

1) the fact that the diagnosis fails to capture anything but the cognitive experience of distress, ignoring the vast social, spiritual and meaning disturbances or effects of trauma. As Norris (1992 416) suggests, ‘PTSD represents only the tip of the iceberg
in terms of experienced distress’.

(2) that it in fact does not identify people who are having a normal reaction to an abnormal event. The diagnosis of PTSD is a rare diagnosis in the aftermath of trauma, and is not the normal response (Ellard 1997; Yehuda & McFarlane 1995; Young 1995).

(3) the fact that it has been shown to have high co-morbidity rates with other psychiatric diagnoses (see Chapter Four).

(4) while it argues that it is the event that is the causative factor and that any traumatic event has the capacity to affect an individual in this way, it bases its criteria on the cognitive processes of the individual and ultimately comes to pathologize the individual for their reaction (Bowman 1997; Yehuda & McFarlane 1995; McFarlane 1995, 1999).

Thus, as Norris (1992), cited above, suggests, PTSD represents only the tip of the iceberg of the experience of trauma. It is one lens, amongst many, with which the aftermath experience might be understood.

(C) DISTURBANCE OF PERSONAL NARRATIVES AND WORLDVIEWS

Psychologically, victims are between a rock and a hard place ... The victim is stuck between two vulnerable cognitive-emotional choices: pre-existing assumptions that are no longer viable in describing the world and oneself and new assumptions that not only involve a total reworking of prior views, but are themselves extremely negative and threatening.

Hyer, McCranie, Boudewyns and Sperr (1996 93)

In the quotation above, Hyer et al (1996) highlight the dilemma for survivors, in that the pre-trauma ‘world’ and its values they knew can be changed fundamentally as a result of the trauma experience. This change, it is argued, is what causes disruption for the individual as the ‘world’ is suddenly unpredictable and unknowable (Janoff-Bulman 1979; Marris 1986, 1996; Parkes, Stevenson-Hinde & Marris 1991). Given this new unpredictability and instability, the individual’s previously held

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8 For further discussion of the political and legal implications of the development of the PTSD diagnosis, refer to Herman (1992) and McFarlane (1995).
understandings and assumptions no longer help them make sense of what has passed nor what is now their present reality.

The underlying conceptual basis for this argument is found in ego psychology and psychoanalytic models (Howe 1995). It is argued that in the early attachment phase of infancy, normal human functioning arises when the infant can develop a stable, inner representational model of the ‘world’ and their role in it (Bowlby 1981). The stability of the availability of caregivers and the meeting of physical and affective needs is crucial. Stability and vitality as an adult are dependent upon ‘good enough’ experiences of predictable, close attachments with primary caregivers in infancy and early childhood (Winnicott 1968).

Antonovsky’s (1979, 1987) notion of a ‘sense of coherence’ reflects this concept and has been found to be related to better mental health outcomes in a number of studies. A ‘sense of coherence’ is understood to be ‘the pervasive, enduring, though dynamic feeling of confidence that internal and external environments are predictable and there is a high probability that things will work out as well as can reasonably be expected’ (Antonovsky 1987 xiii). The notion of coherence has three underlying dimensions, which are meaningfulness, manageability, and comprehensibility. A traumatic event has the potential to bring these three areas of coherence into disarray.

In this sense, there is an argument for cognitive conservatism, or as Marris suggests, ‘the conservative impulse’ (Marris 1986 5-22). That is, human beings strive to keep the world as predictable and knowable as possible, in order to minimize anxiety and to maximize successful functioning.

In view of these underpinning notions, two major areas of thought have addressed these disturbances:

**Shattered assumptions**

Janoff-Bulman (1979 6) developed her widely accepted notion that the trauma experience shatters some or all three fundamental assumptions. She proposes that the three core assumptions that individuals carry are that the world is benevolent, the
world is meaningful and the self is worthy. There are, however, difficulties with this model. As pointed out by Leys (2000), there are difficulties in verifying that these three assumptions are, in fact, the core assumptions that individuals carry with them and that in turn they are ‘shattered’ by the experience of trauma. Leys comments on the wide popularity of such notions but lack of data supporting their credibility as core trauma disturbances.

**Discontinuities in narratives**

*Creating a narrative about one’s life is an imaginative enterprise, too, in which an individual links disruptive events in a biography to heal discontinuities - what should have been with what was.*

Reissman (1994 114)

*Disrupted narratives take two forms: those that are chaotic, and those that are conflictual. In both cases, an existing and previously adequate life narrative is challenged by the loss and ceases to provide a coherent structure for integrating past experience, enacting a meaningful social role in the present, and projecting into the future.*

Neimeyer and Levitt in Harvey and Miller (2000 404-405)

Consistent with this model of disturbed inner schemas, increasing attention has been paid to the importance of developing a testimony or a coherent narrative of the traumatic event (Laub in Caruth 1995; Reiter 2000; Neimeyer & Stewart 1996; Neimeyer & Levitt in Harvey & Miller 2000). Similar to the notion of shattered assumptions, Neimeyer and Stewart (1996), for example, propose that the event is initially beyond words and beyond meaning for the survivor. Thus, the event creates a discontinuity in the individual’s narrative of themselves and their place in the world. The event literally does not fit in the worldview that has been held up until this point. Frankl (1984 135), the founder of logotherapy (the forerunner to narrative approaches), argued that ‘In some way, suffering ceases to be suffering at the moment it finds a meaning, such as the meaning of a sacrifice’.

The testimony, Gist and Lubin (1999 338) argue, is about seeing that,

* Telling one’s story is more than merely recounting the events of one’s personal encounter with disaster; it is a complex, multi-faceted, coping strategy that should not be discounted as unnecessary or minor in the often chaotic wake of such events.
The testimony not only includes the individual story of the survivors; it aims to include the historical and sociopolitical context in which the experience took place.

At an individual level, the two central tasks of recovery are, firstly, about addressing the basic psychological processes and secondly, joining the traumatic self and the associated narrative with the pre-existing selves and the primary narrative (Neimeyer & Stewart 1996). Both Herman (1992) and Laub (in Caruth 1995) explore the notion that recovery is dependent upon the development of a testimony, or as Laub defines it, an internal witness. This is encapsulated in the words Herman (1992 202) proposes could stand as an emblem and final stage of recovery - ‘I know I have myself’.

This process is argued to involve more than just a strong internal witnessing. At a social level, it is often about addressing the external inequities in a public manner. Herman (1992 181) argues that the trauma and the recovery must become a source of a survivor mission, whereby there is some form of externalizing the internal recovery process - ‘Testimony has both a private dimension which is confessional and spiritual, and a public aspect, which is political and judicial’. Thus, the role of the recovery environment is also critical, as Chapter Four outlines.

Psychological recovery, therefore, involves the re-establishment of an intra-psychic and social narrative or testimony. Frazier and Schauben (1994 3), for example, reflect this in their recovery criteria for rape victims: ‘Recovery was assessed in terms of psychological symptoms and disruptions in basic beliefs about one's self and others’. Such a recovery model is consistent with the cognitive perspective of trauma - that the negative effects of trauma are the shattering of cognitions that affect well being, thus the recovery process involves the reconstruction of these worlds or inner schemas.
(D) DISTURBANCE OF EXISTENTIAL ISSUES

The prisoner who had lost faith in the future - his future - was doomed.

Frankl (1984 95)

Traumatic events which rob us of the attachments and purposes around which the meaning of life has been organized - like bereavement or losing a career - provoke an anxious, intense and often despairing search to recover a sense of meaning.

Marris (1996 117)

For survivors, the experience of trauma is perhaps most sharply marked by the distress and suffering it leaves in its wake. There is the horror and shock that define the reactions to the event itself, and there is the continuing distress and suffering in the aftermath. Yet this human experience of suffering tends to be either curiously absent or a sanitized element of much of the trauma discourse. Its absence is curious because so widely accepted as central to the definition of trauma is the notion that there has been, if not a real threat to life, a perceived threat to life. Thus, immediately existential themes seem central in that road trauma presents the individual with the experience of threat to life and the confrontation with death. In the wake of this experience there is frequently a reviewing of the purpose of life and its inherent as well as specific meanings.

The trauma research is characterized by a language of trauma symptoms and behaviours, rather than by a language of human suffering and distress. The existential discourse is typically sidestepped by many of the dominant researchers who have tended to focus on the far more readily quantifiable cognitive reactions (Blanchard & Hickling 1998 292).

The existential discourse has primarily grown out of the recent literature focussing on the Holocaust and other survivors of mass human destructiveness. The theorizing revolves around the subjective works of survivors such as Frankl (1984) and Bettelheim (1991). Eitinger’s (1961) later study on the effects of prolonged, deliberate trauma and torture inflicted as a result of the Holocaust, and most specifically, through the concentration camp experience, has also been influential. This is a discourse that has emerged from the very survivors of those experiences, rather than
from some of the more objective, quantified bodies of research. It is also reflected strongly within individual survival accounts of road trauma, such as those provided by Durham (1997), Eisendrath (1997), Moore (1991) and Traynor (1997).

This existential perspective offered a significantly different exploration of the trauma response and the possibilities for recovery, placing hope, the search for meaning and human connectedness at the centre of its theory. The existential discourse offers a language of experience or suffering that defines human attempts to come to terms with four major themes often disturbed by trauma - death, freedom, isolation and meaningfulness (Lifton 1988; Yalom & Lieberman 1991; Leick & Daivdsen-Neilsen 1991). Thus, the key areas of focus include the nature of human suffering, the will to live (Kahana, Kahana, Harel & Rosner 1995) and the search for meaning in such suffering (Marris 1986, 1996). Given that road trauma has such an inherent threat of death, it is no surprise that Blanchard and Hickling (1995 292) found that ‘fear of death and graphic reminders of one’s mortality’ were common themes of their survivor group.

The implications for recovery are that the core task is the restoration of the continuity of meaning (Marris 1996 48) or a coherent worldview that incorporates the traumatic experience. There is also an argument that recovery and restoration of meaning leads to a wider connection with humanity. As Lifton (1988 8) suggests, ‘we find in each case a struggle to reinstate a larger human connectedness or a sense of being’. Thus, there may be a new connection with or concern for others (Macnab 2000 10-11), or an involvement in community advocacy (Herman 1992; Blankenship 1998).

While there has been acknowledgment of the central importance of existential issues, (for example, threat to life or perceived threat to life is one of the core diagnostic criteria for PTSD), there has been little attention paid to these issues within research methodologies. This is no doubt a result of the perceived difficulties in operationalizing terms associated with existential concerns. As distinct from the checklist notions associated with PTSD symptomatology, for example, the existential domain presents a multitude of challenges to the researcher.
(E) DISTURBANCE OF USUAL COPING MECHANISMS

According to Lazarus and Folkman's (1984) cognitive-phenomenological model of stress, coping is defined as the person's cognitive and behavioural efforts to master, ameliorate, or tolerate external and internal demands and conflicts created by stressful person-environment transactions. Hyer et al (1996 300)

In addition to viewing trauma as disturbing the experience of self and the world, it is understood to disturb the usual coping mechanisms, thus often making usual or known coping efforts redundant in the face of trauma. This has focused attention on what types of coping effort are most adaptive. Research has consistently found evidence that active, approach-oriented coping strategies leading to better levels of adjustment, in contrast with passive, avoidant coping strategies (Aldwin 1993 1; Charlton & Thompson 1995; Hyer et al 1996; Clements & Sawrey 2000).

In examining the coping strategies of trauma survivors, for example war veterans, it has been found that the majority tend to use emotion-focused and avoidant coping strategies (Hyer et al 1996 307), leading to poorer coping outcomes. Hyer et al also found that planful problem-solving (10%), seeking social support (9%), and positive reappraisal (7%) were the least frequently used coping methods.

Another important distinction is between coping effort and coping efficacy. As Aldwin (1993 2) states, ‘more coping is not necessarily better coping’. Coyne, Aldwin and Lazarus’ (1981) study of depression and coping in stressful situations, for example, is frequently cited, whereby they found that in fact chronically depressed individuals use more coping strategies than non-depressives. What their study highlighted was that the depressed individuals did ‘not know which strategies work or how to match their coping efforts with the seriousness of the problem’ (Aldwin 1993 2; also discussed in Coyne & Downey 1991 414-6).

These findings raise important questions about the influence of personality on the ability of someone to cope adaptively with a traumatic event. An interesting distinction between personality characteristics and coping mechanisms has been made by Lazarus and Folkman (1984). They have argued that ‘stable individual characteristics can be conceptualized as moderator variables (that is, present at the
outset of a person-environment transaction), and coping as a mediator variable (i.e. emerging from the transaction between the person and the environment)’ (as cited in Hyer et al 1996 302).

Coping mechanisms are activated after an initial appraisal of the event - thus, Aldwin (1993 1) states, following Lazarus and Folkman (1984),

Stressful appraisals include whether the situation involves threat, harm, and/or loss, and are a function of both the person (beliefs, values, commitments, and personal preferences) and the situation (e.g. its controllability).

There is inevitably a close and complex relationship between personality and coping mechanisms. Social workers and others working in the trauma area, however, clearly do not believe that recovery is solely a matter of personality. There is a belief in the effectiveness of intervention, at an intra-psychic, an interpersonal and a social level, and knowledge of its possibilities. While undoubtedly personality plays an important role, it does not account entirely for the picture of recovery that is seen. The assumption that recovery is largely a matter of personality is both counter-intuitive and counter-experiential.

(F) DISTURBED NEUROBIOLOGICAL PROCESSES

Extensive work has been undertaken in recent years to understand the biological (Ver Ellen & van Kammen 1990) and neurobiological processes involved in the trauma experience. This has in part been driven by the debates around False Memory Syndrome and the differences between traumatic and non-traumatic memory storage and retrieval processes (Schacter 1996). The research has focussed on the role of, particularly, the anterior hypothalamus, the amygdala and the hippocampus (van der Kolk 1994; Schacter 1996; Southwick & Yehuda 1997). Of particular interest has been the way in which exposure to certain stressful situations activates these receptors, and endorphin secretion results, raising the possibility that the trauma response is a hormonal response. Strong arguments are developed by Schacter (1996) and van der Kolk (1994) for the unique form of memory storage that then takes place, with normal memory processing pathways being overwhelmed by the trauma experience. Research is also examining the longer term physiological effects of the
initial trauma response.

Consideration of these disturbances is beyond the scope of this thesis. It is important to note that research is continuing in this area, and, as Leys (2000) argues, it is a popular theory for its strong links with neuroscience and neurobiology, away from the subjective domains of interpretation and meaning.

**G) Disturbance of ‘ecological’ domains**

To a much lesser extent, the negative impact of trauma is viewed as multifaceted or ecological (Harvey 1996; Herman 1992; Caruth 1995; Tedeschi & Calhoun 1995; Tedeschi et al 1998). In addition, the attempts to be multifaceted or ecological, as the following discussion will emphasize, remain unsatisfactory.

Most trauma models focus solely on the nature of the event and the individual’s capacity to psychologically respond and recover. There are, however, a number of models that take account of the fact that the trauma and the individual is ever occurring outside a social context. This context includes a vast range of cultural, financial, political, and sexual factors. How the individual is incorporated within this context post-trauma will have a significant impact on their recovery and thus the ecological models emphasize the ‘post-crisis environment’ (Tedeschi et al 1998), social support, access to resources and stability of functioning from the pre-crisis environment.

Harvey (1996 11-13) offers a multidimensional definition of recovery in her ecological model. She proposes that the ecology of trauma is best understood using a ‘person x event x environment’ model. In outlining the model, she argues that recovery from psychological trauma is a multidimensional phenomenon, and is marked by seven outcomes: ‘authority over the remembering process, integration of memory and affect, affect tolerance, symptom mastery, self-esteem and self-cohesion, safe attachment and meaning-making’.

It is ironic, however, that this model, which purports to be providing an ecological
perspective, offers no such ecological theorizing in the proposed seven criteria for the resolution of trauma. All seven factors remain individual intra-psychic factors, with no attempt to integrate the influence of the significant environmental elements. The model is, more accurately, a global psychological model rather than an ecological one.

While the discussion to date has focussed on the ways in which individuals are negatively psychologically or psychiatrically affected in the aftermath of trauma, equally devastating have been changes in other zones of psychosocial functioning - socially, spiritually, legally, and financially. An ecological perspective maintains that these are, as well as risk and protective factors, potentially key disturbances in their own right. These issues are reviewed in Chapter Four.
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<td>moving towards new ways of coping, primarily problem-focussed ways of coping</td>
</tr>
<tr>
<td></td>
<td></td>
<td>finding appropriate coping strategies for the given situation</td>
</tr>
<tr>
<td>neurobiological</td>
<td>- exposure to stressful situations overstimulates the amygdala and hypothalamus, leading to endorphin excretion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- memory storage processes are different as a result</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>uncertain given hypotheses of permanent damage to neurobiology</td>
</tr>
<tr>
<td>ecological</td>
<td>- trauma interrupts all the domains of an individual’s life - the biological, the psychological, the social and the spiritual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- active adaptation is required to maintain homeostasis of functioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>return of balance to all areas of functioning</td>
</tr>
</tbody>
</table>

Figure 1: A summary of the themes of the negative psychological consequences of trauma
THE NEGATIVE CONSEQUENCES OF ROAD TRAUMA

We know very little about the quality of life of such individuals after recovering from the most critical phase and, in particular, after discharge from hospital: their needs, the difficulties they encounter and how they cope with them, the nature and quality of social support experienced from significant others, the impact of the traumatic experience and physical injuries on individuals’ self-perception and identity.

Cagnetta and Cicognani (1999 553)

Seven different disturbances have been identified as the negative psychological consequences of trauma. Applying these frameworks to the road trauma research reveals an overwhelming dominance of a cognitive understanding of disturbance. This research has focussed on two major types of consequence:

(a) PTSD and other psychiatric consequences following road trauma and the range of factors, predominantly intra-psychic, that influence and predict these consequences.

(b) the psychosocial consequences.

The Australian and international road trauma research is discussed in relation to these two types of consequence.

PSYCHOLOGICAL AND PSYCHIATRIC CONSEQUENCES OF ROAD TRAUMA

Specific to road trauma experiences, the commonly identified psychological and psychiatric consequences include organic mental disorders, acute stress disorders and reactions, emotional distress (anxiety and depression), posttraumatic syndromes (PTSD and phobic travel anxiety) and alcohol and substance abuse (Mayou 1997 38).

Most of the attention has been directed towards the identification of posttraumatic stress symptoms.

On the Australian scene, a number of studies of the outcomes of road trauma have been undertaken over the past decade, typically involving populations of survivors from the time of hospitalization through their first year of recovery, or clinical samples. For example, Horne (1993, 1994, 1997) has written extensively about the
issues surrounding PTSD and road trauma, primarily through discussing his analysis of a very small number of case histories. He found 43% of his sample (N=7) were diagnosable with PTSD, according to DSM-IIIR criteria.

Green, McFarlane, Hunter and Griggs (1993) undertook a pilot study to ‘determine the patterns of emergence of PTSD’ among road trauma survivors. Through a longitudinal study over an 18 month period, they followed 24 patients of the Royal Adelaide Hospital. They found that at 18 months, 25% had clinically significant PTSD. PTSD was unrelated to the severity of the injury experienced and the nature of the accident, but rather related to the perceived threat to their lives. They also noted that higher earlier distress (as measured by the GHQ, the Zung Depression Scale, and the IES) was a marker of later vulnerability to chronic symptoms. Given a 52% response rate, which they considered low, the suggestion is made that this sample may be under-representative of those experiencing PTSD. They conclude that at least one third of their sample developed PTSD.

Gordon, Blaszczynski, Silove, Hillman and Sloane (1995) examined, using a semi-structured interview, how 25 road trauma survivors were adapting in the first ten days then at 4 weeks, 9 months and 18 months post discharge from hospital. The mean score for the Impact of Event Scale (Horowitz et al 1979), a measure of posttraumatic stress symptoms (discussed in Chapter Five) was found to be 28.3, lower than Horowitz et al’ (1979) findings. In a subsequent paper (Blaszczynski, Gordon, Silove, Sloane, Hillman & Panasetis 1998) they argued the need for methodological consistency, given the enormous range in estimates of PTSD and other psychiatric sequelae following road trauma.

Atchison and McFarlane (1997) undertook a study that examined the patterns of acute psychological response to road trauma, whereby 120 clinical interviews were conducted in the first 24 hours following injury, then 2 and 10 days following this time. They concluded that PTSD did not have a predictable course, rather that it seemed to follow four patterns. Their survivors demonstrated absence of distress and good recall, hyperamnesia without affect, intense intrusion, and overt distress. As a result, they concluded that it did not begin at the time of the trauma but emerged in the aftermath period.
Bryant and Harvey (1995, 1996a, 1996b, 1997) have conducted a number of studies examining PTSD and ASD following road trauma. In their 1995 study, they examined the ways in which event-related and response-related factors predicted levels of posttraumatic intrusions in 56 survivors, some 12 months after their accident. Using the Impact of Event Scale (IES, Horowitz et al 1979) as a measure of PTSD, 46% of their respondents reported significant levels of posttraumatic stress, and were distinguished from others by ‘reporting more fear of future MVA’s’ (Bryant & Harvey 1995 633). An avoidant coping style was found to be predictive of posttraumatic intrusive symptoms.

Watts (1994) followed up 29 of 38 survivors of a bus accident in Queensland, 1990, in which 11 people were killed and the other survivors all required hospitalization. At a 13 month follow up, 52% had severe IES subscores (20+) and 79% had psychiatric disorders as measured by the GHQ. The exposure to the dead and injured at the scene of the accident was considered particularly significant in the high numbers reporting ongoing psychological difficulties.

On the international scene, a number of major studies have been conducted, with larger samples and over longer periods of time. The most prolific research has come from the work of Blanchard and Hickling in the United States, and Mayou and his colleagues in England.

Blanchard and Hickling’s (1998) text, After the Crash, was published after a 5 year, longitudinal study conducted in Albany, New York. Multiple papers have been written as a result of this detailed work, focussing primarily on the incidence of PTSD in survivors of road trauma. The Albany MVA project involved 158 survivors of road trauma, along with 93 individuals demographically matched but not exposed to road trauma, primarily at 1-4 months post-accident, 6 months and one year. They were extensively assessed, using both interview and survey methods, on a range of psychiatric and psychosocial measures. Using the IES to diagnose PTSD, they found that 59% of their sample met the criteria set by Bryant and Harvey (1996) for PTSD, that is, based on an IES score greater than 30.

\[^9\] MVA stands for motor vehicle accident
In conjunction with Taylor, Loos, Forneris and Jaccard, Blanchard and Hickling (1993) examined the possibility of being able to predict who developed PTSD as a result of a road trauma. Interviewing 158 survivors at 1 and 4 months post-accident, they found that 39% of their sample met the DSM-III criteria for PTSD. They also found that it was possible to predict for 70% of the sample who would develop PTSD using four variables: prior major depression, fear of dying in the MVA, extent of physical injury and whether litigation had been initiated.

From the major study, they concluded that, unlike other studies, that the extent and severity of physical injuries did play a part in the development of psychological symptoms, an issue discussed in Chapter Four.

Other major international studies of road trauma and its aftermath have been undertaken in England. Mayou, Bryant and Duthie (1993) undertook a study through the Emergency Department of the John Radcliffe Hospital in Oxford, in which they interviewed 188 road trauma survivors initially, then repeated the baseline measures at 3 months and one year. They monitored over this period a number of possible psychiatric symptoms and concluded,

Almost a quarter of subjects described psychiatric complications at one year. The extent and pattern of the continuing emotional distress were similar to those described after other medical conditions, and at one year, the prevalence of the disorder was over twice that expected in the general population. It was particularly likely in those psychologically and socially vulnerable, but was also strongly associated with chronic medical impairment and social, financial, and work problems at one year (Mayou et al 1993 650).

Importantly, they found that post-traumatic symptoms were unrelated to past emotional problems, but that posttraumatic stress disorder and travel anxiety were in fact ‘strongly predicted by initial ‘horrific’ and intrusive memories of the accident’ (Mayou et al 1993 651). Elsewhere, Mayou (1997) argues that phobic anxiety associated with daily travel is the more debilitating consequence than PTSD.

Mayou, Tyndel and Bryant (1997) followed the sample (N=111) from the above study for 5 years post-accident, to establish the longer-term psychological outcomes, and to
identify predictor variables. They found that 44% reported that they were fully physically recovered, and that 55% reported ‘some adverse effect on the four domains of quality of life’ (Mayou et al 1997 580) that were assessed. These were leisure, social activities, relationships with family and friends and job satisfaction. While 14-40% reported adverse effects across these domains, as a result of the accident, several subjects reported improvements. 8% of this sample at 5 years was diagnosed as having PTSD, although Mayou et al (1997 582-3) note that there were changing patterns:

11 had acute onset before 3 months of which 8 were still cases at 1 year and 1 at 5 years; 3 had onset between 3 and 12 months, all improved at 5 years; and 8 had late onset at 5 years

They also found that physical difficulties were strongly associated with PTSD.

In another Oxford study, Hobbs, Mayou and Worlock (1993 in Mitchell 1997 166-169) looked specifically at 114 individuals admitted to hospital following road trauma. In their endeavours to study the impact of psychological intervention, these survivors were assigned to an intervention group or a control group for counselling. The IES and Brief Symptom Inventory were administered, and treatment was found to have no impact on the ongoing vulnerability to distress. In fact, the intervention group were found to be experiencing ‘symptom deterioration’ in comparison to the control group. A sub-group with initial high IES scores remained high on these scores at follow-up, indicating a continuing vulnerability to psychiatric problems.

The London Study similarly attempted to demonstrate the impact of counselling intervention on the later development of posttraumatic stress symptoms. Stevens and Adshead (1993 in Mitchell 1997 163-165) randomly assigned 63 individuals to a counselling or uncounselled group. The sample included those who were survivors of road trauma as well as those who experienced physical assaults with minor injuries. Thus, like Malt’s (1988) sample, discussed later, it was unclear as to the impact on the specific group of road trauma survivors from the data presented in the findings. It is important to note also that one third of the original sample did not participate in the follow-up assessment, potentially giving a bias to the reported findings.

Using the IES, the Beck Depression Inventory (BDI) and the Spielberger Self
Evaluation Questionnaire (SSEQ), the symptomatology of individuals was assessed, with a diagnosis of PTSD being made on the basis of the addition of the IES score, and selected responses to the SEQ and the BDI. From assessments conducted at 1 week, one month and three months, they concluded that 38% of their sample developed PTSD as a result of their accidental injury. In this study, one of the major determinants as to who would develop posttraumatic stress symptoms related to the predictability of the event rather than the severity of the event or the injuries.

Overall, both the Oxford and London studies were intended to test whether a ‘single, early, clinically feasible psychological intervention could reduce the incidence and severity of posttraumatic psychopathology’ (Hobbs & Adshead in Mitchell 1997 163). The intervention had vastly different outcomes from those anticipated.

The interest in the general population prevalence rates of PTSD led to two major surveys conducted in the United States and some important findings in relation to the prevalence of road trauma. Breslau, Davis, Andreski & Peterson (1991 17) conducted interviews with 1007 young adults and found that 9.2% had developed PTSD among the 39.1% who had suffered at least one traumatic event. Within this group, 9.4% were involved in serious road accidents, with 11.6% of those developing PTSD.

One of the more frequently cited studies looking at the incidence of PTSD within the general population is a survey of 1000 people conducted by Norris (1992). In this study, she found that 23.4% were likely to experience a road accident in their lifetime, with 2.6% having done so in the last year. She found, of those who had experienced road trauma, that 11.7% met the criteria for PTSD, and thus estimated the lifetime chances of road trauma related PTSD were 2.5 per 100.

In addition to examining the incidence of PTSD from the time of the road trauma, research has focussed on the prevalence and prediction of late-onset PTSD. The findings have been mixed, with Blanchard and Hickling’s (1998 154) finding that no survivors classified as ‘non-PTSD developed delayed onset PTSD’ and Mayou et al’s (1997) finding strong evidence of shifting patterns of PTSD onset.

Blanchard and Hickling (1998 32-34) thus conclude from the above general
prevalence studies and the specific international studies of road trauma that, it appears that 10% to 45% of survivors of serious MVA’s (defined as one in which someone is injured sufficiently to require medical attention) may develop PTSD either acutely or within a year of the MVA. This wide range of percentages highlights the large degree of mental and emotional suffering resulting from MVA’s in this country.

This finding is reinforced throughout a number of studies and is held as being the general consensus on the incidence of PTSD (Watts et al 1997).

Malt’s study (1988) undertaken with a sample of 107 accident survivors who were treated in a Norwegian hospital, however, has been one of the few studies to find no evidence to support this finding. This was a prospective study, whereby 46% of the sample were survivors of road trauma. Contrary to the other research cited, this study found only one survivor was experiencing PTSD according to the DSM-III criteria, and 3 other subjects were experiencing post-traumatic stress symptoms. He also noted that it was the subjective perception of loss of functioning that was ‘the main psychological trauma’ (Malt 1988 816) and that depressive disorders and organic mental disorders occurred more often than anxiety disorders normally associated with road trauma survival. The conclusion drawn by Malt (1988 817) was that ‘long term psychiatric consequences of accidental injuries occur less frequently than might be expected from previous studies’.

As the discussion to date has demonstrated, the dominant concerns of the current research in the trauma field are the psychiatric consequences. This is reflected in the vast majority of research studies currently being undertaken and their focus on the experience of PTSD and ASD. This psychiatrization has led to the development of an area of research that attempts to identify those at risk of developing PTSD and attempts to estimate the incidence of a range of psychiatric disorders. One such attempt is outlined in Table 1 overleaf (Harrison 1999 19).

What seems to be repeatedly emerging from these studies, but overlooked, is the fact that the ongoing psychiatric consequences are compounded or even caused by the associated losses implicit in the road trauma consequences or losses – for example, the loss of finances, physical mobility, occupation, and social support. The
presumption that PTSD is the most important cost of road trauma has clouded some of the research findings which explicitly and poignantly suggest that it is the presence of the physical and psychosocial sequelae that repeatedly gives rise to some of the complications. Davis (1999) refers to this continuing focus of research as the psychiatrization of trauma recovery.

### Table 1: Estimates for psychological disorders following road trauma

<table>
<thead>
<tr>
<th></th>
<th>ASD</th>
<th>specific (driving) phobia</th>
<th>PTSD</th>
<th>major depressive disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>estimate of incidence following injury in a crash</td>
<td>13%</td>
<td>15%</td>
<td>30%</td>
<td>&gt;14%</td>
</tr>
<tr>
<td>estimate of no. of Victorians injured in 1997 likely to meet diagnostic criteria</td>
<td>3,100</td>
<td>3,500</td>
<td>7,100</td>
<td>&gt;3,300</td>
</tr>
<tr>
<td>estimate of lifetime risk of disorder after crash involvement</td>
<td>5.7%</td>
<td>6.6%</td>
<td>13.1%</td>
<td>&gt;6%</td>
</tr>
</tbody>
</table>

These studies have also been characterized by being typically short term in their focus, in that they follow people until the first year after their accident. Importantly, from a methodological point of view, they follow survivors from the point of admission to hospital or they follow a clinical sample (Horne 1994). This may mean that survivors learn the language of PTSD from the very beginning of their recovery, and thus are alerted to issues of intrusion and avoidant ‘symptoms’. The involvement in research from this early point in the aftermath may also be an intervention in itself in that it encourages the monitoring of specific sorts of posttrauma behaviours and it validates the fact that an accident is a significant event, worthy of intensive research.

Recently, a number of more broadly focussed studies have emerged in an attempt to widen the understandings that prevail about the recovery process from road trauma.

**Psychosocial disturbances in the aftermath of road trauma**

Four more psychosocially-oriented research projects have been conducted. Malt et al (1989) followed 551 hospitalized accidentally injured adults, 35% of whom were road trauma survivors, over a three-year period. They found approximately half of their survivors were experiencing one or more negative outcomes up to three years after the accidental injury (Malt et al 1989 90) with about 20% claiming ‘worsened
psychological health’, 46% worsened physical health, worsened 9.3% worsened economic wellbeing, and 22% worsened social wellbeing. There is some difficulty in interpreting these findings for road trauma survivors, given that they were little more than one third of the sample.

Using similar research instruments, Jeavons et al (1996) conducted a large scale study of those admitted to a regional country hospital following road trauma, either as an in-patient or an out-patient. The study was designed to assess a range of experiences in the period of time since the road accident. Using the Late Effect of Accidental Injury Questionnaire (LEAIQ; Malt et al 1989), survivors were asked to respond to a variety of questions relating to physical, occupational, social, psychological, financial and treatment effects subsequent to an accident in the previous two years. These findings are reported at various points in Chapter Four, however, their psychological health was assessed by asking ‘How do you think your psychological health (‘nerves’) has been after the injury?’ (Jeavons et al 1996 32). 67% of the sample reported that their psychological health was worse, and 33% reported it was the same, with 98% of those reporting change attributing it to the accident. While this question seems to be a very non-specific assessment of psychological health, and is highly dependent upon the interpretation placed upon the word ‘nerves’, it highlights the subjective experience of psychological difficulty that is considerably higher than reports of PTSD.

Oxley and Fildes (1993 1), through the Monash University Accident Research Centre (MUARC), conducted a pilot study of the long-term effects of road crashes. They administered a questionnaire by phone to 26 patients previously part of a Monash University Accident Research Centre study, to examine some of the psychosocial consequences of road trauma. Thus they sought to ‘identify the types of long-term consequences to people involved in road trauma, comprising physical, psychological and social disabilities, impairments, as well as community and financial hardships’. Most had returned to work, many reported greater anxiety and reduced self confidence, and 58% acknowledged the impact of the accident on their personal or family life (Oxley & Fildes 1993 36-38). No measure of PTSD was used.

Using a radically different approach to road trauma research, Cagnetta and Cicognani (1999) undertook a qualitative study of 20 people who had been involved in serious
traffic accidents in Italy. They interviewed 14 males and 6 females who had spent several months in an intensive care unit as a result of the accident. The interviews took place at times ranging from 2-11 years post the accident.

Adopting a grounded theory approach they concluded that there were four distinct temporal phases by which to best identify the themes of road trauma recovery. They classified these as being ‘living in the ‘past-present’’, whereby the individual used coping strategies that had been successful in the past; ‘living in the present’ whereby the individual concentrated on the ‘here-and-now’, ‘living in the future’ whereby the individual could project themselves into a future with new aims and ‘being’, whereby the individual was able to find some peace in daily living once again. The ‘being’ phase related to a final stage of recovery, a stage of adaptation.

The defining characteristic of this latter group was their ‘rich social life’ through work (paid or volunteer) and membership of clubs. They (Cagnetta & Cicognani 1999 559) concluded:

The lack of social support from people outside the family, which is particularly important after the first phase of the adaptation process, brings about the risk of being imprisoned in the stages of present or future, without finding a way out. If pessimism and feelings of powerlessness become prevalent, it becomes very difficult to achieve a sense of well-being.

While there are difficulties in generalizing from such a small sample, and from a study that did not investigate a range of contextualizing variables (such as age, time since accident, severity of injury, presence of ABI, and PTSD, for example), these findings do coincide with a number of important themes for this thesis. Most importantly their aim (Cagnetta & Cicognani 1999 561-562) was to address, the experience of severely injured traffic accident survivors trying to restore a sense of well-being and control over their own lives following the trauma.
CHAPTER TWO

THE POSITIVE PSYCHOLOGICAL CONSEQUENCES
OF TRAUMA

We just don’t know enough about growth yet to be able to define it well

Maslow (1968 24)

To make these observations is not to callously disregard the real pains and trauma that individuals, families and communities confront; nor is it to blithely turn away from the realities of abuse of all kinds inflicted on children; nor is it to deny the tenacious grip and beguiling thrall of addictions. It is, however, to forswear the ascendency of psychopathology as society’s principle civic, moral and medical categorical imperative. It is to denounce the idea that most people who experience hurt, trauma and neglect inevitably suffer wounds and become less than they might be.

Saleebey (1997 4)

As the brief overview of Chapter One demonstrates, a great deal has been written about the negative consequences of trauma from a range of perspectives. This approach to understanding trauma has importantly sought to establish the problematic aspects of recovery for individuals in the aftermath of trauma. The research has been so dominated by a focus on PTSD, to the virtual exclusion of other domains of a person’s life, however, that this is the only ‘lens’ with which trauma generally, and road trauma specifically, has tended to be understood. This chapter considers some of the positive ways in which survivors can be affected by trauma. Such a focus on growth and positive change begins to open up some of the different ways in which individuals make their recoveries.

THE GROWTH EXPERIENCES

As alluded to in the Introduction, survivors of traumatic life events frequently report experiences of positive, unanticipated change and growth in the aftermath of these events. Researchers such as Moos and Schaefer (1986), and more recently, Tedeschi and Calhoun (1995, 1996, 1999), Carver (1998), Updegraff and Taylor (2000), Raphael and Dobson in Harvey and Miller (2000), Janoff-Bulman and Berger (2000),
McMillen and Fisher (1998), Blankenship (1998) and O’Leary and Ickovics (1995) have called for trauma aftermath reactions to be viewed with this wider lens.

Since the 1980’s at least, concepts have been evolving around the notion of the possibility of positive outcomes from trauma. As Tedeschi et al (1998 2-4) note, these positive changes have been variously referred to as positive psychological changes (Yalom & Lieberman 1991), perceived benefits or construing benefits (Calhoun & Tedeschi 1991; McMillen, Zuravin & Rideout, 1995; Tennen, Affleck, Urrows, Higgins & Mendola 1992), stress related growth (Park, Cohen & Murch 1996), thriving (O’Leary & Ickovics 1995), positive illusions (Taylor & Brown 1988), positive reinterpretation (Scheier, Weintraub & Carver, 1986), drawing strength from adversity (McCrae, 1984) and transformational coping (Aldwin 1994). The possibility of positive outcomes is also an implicit component of the strengths perspective (Rapp 1998; Saleebey 1997) which emphasizes a focus on individual strengths rather than deficits in human coping and adaptation.

While each of these notions differs slightly, they each capture in some way how individuals are able to notice positive changes in the aftermath of various life traumas that they had experienced, that there had been some kind of enhanced experience. These positive consequences are most consistently reported in three areas. These areas of change relate to changes in self-perception, changes in relationships with others and changes in worldview (Taylor 1983).

(A) ENHANCED PERCEPTIONS OF SELF

There are various ways in which changes or enhancements to self-perception are experienced. The common theme of these perceived changes is that there is a deeper sense of self-awareness or capacity for self-reflection, and that these changes are experienced as positive changes or gains.

Schaefer and Moos (1986, 1992) conceptualize changes in self-perception as occurring in two ways - enhanced personal resources and enhanced coping skills. In relation to enhanced personal resources, they identify the following factors - more cognitive differentiation, assertiveness, self-understanding, empathy, altruism, and
maturity. It then follows that enhanced coping skills include such factors as the ability to think through a problem logically, to seek help when needed and regulate affect (Schaefer and Moos, 1992 as cited in Tedeschi et al 1998 101).

Tedeschi and Calhoun (1995) state that positive changes in self perception include an increased sense of self-reliance, and a sense of being a stronger person. This leads to self-evaluations of greater competence in difficult situations and therefore greater confidence. McMillen & Fisher’s (1998) study identified different personal changes again, with the aspects of personal growth including the perceptions of becoming a nicer person, stronger, more spiritual and making changes in life priorities.

No doubt there is a strong cyclic link here between the experiencing of successfully enhanced coping skills repertoire and enhanced experiences of personal mastery and insight (Argyle 1987).

(B) ENHANCED RELATIONSHIPS WITH OTHERS

The enhanced relationships with others identified by McMillen & Fisher (1998) included an increased closeness to others, as in becoming closer to family and friends, as well as experiencing an increased sense of community closeness.

Schaefer and Moos (in Tedeschi et al 1998 101) view enhanced social resources as relating to better relationships with family and friends and to building new support networks and confidant relationships. Often the network of support available to road trauma survivors is expanded, for example, by the meeting of other survivors in the rehabilitation setting. The unique bond of being inpatients together creates a strong network both during the initial recovery time and often afterwards.

Tedeschi et al (1998 12) see this enhancement of personal relationships as arising through the continuing need for discussion of the consequences of events, and the need for self-disclosure. They argue this self-disclosure may provide an opportunity for testing out new relating behaviours. Recognition of individual vulnerability may lead to more emotional expressiveness and to a willingness, therefore, to accept help
and use social supports that had previously been ignored. This latter theory is at the heart of Caplan’s (1990) crisis theory and the ‘malleable state’ of the individual in crisis. This vulnerability and malleability justifies the work of crisis intervention by social workers and other mental health professionals in the early days following trauma.

Through this increased self-disclosure or emotional expressiveness, it is argued that people also regard themselves as having an enhanced sense of compassion towards, and empathy with, others, and that this in turn leads to an increased desire to or perception of giving to others, an increased sense of altruism.

Consistent with these notions, Blankenship (1998 395) calls for the positive consequences of trauma to be considered from this community reconnection perspective, arguing that ‘thriving sometimes manifests itself in an other-directed commitment to community advocacy’. This is very similar to Herman’s (1992) notion that a community connection, or connection beyond the individual context, is one of the markers of the final stage of recovery from trauma, as discussed in Chapter One.

Certainly these are areas where people frequently report disturbance as a result of trauma experience as well. The experience of increased community closeness, for example, was examined by Erikson (in Caruth 1995) in his follow up of the Buffalo Creek community after their flood disaster and found to be non-existent, challenging the notion that communities are often brought closer together through crisis.

**(C) ENHANCED PHILOSOPHY OF LIFE OR WORLDVIEW**

Many people talk about their experience of trauma as being like a ‘wake up call’ (McMillen, Smith & Fisher 1997 738) or a major turning point in their life. As a consequence, this crisis causes them to confront issues of their own mortality and their life’s purpose and meaning. In doing so, people frequently report positive changes in their priorities in life, and their sense of appreciation of life. For many, this involves questioning issues of religion and spirituality (McColl, Bickenback, Johnson, Nishihoma, Schumaker, Smith, Smith & Yealland 2000), or a general philosophy of
life or worldview that provides new meaning (Silver, Boon & Stones 1983).

Maslow (1968 206) argued that ‘the state of being without a system of values is psychopathogenic’ in that all people need a ‘framework of values, a philosophy of life, a religion or religion-surrogate to live by and understand-by’. Growth is considered to have taken place when these beliefs about the world and the self and any transcendent aspects of daily life are strengthened, giving the individual an ‘increased sense of control, intimacy and of finding meaning’ (Tedeschi & Calhoun 1996 458). Enhancement or the perception of enhancement in this area is considered to be a potential buffer against the ongoing disorganization and distress of trauma, in that it provides a stable assumptive world.

(D) ENHANCED HEALTH AWARENESS

A more specific area of perceived benefits or growth is an awareness of the need to attend to physical health needs - in terms of diet, exercise and other aspects of physical and mental health, such as meditation and relaxation. Affleck, Tennen, Croog and Levine (1987) reported, for example, that men who had experienced heart attacks reported being ‘taught a lesson’ about the importance of health behaviour practices to live a long life. They found that those who perceived benefits 7 weeks after their initial coronary episode were more likely to have avoided further coronary episodes at a follow-up 8 years later. This benefit may well connect then with the perceived benefit of appreciating life more, and thus the cycle of growth begins. Similarly, in a study of women with breast cancer, 75% of participants made health-related behavioural changes (Taylor, Lichtman & Wood 1984).

Thus, there is a sense that a ‘second chance’ or a crisis of health promotes a reevaluation of health practices.

(E) OTHER DOMAINS OF BENEFIT AND GROWTH

Lest the focus remain solely on intra-psychic changes and benefits, McMillen et al (1997 735) also found that survivors of three types of disaster reported gains in the areas of material wealth, entertainment value, becoming better at a job, improved
work conditions and changes in laws and policies. These may be important sources of
growth in other areas - for example, the sense of mastery in becoming better at a job
may well enhance self-perception.

THE POSTTRAUMATIC GROWTH MODEL

Tedeschi and Calhoun’s (1995, 1996) posttraumatic growth model is one of the
dominant current models offering both an explanatory model of posttraumatic growth
changes and a quantitative measure of growth. Consistent with the discussion in
previous sections of this chapter, the Posttraumatic Growth Inventory (PTGI;
Tedeschi & Calhoun 1995, 1996) assesses five major positive change domains:
‘relating to others’, ‘new possibilities’, ‘personal strength’, ‘spiritual change’ and
‘appreciation of life’.

Tedeschi and Calhoun (1995 43, 55) argue that these positive outcomes depend upon
two criteria. Firstly, that an event is perceived as a formidable challenge, and
secondly, that the individual’s personality is characterised by persistence,
determination, confidence, an ability to make emotional connections with others and
the acceptance of the limitations of circumstances where necessary. Thus, the person
who is able to adopt a growth focus needs both ‘the willingness to take up the
challenge’ and ‘a persistently active approach to experiences and problem-solving’.

Tedeschi and Calhoun (1995 44-53) (and later Tennen & Affleck in Tedeschi et al
1998 65-98) review the characteristics, or ‘usual suspects’ frequently associated with
positive consequences, which include an internal locus of control, self-efficacy,
optimism, hardiness, resilience, a sense of coherence and the so-called ‘big 5’
personality factors which include neuroticism, extroversion, openness, agreeableness
and conscientiousness. While they recognize the important role these elements have in
individual well-being, they raise concerns about these ‘usual suspects’, arguing that
they are primarily methodologically retrospective, and do not adequately account for
reports of posttraumatic growth.
They argue that there seems to be a curvilinear relationship between personality characteristics and capacity for growth. That is, those with poor coping skills are likely to be overwhelmed, those who are extremely capable are less likely to be challenged by events and those who are moderately capable have much to gain and the ability to gain it (Tedeschi & Calhoun 1995 56).

Thus, Tedeschi and Calhoun (1995 78-86) have developed seven principles relating to growth in the aftermath of trauma set out in Figure 2.

<table>
<thead>
<tr>
<th>Posttraumatic Growth Principles</th>
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</thead>
<tbody>
<tr>
<td>1 Growth occurs when schemas are changed by traumatic events</td>
</tr>
<tr>
<td>2 Certain assumptions are more resistant to disconfirmation by any events and therefore reduce the possibilities for schema change and growth</td>
</tr>
<tr>
<td>3 Reconstrual after trauma must include some positive evaluation for growth to occur</td>
</tr>
<tr>
<td>4 Different types of events are likely to produce different types of growth</td>
</tr>
<tr>
<td>5 Personality characteristics are related to possibility for growth</td>
</tr>
<tr>
<td>6 Growth occurs when the trauma assumes a central place in the life story</td>
</tr>
<tr>
<td>7 Wisdom is the product of growth</td>
</tr>
</tbody>
</table>

Figure 2: The principles of posttraumatic growth

From this conceptualization of posttraumatic growth, they have proposed a seven stage model of posttraumatic growth, illustrated in Figure 3, overleaf. According to this model, the individual, prior to the traumatic event has a range of personality characteristics and potential for growth and creativity. When encountering the traumatic event, an initial response takes place, whereby affect, cognition, and behavior mechanisms that are normally functional are overwhelmed. The secondary response over time is for rumination to take place that eventually leads to a revision of the cognitive scheme and emotion focussed coping. The first steps of growth take place, according to the model, after this secondary reaction process, when initial growth and coping successes are experienced in the areas of affect (distress becomes manageable), cognition (revised schemas are comprehensible) and behavior (new goals are manageable). Further growth may take place, called wisdom, whereby the affect of the individual is one of serenity, cognitions involve the development of meaningful life narratives and dialectical thinking, and behavior is manifested in self-efficacy and creativity is meaningful. Tedeschi and Calhoun (1995 89) underpin this model of unanticipated change with the support offered by others in terms of emotional support, ideas for new schemas and behaviour.
Figure 3: The posttraumatic growth model
The relationship between traumatic distress and traumatic growth

... growth and pain are not mutually exclusive but rather inextricably linked in recovery from trauma and loss. There is no simple dichotomy between those who experience growth from trauma and those who are impaired by trauma.

Saakvitne, Tennen & Affleck (1998 295)

According to Saakvitne, Tennen & Affleck (1998 295) ‘posttraumatic growth is theoretically linked to the increased consonance between an individual’s understanding of a traumatic event and its personal meaning’, thus the two concepts of trauma (or distress) and growth are directly connected. The co-existence of these two concepts is also supported by Calhoun and Tedeschi (1998) in consistent findings of correlation between these two variables. Other studies, for example of breast cancer survivors (Cordova, Cunningham, Carlson & Andrykowski 2001), have not found this association.

Calhoun, Cann, Tedeschi & McMillen (2000) argue that trauma or ongoing suffering, in order to be transformed into growth, involves constant rumination over the event, consistent in many ways with Horowitz et al’s (1979) model of trauma intrusion and avoidance symptoms. The ongoing discomfort, or discontinuity of the experience, means that a search for meaning or growth is stirred alongside the co-existence of trauma symptoms. This is similar to Silver et al’s (1983) finding in relation to women’s attempts to make meaning in the wake of incest experiences.

The current thinking is that the rumination is central to the lack of resolution of the crisis event, and therefore potentially central to the movement towards growth. It is interesting to widen the parameters on this direction of inquiry to ask if rumination does keep the trauma alive, what keeps the rumination alive?

Criticisms of the positive consequences of trauma

The research into positive consequences of trauma has been consistently challenged in a number of ways. The first is to call into question reports of growth on the basis that they are an illusion. Taylor and Brown (1988; 1994 21) proposed that people exhibit
positive illusions in three important domains. Firstly, they view themselves in unrealistically positive terms. Secondly, they believe they have greater control over environmental events than is actually the case and thirdly, they hold views of the future that are more rosy than base-rate data can justify. The question as to what is an illusion and what is reality continues to be debated (Taylor & Brown 1994; Block & Randall Colvin 1994; Randall Colvin & Block 1994) in view of the difficulties when one is dealing with peoples’ interpretations. Given the importance of subjective perceptions in well-being, it is vital that they be examined further, rather than merely be dismissed.

The second criticism of the notion of positive consequences is the question as to whether growth leads to adaptation. There is some evidence to suggest growth or positive outcomes are connected to longer-term adaptation. These positive adaptational outcomes have been noted in studies with cancer patients (Cordova et al 2001, Weiss 2001), stroke patients, heart attack patients (Affleck et al 1987), women dealing with infertility (Mendola, Tennen, Affleck, McCann & Fitzgerald 1990) and mothers caring for acutely ill newborn babies (Affleck & Tennen 1996). The last study, for example, was a longitudinal study with mothers in neonatal units. Asked if there were benefits from hazardous deliveries and periods of prolonged hospitalization, 75% of the women reported at least one benefit. The mothers who did not identify any benefits were found to have more mood disturbance and psychological distress at both 6 and 18 months later.

Not all research that has examined the issue of posttraumatic growth, however, has supported the existence of positive consequences of trauma as influential on adaptation. Lehman, Davis, Delongis, Wortman, Bluck, Mandel and Ellard (1993 90), in examining the positive and negative life changes following bereavement and their relations to adjustment, found that ‘the number of positive life changes reported was unrelated to reports of psychological symptoms and well-being’ and that ‘statements of personal growth may not be reliable indicators of adjustment’.

The third criticism is made on the basis of the relationship between positive and negative consequences of trauma. Are they independent dimensions (Calhoun & Tedeschi 1998)? Or is growth an outcome from the persistent rumination and search
for new meanings caused by ongoing experiences of distress (Calhoun & Tedeschi 1998 360)?

The fourth way in which positive consequences are challenged is to view benefit-finding as a proxy for denial (Affleck & Tennen 1996 902). Cross-validation studies have found subjective and objective reports of growth to be consistent (Weiss 2001). On this note, it is curious that growth reports are always critiqued negatively for their subjective bias and their lack of validation in objective, observable terms, yet negative reports of psychological symptoms are rarely questioned as to their validity and reliability in the same manner. Thus reports of intrusion and avoidance symptoms, for example, are accepted at face value and reports of growth or perceived benefit are dismissed, or at least, regarded as questionable.

The fifth criticism, more generally of a strengths perspective, is that it underestimates or overshadows the perceived negative consequences or outcomes of the trauma experience (Saleebey 1997). When examining the possibilities for positive outcomes from trauma experiences, it is typically in the context of immense pain, suffering and loss, the key of a traumatic event. Expectations of growth and positive consequences therefore need to be kept within this perspective, lest they become further reminders of an individual’s inability to, not only ‘not get over it’, but to fail to grow or thrive on loss and trauma experiences.

There are two criticisms relating specifically to the posttraumatic growth (PTG) model. The first is the placing of social support as relevant only to the latter phases of the trauma experience, rather than acknowledging its central importance in both the personality development processes and indeed during the trauma itself, let alone the initial phase of trauma response. The lack of embeddedness within a social context here is itself problematic, but also leads to the second problem.

The second problem involves the conceptualization of this social support as it is offered by those in the immediate environment. This support is defined solely in affective, interpersonal terms, referring to the reconstruction of the individual’s intrapsychic world. While this is a critical element, and arguably too absent already in the model itself, it is also too limited in its scope when present. The social support
systems that influence an individual’s recovery in the aftermath of road trauma also include other social structures and systems. The support that is vital is often practical support, financial support, legal support - all known to influence the recovery process as later chapters will discuss.

Other models, designed to capture this growth process or transformational change or unanticipated change, are similarly deficient in these areas. These models include Aldwin’s (1994) model of transformational coping, Schaefer and Moos (1992) life crises and personal growth model, Miller and C’deBaca’s (1994) quantum change model and O’Leary and Ickovic’s (1995) resilience and thriving model, cited in Tedeschi et al (1998).

Cohen, Hettler and Pane (in Tedeschi et al 1998 23-42) provide a useful overview of many of the studies examining posttraumatic growth, both involving the use of the PTGI and the use of other methods of inquiry. These are summarized in Figure 4 overleaf. The figure has been expanded to include more recent studies of posttraumatic growth. What is notable in this overview is the vast range of life experiences that have been studied, and the fact that many of them are studies of various chronic illness experiences. This raises important questions about the generalizability of a model of growth from more chronic situations of long-term health transitions to trauma.
<table>
<thead>
<tr>
<th>author</th>
<th>sample</th>
<th>categories</th>
<th>conclusions</th>
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<tbody>
<tr>
<td>Affleck, Tennen &amp; Gershman (1985)</td>
<td>interview with 40 mothers of newborns with serious medical problems</td>
<td>- better perspective on life&lt;br&gt;- closer family relations&lt;br&gt;- special appreciation for the child&lt;br&gt;- emotional growth&lt;br&gt;- spiritual growth</td>
<td>little difference between 1-4 categories with ~20% mothers reporting change in each, but only about 7% reporting spiritual change</td>
</tr>
<tr>
<td>Affleck, Tennen, Croog &amp; Levine (1987)</td>
<td>interview with 300 men who had experienced first heart attack - 7 week interview and 8 years later</td>
<td>- learned the value of health&lt;br&gt;- behaviour&lt;br&gt;- changed life to increase enjoyment&lt;br&gt;- change in philosophy of life&lt;br&gt;- insight concerning how to avoid stress and conflict&lt;br&gt;- change in family relations</td>
<td>At 7 weeks: first 2 domains mentioned by 25-30% of respondents of other domains mentioned by 12% or fewer. At 8 years: first 2 domains mentioned 25% &amp; 17% respectively, and change in philosophy in life (25%). Others mentioned 13% or less</td>
</tr>
<tr>
<td>Mendola, Tennen, Affleck, McCann &amp; Fitzgerald (1990)</td>
<td>interview with 65 women coping with infertility</td>
<td>- strengthening of their marriage&lt;br&gt;- personal growth&lt;br&gt;- greater appreciation of life</td>
<td>domain one mentioned by 48% of respondents, other 2 mentioned by ~20%</td>
</tr>
<tr>
<td>McMillen, Zuravin &amp; Rideout (1995)</td>
<td>interview with ~150 women who had experienced sexual abuse as children</td>
<td>- increased ability to protect children from abuse&lt;br&gt;- increased ability to protect themselves&lt;br&gt;- better knowledge of sexual abuse&lt;br&gt;- increased personal strength</td>
<td>domain one mentioned by 29% of sample.</td>
</tr>
<tr>
<td>Curbow, Sommerfield, Baker, Wingard &amp; Legro (1993)</td>
<td>survey with 100 survivors of bone marrow transplantation</td>
<td>20 life changes classified into: &lt;br&gt;- plans and activities&lt;br&gt;- relationships&lt;br&gt;- physical changes&lt;br&gt;- existential issues</td>
<td>reported more positive than negative changes in relationship and existential domains, more negative changes in physical domain and balanced change in plans/activities</td>
</tr>
<tr>
<td>Collins, Taylor &amp; Skokan (1990)</td>
<td>55 cancer patients</td>
<td>a priori categories of thriving: &lt;br&gt;- daily activities&lt;br&gt;- plans/goals for the future&lt;br&gt;- views of the self&lt;br&gt;- views of the world&lt;br&gt;- relations with others</td>
<td>More positive than negative changes in activities and relationships domain whereas balanced in others</td>
</tr>
<tr>
<td>Lehman, Davis, Delongis, Wortman, Bluck, Mandel &amp; Ellard (1993)</td>
<td>80 adults 4-7 after the death of a spouse or child from car accident – matched with control group</td>
<td>12 categories reflecting 3 domains: &lt;br&gt;- changes in self-perceptions&lt;br&gt;- changes in relationships&lt;br&gt;- changes in life orientation</td>
<td>Sudden unexpected death of spouse or child associated with long-term distress not growth</td>
</tr>
<tr>
<td>McMillen, Smith &amp; Fisher (1997)</td>
<td>195 survivors of 3 disasters:&lt;br&gt;- tornado in Florida&lt;br&gt;- mass killing in Texas&lt;br&gt;- plane crash in Indiana</td>
<td>Single question asked if anything positive came about as a result of the disaster</td>
<td>12 categories developed to form the Perceived Benefits Scale – areas include personal growth, increased closeness to others, increased community closeness, material gains, entertainment value, better at job, improved work conditions and changes in laws and policies</td>
</tr>
<tr>
<td>Tedeschi &amp; Calhoun (1996)</td>
<td>600 college students in the development of the PTGI</td>
<td>5 factors: &lt;br&gt;- relationship with others&lt;br&gt;- personal strength&lt;br&gt;- new opportunities&lt;br&gt;- spiritual change&lt;br&gt;- appreciation of life</td>
<td>Students reported a range of traumatic life events, and the PTGI distinguished between those who had been traumatized (higher growth) and those who had not.</td>
</tr>
<tr>
<td>Park, Cohen &amp; Murch</td>
<td>506 college students in development of SRGS - most negative event in last year</td>
<td>single factor of stress-related growth</td>
<td>Participants reported that a range of stressful events led to personal growth</td>
</tr>
<tr>
<td>author</td>
<td>sample</td>
<td>categories</td>
<td>conclusions</td>
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<tr>
<td>Cordova et al 2001</td>
<td>70 women with breast cancer – matched to 70 controls</td>
<td>Used the PTGI</td>
<td>Found women with breast cancer reported more growth than controls, particularly in areas of relating to others, appreciation of life and spiritual change</td>
</tr>
<tr>
<td>Weiss, T. (2001)</td>
<td>72 women with breast cancer and their husbands</td>
<td>Used the PTGI examining the 5 factors</td>
<td>Women reported more growth than men but these reports were corroborated by husbands</td>
</tr>
</tbody>
</table>

**Figure 4: A summary of key studies examining posttraumatic growth**
The positive consequences of road trauma

The great majority of road accident survivors return to a full, normal life after a road accident, and a few even see it as a positive experience that makes them more appreciative of life and family.

Bryant in Mitchell (1997 204)

As discussed in the Introduction, the research examining the consequences of road trauma has primarily focused on the negative consequences. No comparable studies have been undertaken examining the positive consequences for road trauma survivors. One study, conducted by Bulman and Wortman (1977), has examined the issue of happiness as a global state, for a group of 24 survivors of spinal cord injuries, 38% of whom were injured in motor vehicle accidents. The happiness rating elicited a mean of 2.9 from a 5 point Likert Scale. It is difficult to interpret this finding given a lack of comparative data. It is also difficult to know whether an assessment of a global state of well-being, such as happiness, is comparable to assessment of specific domains of posttraumatic growth.

Studies by Malt et al (1989) and Jeavons et al (1996) used the LEAIQ which accommodates the possibility of positive change in the aftermath of road trauma in a range of psychosocial zones. There is little mention of these findings in their discussion, with Malt et al (1989 91) concluding,

very few persons reported positive outcomes as a result of the accident or the injury. This demonstrates that for most persons accidental injuries represent a threat to their well-being and quality of life.

The neutral consequences of road trauma

The glimpses of the neutral consequences of road trauma can only be read through the inverse of the majority of trauma studies. That is, where 30% PTSD rates are found, there can be an assumption of a 70% non-PTSD rate, and similarly, with growth scores. The lack of predictive or qualitative data in relation to what influences the neutral effects is noteworthy.
CHAPTER THREE

CONSTRUCTING AN ECOLOGICAL UNDERSTANDING OF EXPERIENCES OF PSYCHOSOCIAL RECOVERY

a process of recovery - a return to some previous or new equilibrium
Raphael (1986 5)

The survivor can never be restored to [their] pre-trauma states
Garland (1991 6)

In examining the understandings of the negative and positive consequences of trauma that are currently in the literature, a number of different experiences of recovery become evident. In conceptualizing the consequences of trauma as either positive or negative, as the previous discussion suggests, survivors tend to be identified as either having recovered or not recovered. To maintain this stance is to maintain an unhelpful and inaccurate frame of reference. If this stance is maintained, the following occurs. Firstly, there is an emphasis on moving to outcome rather than focussing on the realities of the process of recovery. Secondly, there is a tendency to pathologize and categorize certain aspects of the experience, to medicalize instead of listening to recurrent themes right across the spectrum of the experience. Thus, there is a need for a different way of listening to the themes of the experience. The challenge is to begin to bring together a workable understanding of these consequences and of recovery for the purposes of this research.

DEVELOPING AN ECOLOGICAL UNDERSTANDING

The fundamentals of an ecological perspective have been central to social work practice since its origins (Richmond 1917; Kemp, Whittaker & Tracy 1997; Germain 1991). The ecological perspective takes as its grounding principle the metaphor of ecology. Thus, the individual is understood to move constantly towards the ‘best person:environment ‘fit’ possible between their needs, rights, capacities, and aspirations, on the one hand, and the qualities of their environment, on the other’ (Germain, 1991 17), similar to any organism seeking to survive within their natural
environment. The individual is always understood as being part of a unique context, a unique environment and a unique period in historical and developmental time (Hutchison 1999). In using an ecological metaphor, Germain (1991:16) argues that ‘a holistic view of people and environments’ is required. Thus, in applying the model to understand a particular issue or problem, both the intra-psychic world and the external world, the environmental factors of family, social networks and social systems, of the individual are taken into account and seen to be mutually influential.

Bronfenbrenner’s (1979) ecological model is one dominant way in which the individual has been conceptualized as existing in a particular context. His model includes four social layers in which the individual functions- the microsystem, mesosystem, exosystem and macrosystem (Appendix 1). Each of these layers constantly influences and is influenced by the individual, such that human behaviour is regarded as necessarily shaped by the broader social context. Thus, in response to a traumatic life event, the social domain is as influential as the intra-psychic domain. This represents a radical departure from most of research overviewed in Chapters One and Two, where the individual is viewed only in terms of their particular psychological or psychiatric response to trauma. In adopting an ecological understanding of trauma, the context in which the individual is functioning is of enormous significance.

Central to the ecological perspective are three interrelated notions - (a) adaptation, (b) risk and protective factors, and (c) the individual as a biopsychosocial-spiritual being. Each is briefly overviewed in this next section.
The notion of adaptation:

When one searches for effective adaptation of the organism, one can move beyond post-Cartesian dualism and look to imagination, love, play, meaning, will and the social structures that foster them, or as I would prefer to put it, to theories of successful coping.

Antonovsky (1987 9)

The strengths model then is about providing a new perception. It allows us to see possibilities rather than problems, options rather than constraints, wellness rather than sickness. And once seen, achievement can occur. As long as we stay in the muck and mire of deficits, we cannot achieve.

Rapp (1998 24)

Adaptation is understood as the active changes made by individuals and environments, both internal (physiological and psychological) and external (social and cultural) in the face of threat or adversity. Applying this ecological understanding to trauma reactions, it is argued that individuals fundamentally seek a homeostasis in daily life. Thus, when major traumas occur, the individual actively struggles to maintain their sense of place within, and understanding of, the world as they once knew it. In many ways, this notion is reflected in the disturbances of cognition and narrative, discussed in Chapter One. An important distinction is that adaptation tends to be more present and future focussed than the cognitive tasks of integration discussed previously, which tend to remain past and present focussed.

As Chapter Two argued there has been a widening of the understandings of the consequences of trauma in that positive adaptations have been noted. While criticisms of the ecological approach suggest that homeostasis is about a return to ‘normal’, there is widespread acknowledgment that homeostasis, for the human species, is often about thriving (Carver 1998), returning to a ‘better off afterwards’ state of being (McMillen 1999; Saleebey 1997), or about more positive adaptations to the environment. Thus the concept of resilience has emerged within discussions of adaptation in the face of trauma as an important adaptive quality.

As Werner (1995) recognizes, the term ‘resilience’ has been used by researchers in three particular areas, primarily emerging from research with children who have experienced adverse conditions early in life. Resilience has been used to refer to,
firstly, ‘good developmental outcomes despite high-risk status’, secondly, ‘sustained competence under stress’ and thirdly and more generally, ‘recovery from trauma’ (Fraser, Richman & Galinsky 1999 136). These are all interconnected concepts in that they relate to an individual’s ability to adapt to an adverse event by resuming some semblance of pre-trauma psychological functioning.

Other researchers, looking at adaptation across the life-span, have spoken of resilience as ‘the self-righting tendencies’ of the person as in ‘both the capacity to be bent without breaking and the capacity once bent, to bounce back’ (Vaillant 1993 248). Or as Fraser et al (1999 137) state it, ‘To be resilient, one must be exposed to risk and then respond successfully. Resilience is a successful adaptational response to high risk’. Broadly speaking, the resilience research has been driven by the ‘growing evidence that some people are able to develop reasonably well-integrated personality structures in spite of experiencing adverse environments and poor quality relationships in childhood’ (Howe 1995 178). It is important, however, that the resilience outcomes be extended beyond the development of well-integrated personality structures. Resilience outcomes, from an ecological perspective, are also linked with external competencies in terms of sustaining satisfying relationships and in terms of functioning at a desired level within social structures such as employment. Resilience is linked with environmental niches that provide sustaining resources and opportunities (Rapp 1998).

The resilience research is now turning to examine adaptation in adult life under extreme conditions, and therefore it is highly relevant as a concept in examining recovery from road trauma. Adaptation frequently involves the identification of strengths in the individual and the environment, rather than the continuing identification of deficits. It seems redundant to talk about an ecological strengths perspective. If the understanding is truly ecological, then the understanding is implicitly about the capacity for human adaptation and survival, which is in turn implicitly about strengths and resilience.

The notions of risk and protective factors:

Central to the notion of individual and environmental adaptations following trauma
are the notions of risk and protective factors (Werner & Smith 1992; Rutter 1985; Fraser et al 1999). These are understood to mediate, by either enhancing or reducing, the individual’s overall ability to adapt to the crisis before them.

Risk factors, ‘the markers, correlates and - in a best case scenario - causes of a condition or state’ (Fraser et al 1999 131), are understood in the social work literature to be working in one of two ways - to increase the likelihood of the onset of a problem or maintain a problem state or to be the influences that cause a decline to a more serious state. Thus, risk can be the initial influence in predisposing or maintaining a problem state or it can influence the further deterioration of a problem state.

Protective factors are then understood as the factors or influences that modify these risk factors, or provide ‘resistance to risk by moderating the relationship among risk factors and problems or disorders’ (Richman et al 134). Or, as Werner (1995 81) suggests, they can be thought of as the factors in the individual or the environment, that moderate (ameliorate) a person’s reaction to a stressful situation or chronic adversity so that his or her adaptation is more successful than would be the case if the protective factors were not present.

These factors are generally understood as being either characteristics of the individual or the context/environment in which the individual is located. They can be, as Fraser et al (1999) suggest, either compensatory or buffering in their effects.

Fonagy, Steele, Steele, Higgitt and Mayer (1994 cited in Howe 1995 178-179) present a list of some fifteen factors associated with protecting individuals in situations of high adversity, outlined in Figure 5 overleaf. Many of these factors are explicitly reliant on the broader social environment.

Werner and Smith (1992, 187), in their frequently cited study of resilient children on the Island of Kauai, identified a common core of resilience factors, proposing them as a ‘common core of individual dispositions and sources of support which contributes to resiliency and/or recovery in adulthood among individuals reared under adverse circumstances’. This common core includes:

a) temperamental characteristics that elicit positive social responses from parents, peers and teachers
b) efficacy, planfulness, and self-esteem  
c) competent caregivers and supportive adults (other than parents) who foster trust and a sense of coherence or faith  
d) ‘second chance’ opportunities in society at large which enable the acquisition of competence and confidence

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<td>1.</td>
<td>good social and economic environment</td>
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<td>2.</td>
<td>absence of organic deficit</td>
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<td>3.</td>
<td>easy temperament</td>
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<td>4.</td>
<td>younger age for those who have suffered a traumatic experience</td>
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<td>5.</td>
<td>absence of early separation or losses</td>
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<td>6.</td>
<td>a good warm relationship with at least one caregiver</td>
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<td>7.</td>
<td>availability in adulthood of good social support</td>
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<td>8.</td>
<td>positive school experience</td>
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<td>9.</td>
<td>involvement with organized religious activity and faith</td>
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<td>10.</td>
<td>high IQ</td>
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<td>11.</td>
<td>superior coping styles</td>
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<td>12.</td>
<td>higher sense of autonomy and self-worth</td>
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<td>13.</td>
<td>interpersonal awareness and empathy</td>
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<td>14.</td>
<td>willingness to plan</td>
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<td>15.</td>
<td>sense of humour</td>
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Figure 5: Factors associated with protecting individuals in situations of high adversity

Blankenship (1998) has been one writer within the trauma research to highlight the fact that the point of interest remains largely the individual and their intra-psychic pre-morbid and post characteristics. Little attention is given to the social environment, in which financial, legal, religious, and social support processes act to enhance or detract from the individual’s recovery process. Werner and Smith’s (1992) study highlighted very significantly the importance of these broader, ecological issues.

Successful adaptation to adverse events therefore necessitates, as Werner (1995 84) eloquently terms it, ‘forg[ing] a chain of protective factors’. While much of this research is focussed on children and adolescents coping with adverse life circumstances, it raises the question as to whether these factors might also play an important role as protective factors in adult resilience and coping with adult experiences of trauma. The protective factors considered vital for recovery from road trauma will be considered in later chapters.

For the purposes of this discussion, however, the broad concepts of risk and protective factors will be applied. What is evident from the trauma research is the lack of clarity as to whether certain psychosocial factors can be viewed as either risk or protective
factors. The research is contradictory, and both methodologically and conceptually complex, when it comes to examining the impact of certain mediating factors. For example, in Chapter Four, the contradictory findings on the protective effects of age are discussed. Importantly, the ecological framework encourages the consideration of a wide range of factors that may be influential in recovery processes and pathways. These risk and protective factors will be examined in the following chapters.

The notion of the biopsychosocial-spiritual aspects of the human person:

In addition, an ecological view incorporates a range of important zones of individual functioning. It incorporates the biopsychosocial-spiritual aspects of an individual, using the adapted version of the biopsychosocial model, as described in Hutchison (1999 18). Thus, the individual is understood as experiencing the world in a number of ways - through their physical (both bodily and spatial) experiences; through their psychological experiences of cognition and emotion; through their social experiences (including experiences at all levels of the social network as outlined by Bronfenbrenner, 1979); and through their spiritual experiences, their experience of existential, spiritual and/or religious matters. Such a perspective radically shifts the emphasis from an interest in the psychological zone only, to inquire as to the impact of trauma on a wide range of zones of functioning.

THE STRENGTHS AND WEAKNESSES OF AN ECOLOGICAL APPROACH

The ecological perspective has been strongly and negatively critiqued over many years, primarily for its lack of a critical, political emphasis (Germain 1991; Scott in Clements 1992 206; outlined in Figure 6) and the incorrect perception of an assumption of a natural fit between the individual and their environment. The ecological model does not necessarily explain why an individual reacts in a particular way. That is, it is a descriptive rather than a prescriptive framework of understanding. Its usefulness for the purposes of this research is that it explains the aftermath of trauma as dependent upon a multiplicity of interacting factors.
<table>
<thead>
<tr>
<th>Perceived strengths</th>
<th>Perceived weaknesses</th>
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<tr>
<td>Provides an overarching perspective and a framework for interdisciplinary dialogue</td>
<td>The assumption of a natural fit between individuals and their social environment</td>
</tr>
<tr>
<td>Provides an understanding of the multi-determined nature of human behaviour</td>
<td>Descriptive rather than prescriptive therefore in explaining all it explains little -</td>
</tr>
<tr>
<td>incorporating the interaction of factors operating at biological, intrapsychic,</td>
<td>lack of critical theory</td>
</tr>
<tr>
<td>interpersonal and sociocultural levels of analysis</td>
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**Figure 6: The strengths and weaknesses of an ecological perspective of trauma**

In looking at what survivors perceive as shaping the experiences of recovery, this thesis will argue that it is a complex interplay between individual factors, environment and contextual factors, and trauma-specific factors. An ecological model provides a framework for emphasizing the relative importance of each of these aspects, without prematurely foreclosing on a particular domain of experience.

This perspective will be applied as the organizing perspective for understanding how an individual’s unique and complex biopsychosocial-spiritual interactions with the environment shape their reaction to road trauma and their experiences of recovery.
CHAPTER FOUR

RISK AND PROTECTIVE FACTORS

This chapter examines a range of risk and protective factors that have been considered influential in determining either the negative, positive or neutral consequences of trauma generally, and where relevant, road trauma specifically. These include demographic, accident and injury-related, subjective personality and recovery environment factors.

DEMOGRAPHIC FACTORS

AGE

Age is intimately connected with the developmental stage of the individual, and therefore argued to be intimately connected with the adaptive tasks of the individual in the aftermath of trauma. The assumptions around the impact of age on recovering from trauma vary considerably.

There is the belief that younger people cope better with trauma because of their innate resiliency and capacity to bounce back. This is in view of the fact that they are considered to have more of a future focus than a retrospective one. For example, in Wallerstein’s (1986) ten year follow up of adults post-divorce, women in their twenties and thirties were found to be doing better than women in their forties in terms of demonstrating more resilience, as well as demonstrating more economic and emotional improvement. Similarly, Malt, Hoivik and Blikra’s (1993) study found that older age and severity of physical injury predicted ‘nervousness’ among MVA victims and their relatives.

Other research has found older age to be a protective factor. This is based on the belief that older people cope better because of their working through of existential and
death-related matters, such as Northouse’s (1994) finding that older women tended to experience less emotional distress than younger women with breast cancer. Cagnetta & Cicognani (1999 559), in their study of road trauma survivors, commented on the fact that older participants were generally much more actively engaged with a recovery process, noting that,

they often succeed in finding by themselves good opportunities to be optimistic about their evolution; they examine their conscience and perhaps decide to change their ‘reckless’ or ‘risky’ behaviours.

Richmond & Kauder (2000), in examining the predictors of psychological distress with 109 survivors of serious injury (requiring hospitalization) found age was one of four variables predicting 52% of the variation in short-term psychological distress. These variables included the factor of younger age, as well as ‘elevated levels of psychological distress while still hospitalized, the presence of a positive drug/alcohol screen at the time of injury, and those who did not anticipate problems returning to normal activities’ (Richmond & Kauder 2000 689). While they are careful to point out that causality cannot be inferred from this finding, it may logically follow that younger age leads to greater risk taking behaviour which is associated with road trauma.

In other studies, no relationship has been found between age at the time of the traumatic event, and subsequent coping. For example, Silver et al (1983) failed to find any significant difference in the age of onset and age at termination of incestuous abuse.

The relationship between age and reports of growth as a consequence of trauma are similarly inconclusive. One of the major difficulties in establishing the impact of age relates to the fact that the samples have tended to represent homogeneous age groups, primarily university students (Tedeschi & Calhoun 1995, 1996).

**Sex**

Across a range of trauma experiences, females tend to report more psychological
effects. This reporting includes both negative consequences (Koopman et al 1996 535; Norris 1992; Green 1994; Blanchard & Hickling 1998; Biernat & Herkov 1994) and positive consequences (Tedeschi & Calhoun 1995 114; Polatinsky & Esprey 2000; Lehman et al 1993; Park, Cohen & Murch 1996 710; Weiss 2001; Cordova et al 2001). For example, Wallerstein’s (1989) study, mentioned previously, found four times as many females than males reported psychological growth.

In relation to distress, the findings are similar, with Kenardy, Webster, Lewin, Carr, Hazell and Carter’s (1996) study of the Newcastle earthquake found that males and younger individuals experienced less distress than females and older individuals.

Other studies that have set out with the question of sex specifically as the focus of their research have failed to show any significant differences in outcome. For example, Polatinsky & Esprey (2000 715), in their study of sex differences in the perception of benefit resulting from the loss of a child, found no evidence of sex differences. Although mothers scored higher\textsuperscript{10}, these means were not significantly different.

Sex as a potential protective or risk factor is a problematic area for a number of reasons. Firstly, more reporting may not indicate more distress. It may relate more to females’ socialized communication abilities around areas of emotional distress rather than actual difficulty resolving such emotional distress (Gilligan 1993; Tannen 1996). Secondly, there is the difficulty in relation to the possible gendered nature of trauma responses. While there is consistent argument that male coping styles are problem-focussed or behavioural, and female coping styles are emotion-focussed and relational (Thoits 1991), many trauma measures continue to overlook coping behaviours such as increased drug and alcohol use or changes in work commitments. Thirdly, there is an argument that females are exposed to more stressors generally and therefore are more traumatized (Thoits 1991 107).

Finally, in most areas of general community trauma research, females are over-represented. This has important implications for the research into road trauma, where

\textsuperscript{10} The mean PTGI score for mothers was 83.47 and for fathers 79.72.
there is a bias of males in the population (see Chapter Five). Thus, conclusions based on female trauma samples may be inappropriately drawn for males recovering from trauma.

**OTHER DEMOGRAPHIC VARIABLES LESS FREQUENTLY STUDIED**

A number of other demographic variables are alluded to in the research but rarely highlighted as key predictive variables of either negative or positive psychological outcomes. These include marital status, country of origin status, employment status and education level. These will be examined on later in this chapter, when the impact of the social environment is considered.
There are a number of aspects of a traumatic event that are taken into consideration when considering its severity. According to Harvey (1996:8), they include, the frequency, severity and duration of the event/s experienced, the degree of physical violence and bodily violation involved, the extent of terror and humiliation endured and whether the trauma was experienced alone or in the company of others. Carlson (1996:37) argues similarly, in considering the severity of an event, that it ‘includes a number of variables such as the number of events experienced, the intensity of the event/s, the nature of the trauma and the duration of the trauma’.

The research is widely contradictory as to the impact of the severity of the stressor event on subsequent negative psychological outcomes, particularly in relation to road trauma (Blanchard & Hickling 1998:92-93; Green et al 1993; McFarlane in Kleber et al 1995; Jeavons et al 1996; Hobbs et al 1993). In part, this may be due to the fact that there are often a number of traumatic experiences that flow from the accident and its aftermath.

McFarlane, in Kleber et al (1995:40), highlights the evidence that does not confirm ‘the powerful relationship between the stressor and subsequent symptoms’. He also argues that there has been ‘little systematic examination of the different dimensions of a traumatic experience and their interrelationship’. Thus, as with age and sex, there are studies that identify the importance of the nature of the event itself. Yet elsewhere, he and Yehuda (1995:5) conclude, ‘Indeed it is likely that some types of events are more traumatic than others and produce different rates of PTSD’.

There is some evidence to suggest that different traumas do lead to positive outcomes also. McMillen et al (1997) for example, prospectively studied survivors of three different trauma events - a tornado, a mass killing and a plane crash. They found that perceived benefits were observed most with survivors of the tornado, followed by the mass killing and least of all with the plane crash. This study suggests that there may
be some difference in the recovery processes and outcomes from natural disasters and other traumas where human responsibility plays a major part.

Jeavons et al (1996) asked respondents to rate the subjective perceptions of the severity of their accidents. 42% rated their accidents as severe, 41% as medium and 17% as mild. They commented, however, that in a later study, no significant differences were found between different groups according to the severity of the accident (Jeavons et al, 1996 31). Similarly, Feinstein & Dolan (1991) and Mayou et al (1993) found no significant relationships between the severity of the event and later negative psychological outcomes.

There is only minimal research on whether the severity of an event effects posttraumatic growth, with Tedeschi and Calhoun (1996 466) proposing that the more severe the trauma, theoretically there should be more growth. This proposal is supported in their comparison of those who had experienced one or more severe traumas in the past year and those who had not (refer to Chapter Five).

Bowman (1997 145), in her critique of event-focussed models, argues very strongly against the importance of the severity of the event, arguing instead for an interactional perspective based on the critical mediating role of personality. She argues strongly that there are three wrong assumptions at the core of event-focussed models. She argues (a) that acute toxic life events are rare; (b) that there is a dose-response relation between toxic life events and post event distress and (c) that toxic events per se account for most post event distress. She states, ‘the adversity-distress model assumes that there is a dose-response relationship in which a more toxic event will cause greater and longer-lasting distress’. She concludes that ‘if the model is robust, then incidence of distress disorders should be higher after more extreme toxic events’ (Bowman 1997 17), a finding unsupported in the literature.

These are certainly issues that require further clarification and must always be approached with an acute understanding of the environmental and contextual matters that importantly shape the perceived severity of the incident.

A number of issues relating to the severity of the event are briefly overviewed.
(A) WHAT EVENT IS THE TRAUMATOGENIC EVENT?

As Reiter (2000) notes in relation to survivors of the Holocaust, there are often multiple stages of a traumatic event. Even in one typically as brief as road trauma, the precise nature of the stressor event is difficult to determine.

Much of the road trauma research has examined the ways in which flashbacks, phobic anxieties about driving or about the accident have been a part of the aftermath reaction. Thus, there has been the assumption, in examining these aspects, that the accident itself, as in the moment of impact, is the most traumatic event, when in fact other elements of either the accident or the longer term response may be critical traumatic elements.

Some of these elements could be:
- the moments preceding impact when the realization occurs as to its inevitability
- the moment of impact
- the immediate situation of the accident and issues such as whether help arrives immediately or entrapment in the vehicle takes place
- the trauma and severity of physical injury and immediate treatment and hospitalization.

There are other elements that, although not typically thought of as ‘traumatic’, are known to be stressors. These include the length of time in rehabilitation and the perceived loss of independence, ongoing legal processes, long term injuries, the systems of care that may not be available and the wider social validation that someone might not receive for their experiences.

(B) THE ASPECT OF THE EVENT THAT IS CONSIDERED TRAUMATIC

The significance of the extent of physical injury

Various attempts have been made to distinguish particular levels of severity of road trauma on the basis of injury. Blanchard and Hickling (1998 15) ‘considered a serious
motor accident one in which one or more of the individuals involved was injured sufficiently to seek medical care’. The added criteria for inclusion in their study was one of seeking this medical care in the first 48 hours following the accident.

Bryant and Harvey (1995), in their Australian research, developed a five point scale of road trauma severity, using the following criteria:

1 = no injury
2 = mild injury not requiring hospitalization
3 = injury requiring hospitalization for less than 2 weeks
4 = injury requiring hospitalization for more than 2 weeks
5 = the injury involved a fatality

Blanchard and Hickling (1998), in their Albany study, found that there were small positive correlations between the extent of initial injuries and the development of psychological symptoms. Similarly, Hobbs, Mayou and Worlock (1993 in Mitchell 1997) found that for the entire sample, ‘global recovery was negatively correlated with the severe injury or death of others in the accident’. Perhaps more pertinent is Blanchard and Hickling’s (1998 169) anecdotal statement of a strong association reported by their participants between physical injury and PTSD symptoms, given that there was an ‘unavoidable reminder’ in the form of pain and restrictions of movement. This raises the very important question as to whether research is tapping into more of a grief or loss reaction, rather than an ongoing trauma response.

In contrast, others have found no association between physical injury and psychological response (Mayou et al 1993; Green et al 1993, Feinstein & Dolan 1991)

Jeavons et al (1996 31) asked slightly different questions in that they examined permanent physical change as a result of the accident. 63% reported permanent physical change as a result of accident, and for 62%, this led to reduced physical functioning. 50% reported that their bodily health was worse, 46% reported it was the same and 4% reported that it had changed for better.

The other severity of injury factor is a fatality. Some other studies have examined the impact of this particular experience of road trauma on surviving family members.
Shanfield and Swain (1984) conducted a study of parents whose adult children had been killed in road trauma. They found that there were persistent psychological reactions, particularly depression, after two years. Lehman, Wortman and Williams (1987) studied family members directly affected by the death of a child or a spouse as a consequence of road trauma. Using a range of psychometric measures, they assessed 80 individuals at between four to seven years post-accident, and found that there were continuing high levels of psychological distress, challenging the notion that a stage of resolution of such grief is possible.

**Proximity to the stressor itself**

There have been a number of counterintuitive findings in relation to the effect of proximity to the stressor on distress outcomes. This has primarily emerged from studies of Vietnam Veterans that have shown that those with *least* proximity to the traumatic events were the most traumatized (Boscarino 1995). Similarly, McFarlane (1992 442) in his follow-up of 469 fire fighters at 4, 11 and 29 months after the Ash Wednesday bushfires found that, ‘neither the magnitude of people’s losses nor the intensity of their exposure was a direct cause of disorder’. On the other hand, Biernat and Hickling (1994 329) found in a study of student reactions to campus murders that negative consequences were related to proximity to the stressor. Those closest to the event experienced greater levels of distress.

**The role of the passage of time**

As the role of time in leading to natural recovery from negative psychological consequences remains unclear, so does its role in promoting growth reactions. Tedeschi and Calhoun (1996 467-8) found no association between the length of time since the traumatic event and the subsequent growth experience, although they do hypothesize that growth will not be seen in the very early phase of trauma recovery.

In relation to distress, there has been some effort to distinguish the types of trauma that lead to more protracted recovery experiences than others. For example, Biernat and Herkov (1994 311) discuss the way in which crime victims are thought to resolve their trauma within six to twelve months, compared with other victims such as sexual
assault victims who may experience much more long term reactions.

These considerations lead to the issue of whether it is the objective or subjective perception of the event that is more influential.

(C) SUBJECTIVE OR OBJECTIVE MEASURES

Given the contradictory outcomes of research that consistently emerge regarding the severity of the event and injuries, it has become increasingly evident that one of the key determinants may be the subjective perception of these events, rather than the objective ‘reality’ of the event (Harvey 1996; Green et al 1993; Holtz 1998; McFarlane in Kleber et al 1995). Jeavons et al (2000 363) similarly conclude that the subjective experience is critical in determining the ‘likelihood of traumatic reactions rather than focussing entirely on severely injured people from major accidents’.

Massey, Cameron, Ouellette and Fine (1998 347) raise the important question for assessing positive outcomes - ‘Who determines if and when a person is thriving, the participant or the researcher?’ . This question of determination relates as much to the negative consequences of trauma as to the positive.
INDIVIDUAL FACTORS

PERCEPTIONS OF THE TRAUMATIC EVENT

In common parlance, life events ranging from comments heard in childhood to horrendous assault are equally presented as traumatic

Bowman (1997 7).

It is argued that the perception of the event, particularly in relation to a threat to life or perceived threat to life (Lifton 1988; Green et al 1993; Watts 1994) is critical to the way in which a trauma response develops. It is one of the central diagnostic criteria for PTSD (APA 1994). The reasoning behind this is that the greater the perception of threat, the greater the level of disturbance or disruption that this perception, hence, the greater the potential for a traumatic stress response\(^\text{11}\). Mayou et al (1993) found that the initial intrusive and horrific memories of the road accident, for example, were related to the development of PTSD.

As Richmond and Kauder (2000 682) note, however, it is not only about the perceived threat to life, but the perceived ‘violation of their social and personal integrity, resulting in feelings of stress and vulnerability, as they confront the possibility of their own mortality’. The subjective construction of the event thus becomes of critical importance. Along with the perceived threat to life, there are a range of other disturbing perceptions and experiences that may be heavily influential in the survivor’s recovery experience. These might be the perception of the loss of personal control, the perception of the future and self-determination, the perception of systems and the social environment and their helpfulness or unhelpfulness.

One of the other key perceptions may be whether the event is in fact traumatic or not. There is the presumption in using the language of trauma that if the event is considered to be generally of a potentially traumatic nature, then all road trauma survivors will experience it as such.

\(^{11}\) A controversial finding was that by Resnick, Kilpatrick, Dansky, Saunders and Best (1993), in that rape survivors who had a prior rape history were found to have significantly lower cortisol levels in the hours immediately after another rape.
There is also the issue of the relative traumatic nature of the road trauma experience. Does the experience of previous trauma lead to a minimizing of the perception of road trauma experiences, consistent with Kobasa’s arguments about the ‘steeling effect’ (Kobasa 1979) of a history of traumatic experiences, or does prior traumatic experience lead to other perceptions of vulnerability? This issue may be of importance in terms of the road trauma occurring in the context of other life events, potentially traumatic.

Another key perception that has been examined is the perception of blame or a sense of responsibility for the accident itself. This is particularly pertinent in the experience of road trauma where typically there is an issue of human error or fault (Wheat & Napier 1997). Dohrenwend (1998) reinforces the importance of assessing the issues of blame and personal responsibility in stating,

we must face the fact that the individual’s behaviour plays a large part in the occurrence of many of these events and, that, to the extent that it does, individuals can create the ‘calamitous circumstances’ to which they are exposed.

Many road trauma incidents are preventable incidents, occurring through human exhaustion, negligence or recklessness. This leaves many road trauma survivors grappling with issues of guilt, anger and blame, whether directed towards themselves or towards others.

A number of researchers have examined the impact of perceived responsibility, and therefore perceived control, for the accident on recovery outcomes. This is not only in relation to road trauma recovery (Bulman & Wortman 1977; Delahanty, Herberman, Craig, Hayward, Fullerton, Ursano & Baum 1997; Hickling, Blanchard, Buckley & Taylor 1999), but rape (Frazier & Schauben 1994) and other trauma experiences.

Delahanty et al (1997), and later Hickling, Blanchard, Buckley & Taylor (1999), have shown, perhaps counter-intuitively, that those who blame themselves for the accident and fulfil criteria for PTSD are ‘less symptomatic initially, and recover more rapidly in the first six months than those with PTSD who blame another party for the accident’ (Hickling et al 1999 345). This was despite significant differences in their samples. Similarly, Bulman and Wortman (1977) found in an earlier study of
survivors of spinal injuries (38% sustained from MVA’s) that those blaming themselves for the accident were perceived by social workers and nurses to be coping better than those who were blaming others.

Frazier and Schauben (1994), along with others such as Janoff-Bulman (1995) and Herman (1992), have examined the ways in which characterological and behavioural self-blame influence outcomes from trauma. As Davis states, they ‘suggest that ‘recovery’ may actually be facilitated by some acceptance of ‘responsibility’ for the traumatic event’ (Davis 1999 768-9). While promoting acceptance of blame, particularly after the experience of rape, has neither been seen to be an appropriate therapeutic intervention nor politically correct, Frazier and Schauben (1994) found that some behavioural self-blame may be protective. It may enable the individual to feel confident and in control of how they act in the future, and that by changing their behaviour, they can restore a greater sense of safety. Thus, if generalized, the road trauma survivor who is in some part responsible for the accident can be more in control of future behaviour, whereas if another is perceived to be at fault, validation or legitimation of this fault may never be made, leaving the individual without closure.

The final area of perception that has been examined in relation to some traumas has been the perceptions of coping and recovery. One of the phenomena that has been noted has been the process of downward comparisons, that is ‘comparing oneself to those who are worse off is a productive way to interpret one’s own situation’ (Liiceanu in Harvey & Miller 2000 115). In minimizing one’s own injuries or difficulties, it is argued, the ability to cope with the traumatic event is heightened.

This taps into perceptions of what recovery actually is for the individual - does it mean returning to pre-accident levels of functioning or some other imagined level of functioning? The origin of the word ‘recovery’ is in the French verb ‘recoverer’ (Brown 1993 2507), meaning ‘restore to health, strength or consciousness’. Explicit in this definition is the notion of going back to or returning to some former state. So, semantically, expectations of recovery relate to the fact that the individual affected by trauma is expected to return to their pre-crisis state. This immediately establishes a contradiction, a paradox - for the one thing the individual affected by trauma frequently cannot do is return to how things were, either in a practical or physical
sense, or in an emotional or psychological sense. Thus, adhering to a definition of recovery as the restoration of previous states of functioning may be impossible.
**HOPE AND OPTIMISM**

One rarely, if ever, would feel optimistic about something that is not good. Hope, on the other hand, is affectively expressed in more open terms - the situation may be difficult and painful, but the person remains open to the pain and to its eventual possibilities.

Farran, Herth and Popovich (1995 12-13)

*Is hope a mood, an affect, a passion of the soul, a psychological state? Is it a generic disposition or attitude? Is it a state of mind or a 'climate of the mind'?*

Godfrey (1987 33)

The important role of hope and optimism in individual well-being and indeed, often in survival, is frequently acknowledged. Frankl (1984 96-97), for example, observed the role of hope in the survival of concentration camp inmates when he stated,

Those who know how close the connection is between the state of mind of a man - his courage and hope, or lack of them - and the state of immunity of his body will understand that the sudden loss of hope and courage can have a deadly effect.

Yet until the last decade, although there was awareness of this connection, hope and optimism have been neglected by psychology and psychiatry (Stotland 1969 1), as well as social work, in understandings of the mediating variables in a range of critical life events.

One of the difficulties in operationalizing these concepts in research relates to the variations in definitions. Cross-cultural and inter-subjective factors influence and confound these understandings. Briton (2000), in reviewing the notion of hope as it applies to living with a life threatening illness, argues that due to the lack of consensus about definitions of hope, it is more appropriate to examine or encourage a ‘repertoire’ of hope.

While there are many ways in which hope is understood (Stotland 1969; Brackney & Westman 1992; Averill, Catlin & Chon 1990; Briton & Jackson 1996; Briton 2000), a prevailing understanding is that it is related to ‘an expectation about goal attainment’ (Stotland 1969). As Godfrey suggests, ‘hope thus involves beliefs about the possibility and the worth of what is hoped for’ (1987 29). In terms of recovery from trauma, hope is seen as a vital factor. It enables the survivor to connect or reconnect
with future possibilities, and become freed from the focus on the past that trauma imposes (Freud 1982; Macnab 2000 25-32).

Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinobu, Gibb, Langelle & Harney (1991), and Snyder (2000) propose that hope, when compared with optimism, has two distinguishing features. Hope has an inherent sense of agency, that is, an individual’s sense of expectation about achieving goals. It also has an inherent sense of pathway, in that there is an ability ‘to sustain movement along the imagined pathways to goals’ (Snyder 2000 13). This model of hope emphasizes thinking, as distinct from other hope models that view hope as more of an emotion-based concept. Snyder et al (1991 571) argue that emotions are a by-product of goal-directed thought.

Optimism is conceptually similar to hope in many ways in that it is understood to be the generalized expectancy for positive outcomes (Scheier & Carver 1985), or a confidence in the future (Brown 1993 2011). Averill et al (1990 95) propose that optimism is a more morally neutral and non-emotional concept than hope. They propose that claims of optimism would be ‘based on evidence that can be judged in terms of rational criteria’, that hope can be maintained under conditions when optimism can no longer be sustained. This explains the predominance of hope, rather than optimism, in the research into mediating variables in areas such as terminal illness. Thus, some researchers as the quotation on the previous page suggests, have concluded that hope is a more ‘flexible’ or ‘open’ construct than optimism.

Hope and optimism have been strongly linked with the notion of posttraumatic growth, as discussed in Chapter Two. In a study examining the impact of hope and optimism on growth for patients living with chronic pain caused by fibromyalgia, re-evaluations of the relationship between growth and optimism (measured by the PTGI and LOT-R) have shown no relationship between the two. A significant relationship, however, was found between growth and hope (Tedeschi et al 1998 72). It would seem logical, given the above discussion, that hope or optimism would be required to motivate a process of personal growth and that some relationship would therefore be demonstrated between growth and these two variables.

The major areas in which hope and optimism have been researched are in relation to
performance, adjustment and health (Snyder 2000). In terms of coping with spinal cord injury (Elliott, Witty, Herrick & Hoffman 1991), with burns during adolescence (Barnum, Snyder, Rapoff, Mani & Thompson 1998), with breast cancer (Irving, Snyder & Crowson 1998), with HIV/AIDS (Briton & Jackson 1996) and with fibromyalgia (Affleck & Tennen 1996), hope has been found to be a positively influential variable. Darlington and Brand (1999) found hope to be an important factor in living with serious mental illness. Elliott et al (1991), in examining the role of hope in adjusting to physical loss, found that those who had a high sense of agency were more ‘psychologically buoyant’.

Hope and optimism are understood be beneficial in coping with these adverse life events because they motivate individuals towards action, or as Averill et al (1990 100) argue, when action is not possible, hope serves a ‘regulatory’ role, maintaining a ‘sense of coherence’. These functions assist in approach coping. In coping with the aftermath of trauma, task-focussed coping or approach coping styles have been identified as more successful coping strategies than emotion-focussed coping or avoidant coping styles (Aldwin 1993). Importantly, given the data which suggests females adopt more emotion-focussed coping styles and males adopt more task-focussed coping styles, no gender differences have been noted in patterns of hopeful thinking to date (Snyder 2000 21).

One of the continuing difficulties with these two concepts is that they are often measured as global traits, rather than as specific to particular adaptive processes.

Levels of hope and optimism will shape the fantasy about the future. That is, hope and optimism will influence the ways in which someone in the present imagines how they will be coping in the future with their circumstances. Yet there is very little research on expectations of recovery or future coping. Thus, the tendency of trauma to lock its survivors into a fixation on the past that was noted in the beginnings of Chapter One, seems to have similarly fixated researchers on these issues of past personality factors and their influence on recovery. It may be that the processes of a future fantasy and optimism are equally important.
SPIRITUAL, RELIGIOUS AND EXISTENTIAL FACTORS

As well as the psychological resources of optimism and hope having an impact on the coping capacity of the traumatized individual, there has been increasing attention paid to the buffering effects of spirituality and religion. As George, Larson, Koenig, & McCulloch (2000) note, people frequently report that spiritual beliefs and practices are major sources of personal strength and recovery, although this phenomenon remains little understood in the majority of the health and mental health sector.

An extensive body of research is also emerging which demonstrates strong links between matters of the spirit, and subsequent psychological and physical health. As Blanchard and Hickling state (1998), persistent pain, limited activities and injury are constant reminders of the accident and of the trauma associated with the accident. Therefore, there is cause to constantly search for a reason why, and a looking for a way to draw meaning from the event. Ironically, their discussion of these matters constitutes two paragraphs of their 302-page text (Blanchard & Hickling 1998 292-293).

One of the ways in which religion and spirituality have been distinguished is that both refer to the search for the sacred, whereby the sacred refers to a divine being, a higher power or ultimate reality as perceived by the individual. However, spirituality refers to the feelings, thoughts, and behaviours that arise from a search for the sacred, and religion, while in many ways similar to spirituality, at some point must receive validation and support from an identifiable collective. Or as Tacey (1995 15) argues, spirituality is primarily understood as something beyond the scope of the religious – the religious pertaining to the institution, the practices of the church whereas the spiritual pertains to ‘our connectedness, about our links with nature and cosmos’.

It is argued that religion and/or spirituality affect health in at least 3 ways12 (Loewenthal 2000; George et al 2000). Firstly, religion, or spirituality, promotes health behaviours - in two ways. The first is in the specific prohibitions against the

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12 Methodologically, the focus has been on the impact of religiously as distinct from spirituality. Some argue that what is often concluded to be a measure of religiously is in fact frequently a measure of other aspects of self, eg a sense of self, life purpose.
behaviours that place health at risk such as drug and alcohol use, sexual promiscuity, smoking, and violence. The second is through the encouragement of health promotion as a result of viewing the human body as having spiritual and material significance (George et al 2000).

Secondly, religion, or spirituality, promotes social support. It is argued that religious or spiritual affiliation encourages the development of close social bonds outside the nuclear family, and in turn the establishment of a social network that can be depended on in times of trouble. It is interesting to note that social support, however, only explains 5-10% of relationship between religion and health (George et al 2000 111).

Thirdly, religion, or spirituality, promotes coherence. The most strongly supported health promoting aspect of religion or spirituality is understood to be its provision of a sense of coherence and meaning for people. It is argued that through participating in a faith tradition, ‘people understand their role in the universe, purpose of life and develop courage to endure suffering’ (George et al 2000 111). This theory of the buffering effect of spirituality is perhaps most importantly linked with the trauma response. If trauma shatters worldviews, narratives and core assumptions, as argued in Chapter One, and if religion provides an overarching experience of coherence or preservation of a sense of coherence then spirituality or religion may well function as protective factors. George et al (2000 105-106) outline the aspects of religion or spirituality that may function as protective factors. These aspects are listed in Figure 7.

1. preference or affiliation - membership in or affiliation with a specific religious or spiritual group
2. history - religious upbringing, duration of participation in religious or spiritual groups, life-changing religious or spiritual experiences, and ‘turning points’ in religious or spiritual participation or belief
3. participation - amount of participation in formal religious or spiritual groups or activities
4. private practices - private behaviours or activities including but not limited to prayer, meditation, reading sacred literature, and watching or listening to religious or spiritual radio or television programs
5. support - tangible and intangible forms of social support offered by the members of one’s religious or spiritual group
6. coping - the extent to which and ways in which religious or spiritual practices are used to cope with stressful experiences
7. beliefs and values - specific religious beliefs or values
8. commitment - the importance of religion/ spirituality relative to other areas of life and the extent to which religious or spiritual beliefs serve to affect personal values and behaviour
9. motivation for regulating and reconciling relationships - most measures in this domain focus on ‘forgiveness’ but other issues may be relevant as well (eg confession, atonement)
10. experiences - personal experience with the divine or sacred as reflected in emotions and sensations

Figure 7: The domains of religion or spirituality connected with health outcomes
Consistent with these three theories, a number of studies have found long term positive consequences of spirituality or religion. These studies have focused on the management of arthritis pain (Keefe, Affleck, Lefebvre, Underwood, Caldwell, Drew, Gibson, & Pargament 2000) and chronic pain; cardiac conditions in the elderly (Oxman, Freeman & Manheimer 1995); immune system protection (Koenig, Cohen, George, Hays, Larson & Blazer 1997); mental health among women veterans with sexual assault experience (Chang, Skinner & Boehmer 2001); and depression (Koenig, George & Peterson 1998).

The role of spirituality has become an important aspect of posttraumatic growth, with studies by McMillen & Fisher (1998), Pargament (1997), Tedeschi and Calhoun (1995, 1996) and others finding that many report positive life changes in relation to spirituality.

In a recent study, Calhoun, Cann, Tedeschi and McMillen (2000) examined the degree to which event-related ruminations, a quest orientation to religion and religious involvement related to PTG. With 54 young adults to whom they administered the PTGI and Quest Scale, an index of religious participation, they found that the degree of rumination soon after the event and degree of openness to religious change significantly related to PTG.

**PRE-MORBID FACTORS**

Pre-morbid factors, such as personality style, are important and influential factors in coping with the aftermath of a traumatic event. The extent to which they are considered influential varies enormously. Bowman (1997), for example, argues strongly for pre-morbid personality styles to be acknowledged as the key determinant of recovery outcomes. There is some evidence to support this view. Frazier et al (2000), for example, in studying transplant survivors, found that, as well as enduring social supports, coping styles were predictive of later coping and adjustment. There is, however, also evidence to the contrary, with Eitinger (1964) in his study in Norway and Israel, inquired about pre-morbid factors and concluded that personality characteristics did not play a part in the after effects of the trauma’ (Dohrenwend
Research on massive psychic trauma has consistently hypothesized that ‘the more stressful the circumstances, the lesser the role played by pre-morbid factors’ (Dohrenwend 1998 29). Bowman (1997 Chapters 6 & 7) provides an extensive critique of the role of personality.

Other pre-morbid factors taken into account are the role of prior psychological difficulties. Breslau et al (1991) for example found that prior trauma and prior PTSD predicted PTSD when there was a new trauma with which to cope.

More specifically, research has addressed some of the pre-morbid risk factors for road trauma. Given the nature of road trauma, there have been arguments that there is an ‘at risk’ personality style for road trauma. This understanding has been based on the risk-taking behaviour that is often involved in road trauma incidents. Blanchard and Hickling (1998) found that at least half of their MVA survivors and control groups had been involved in prior serious road accidents. They then found that ‘the MVA survivors were significantly more likely to have experienced a prior serious MVA or any prior trauma than the non-MVA controls’ (Blanchard & Hickling 1998 48).

Similarly, Mayou (1997 36) highlights the importance of pre-accident psychiatric disorder and psychological risk factors. While acknowledging the difficulties inherent in attempting to define and quantify the nature of these issues, he identifies personality traits and ‘excessive and inappropriate drinking and drug taking’ as significant pre-morbid factors. He cites (Mayou 1997 39) research by Brewer (1994) that found ‘all types of major psychiatric disorder are more common in those suffering road accidents than in the general population, with a marked excess of personality disorder and substance abuse’. Other factors, either medical or psychiatric, include affective disorders, schizophrenia and dementia the side effects of prescribed psychotropic drugs, suicidal behaviour and sleepiness and sleep disorders (Mayou 1997 37). There has been difficulty, however, in establishing these particular characteristics of the road trauma population in Australia (Harrison 1999).

**CO-MORBIDITY**

Continually debated amongst the PTSD researchers is the issue of co-morbidity.
Evidence suggests that there is a high level of co-morbidity of PTSD with other psychiatric and psychological disorders, causing many to question the validity of the PTSD notion. Some such as Yehuda and McFarlane (1995) and Keane and Wolfe (1990) suggest that ‘anywhere from 50% to 90% of individuals with chronic PTSD also meet diagnostic criteria for another psychiatric disorder, including substance abuse’ (Yehuda & McFarlane 1995 7). Thus, many are coming to question the validity of the PTSD diagnosis.

Blanchard and Hickling (1998 60-69) provide a useful overview of co-morbidity among MVA survivors, examining mood, anxiety and somatoform disorders, as well as co-morbid alcohol and drug and alcohol abuse and dependence, and personality disorders (Figures 8 & 9 on the following pages). Blanchard and Hickling (1998 62-64) conclude that prior PTSD is disproportionately present in those who had more severe reactions in their study. Similarly, Bowman (1997 48) strongly asserts that ‘there is good evidence of high levels of co-morbidity of PTSD with other acute mental disorders, long-standing personality disorders, and substance abuse’.

These personality and coping style debates are complex, both for their methodological and their theoretical aspects. There are the complications of research being conducted with treatment samples, being rarely contextualized within normal distributions of disorders within the general community and rarely taking into account the ongoing traumatic nature of experiences. Survivors of road trauma are frequently involved in lengthy legal and compensation processes that are ongoing stressors in themselves and capable of eliciting ongoing psychological responses. What the above discussion most importantly highlights is the potential for high levels of ongoing distress for survivors in the aftermath of road trauma, irrespective of how it is named.

In contrast to the examination of the co-morbidity issues of PTSD, the arguments for the co-morbidity for growth, with optimism and hope for example, were examined earlier in the chapter.

For the purposes of this thesis, and its concern with the subjective constructions of experiences of recovery, these issues are noted, but not examined in any direct way.
<table>
<thead>
<tr>
<th>author/ Country</th>
<th>description of sample</th>
<th>PTSD</th>
<th>co-morbidity</th>
<th>driving phobia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malt 1988 Norway</td>
<td>113 hospitalized accident victims</td>
<td>1%</td>
<td>1% major depression</td>
<td>N/R</td>
</tr>
<tr>
<td>Malt et al 1989 Norway</td>
<td>551 adults with accidental injuries who were hospitalized (out of 683, 83.5%)</td>
<td>N/R</td>
<td>33.7% psychiatric case</td>
<td>N/R</td>
</tr>
<tr>
<td>Feinstein and Dolan 1991 UK</td>
<td>48 hospitalized pts with leg fractures. Reassessed at 6 weeks and 6 months</td>
<td>25% at 6 wk 14.6% at 6 mo</td>
<td>62.5% were ‘cases’ CIS&gt;14</td>
<td>N/R</td>
</tr>
<tr>
<td>Green et al 1993 Australia</td>
<td>24/69 hospitalized MVA victims. Reassessed at 1 mo and 18 mo.</td>
<td>8% at 1 mo 25% at 18 mo</td>
<td>33% had clinically significant symptoms</td>
<td>N/R</td>
</tr>
<tr>
<td>Mayou et al 1993 UK</td>
<td>188/200 consecutive MVA victims admitted to hospital (includes 63 whiplash only) Reassessed at 3 mo and 12 mo</td>
<td>8% at 3 mo 11.1% at 12 mo</td>
<td>6.9% mood or anxiety disorders 25/188 (13.3%) psychiatric cases</td>
<td>18.4% travel anxiety at 1 year</td>
</tr>
<tr>
<td>Mayou et al 1991 UK</td>
<td>418 MVA victims admitted to hospital (out of 864). Assessed 4-6 yr post-MVA by questionnaire</td>
<td>N/R</td>
<td>N/R</td>
<td>2% stopped driving 8% much avoidance</td>
</tr>
<tr>
<td>Malt et al 1993 Norway</td>
<td>192 MVA victims who were hospitalized</td>
<td>&lt;5%</td>
<td>68/183 (37%) were psychiatric cases by GHQ 48/183 (26%) had ‘nervousness’</td>
<td>N/R</td>
</tr>
<tr>
<td>Kuch et al 1994 Canada</td>
<td>55 MVA victims with minimal injury and chronic pain</td>
<td>100%</td>
<td>Assessed only for accident phobia 38.2% accident phobia</td>
<td></td>
</tr>
<tr>
<td>Bryant and Harvey 1996 Australia</td>
<td>114 consecutive hospitalized MVA victims</td>
<td>31% had high IES &gt;30</td>
<td>37% high State Anxiety (50+) 25% high Trait Anxiety (50+)</td>
<td>N/R</td>
</tr>
</tbody>
</table>

*Note: N/R = not reported*

**Figure 8:** The co-morbidity patterns found in unselected samples of MVA victims
<table>
<thead>
<tr>
<th>author/country</th>
<th>description of sample</th>
<th>PTSD</th>
<th>co-morbidity</th>
<th>driving phobia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuch et al 1985 Canada</td>
<td>30 MVA victims referred for evaluation (18) or treatment (12)</td>
<td>100%</td>
<td>Depressed mood Muscle pain</td>
<td>77%</td>
</tr>
<tr>
<td>Tarsh &amp; Royston 1985 UK</td>
<td>35 cases of 'accident neurosis' assessed for insurance claims; gross somatization</td>
<td>N/R</td>
<td>Severe depression =1 (3%) Paranoid psychosis (3%) Hypochondriasis (29%) Widespread mild depression</td>
<td>N/R</td>
</tr>
<tr>
<td>Platt &amp; Husband 1986 USA</td>
<td>31 MVA victims for evaluation re legal suits</td>
<td>77.4%</td>
<td>7 women out of 22 met criteria for major depression (32%)</td>
<td>N/R</td>
</tr>
<tr>
<td>Jones &amp; Riley 1987 Australia</td>
<td>327 accident victims referred for evaluation by lawyers</td>
<td>N/R</td>
<td>13.5% mood disorders 6% anxiety disorders 9% somatoform disorders 67% depressive symptoms 73% sleep disturbance 72% HA 75% irritability</td>
<td>N/R</td>
</tr>
<tr>
<td>Goldberg &amp; Gara 1990 USA</td>
<td>55 MVA victims referred for evaluation; 31 had law suits pending</td>
<td>14.5%</td>
<td>Depression 51% Limb pain (20%) Post-concussive syndrome (22%)</td>
<td>N/R</td>
</tr>
<tr>
<td>Home 1993 Australia</td>
<td>7 MVA victims seeking treatment</td>
<td>43%</td>
<td>3 with phobic anxiety</td>
<td>N/R</td>
</tr>
<tr>
<td>Datal &amp; Harrison 1993 UK</td>
<td>56 MVA victims referred for evaluation by lawyers</td>
<td>32.1%</td>
<td>7.1% mood disorder 17.9% anxiety disorder somatoform pain disorder 5.4% adjustment disorder 10.7 with phobic travel anxiety</td>
<td>N/R</td>
</tr>
<tr>
<td>Hickling &amp; Blanchard 1992 USA</td>
<td>20 MVA victims referred for treatment of HA or other pain</td>
<td>50%</td>
<td>45% major depression 20% dysthymia 20% panic disorder 10% alcoholism 25% OBS</td>
<td>60%</td>
</tr>
</tbody>
</table>

Note: N/R = not reported

Figure 9: The co-morbidity patterns found in treatment-seeking samples of MVA victims
THE RECOVERY ENVIRONMENT

One of the most vital elements of the healing process following trauma is the quality of human compassion for another person’s suffering, regardless of the nature of the trauma.

Raphael and Meldrum in Watts and Horne (1984 1)

Trauma goes beyond the individual. It has a far wider context. We interpret war, loss, violence and disasters in ways shaped by our culture, by our society, and by its values and norms. We cope with serious life events in ways provided and approved by our surroundings. Traumatic stress does not occur in a vacuum.

Kleber et al (1995 1)

To date, the discussion has focussed on the research that examines the role of physical and psychological risk and protective factors. This part of the chapter examines the significance of the social context of recovery, and its capacity to function as either a protective or vulnerability factor. For, as Kleber et al (1995 1) suggest above, traumatic experiences do not occur in a vacuum. Each person, before and after their road trauma experience, is both influenced by and influencing social relationships and support.

There are two dominant models outlining the way in which the social environment can operate as either a protective or vulnerability factor. They are the ‘main effect’ and the ‘stress buffering’ models. The main effect model argues that social networks and connections ‘provide us with regular positive experiences, and within the network, a set of stable roles (expectations about behavior) enables us to enjoy stability of mood, predictability in life situations and recognition of self worth’ (Hutchison 1999 146-147). Thus, because of the positive influence of social support, situations are not perceived as being threatening in the first place.

The stress buffering model proposes that social support is an intervening factor between the stressful life event and the perception of threat inherent in that event (Eckenrode & Gore in Gottleib 1981). Thus, a stressor is recognized but the analysis made of the event by the individual is that there are adequate internal and external resources with which to manage the situation successfully. This perception of
adequate coping resources intercepts the cognitive, emotional and physiological arousal caused by the stressor. Such a view is evident in Caplan’s (1974, cited in Gottlieb 1981 24) definition of social support:

The significant others help the individual mobilize his psychological resources, and master his emotional burdens; they share his tasks; and they supply him with extra supplies of money, materials, tools, skills, and cognitive guidance to improve his handling of his situation.

It is the stress buffer model that most frequently emerges in the research literature, in part because it is so difficult to retrospectively prove the main effects model.

In addition to there being different models of social support, different layers or systems of social support are frequently identified (Gottlieb 1981; Milardo 1988; Bronfenbrenner 1979; McDowell & Newell 1996; Kemp et al 1997). For example, Milardo (1988) identifies three types of social support networks - the networks of close associates, interactive networks and exchange networks. In relation to road trauma survivors, the ‘networks of close associates’ includes those people considered important or significant, typically family members and friends. The interactive networks, in which the person has routine or regular interaction, might include the workplace, or recreational and social networks. The exchange networks, established with others on the basis of the specific exchange of resources, might include the hospital and rehabilitation services, the TAC services (discussed later in this chapter) and at times, the resources of close family members as the burden of care or financial responsibility, for example, shifts. The resources that can be exchanged are variously defined as instrumental, affective or emotional, and material support (Walsh & Connelly 1996 cited in Hutchison 1999). The essential feature, perhaps, of each of these layers or systems, according to an ecological understanding, is that they function as ‘enabling niches’ rather than ‘entrapping niches’ (Rapp 1998 27). That is, they facilitate and support optimal biopsychosocial-spiritual functioning rather than impede it.

Each of these three aspects of social support will be considered in relation to the road trauma survivor.
THE INFORMAL RECOVERY ENVIRONMENT

One of the worst pains produced by the accident was the realization that the support and friendship I needed during the hardest parts of recovery were unavailable, unrecognized, unwanted or unembraced.

Moore (1991 141)

Another different and unexpected experience after being in an accident is learning to live with yourself. One tends to forget that one’s entire life has been busy, and spent reacting with others: at school, when studying, working with a young family etc. There was always a focus in life and interaction with others. But an accident victim is suddenly cut off from life, working life and interactions.

Durham (1997 164)

The most frequently examined aspect of social support, both in the research and practice context, is that of the immediate, close associates, or the informal networks of family and friends. Social support has been increasingly acknowledged for its role in individual well-being and psychological health, operating as a protective factor, or less acknowledged, as a vulnerability factor (Martin 1998 151-156). Studies of social support look at factors such as frequency of contact, satisfaction with levels of support and functional aspects (Sarason, Sarason, Potter & Antoni 1985; Bornstein 1995; Kemp, Whittaker & Tracy 1997; D’Abbs 1982; Boscarino 1995).

Cagnetta and Cicognani (1999 558) found, as discussed in Chapter One, that those able to reach the fourth phase of recovery, of ‘being’, were distinguished by ‘their rich social life’. They emphasise the way in which social support acts as an important buffer, particularly for those with more severe injuries.

In the aftermath of trauma, many people recount the experience of losing a sense of understanding or connectedness with their social support networks, of feeling major changes within their intimate relationships and a sense of abandonment by society’s institutions that present impersonal, devaluing responses to their predicament (Durham 1997). Likewise, Gottleib (1981) warns against romanticising the support available to individuals from families and friends, when as Martin (1997) highlights, families and friends are not in a position to be offering support, be it emotional, instrumental or material.

The discussions about the impact on communities of trauma are diverse, with some
arguing that trauma brings a community together through the shared experience of loss and grief, while others see communities shattered by their experiences. Herman (1992 214) talks about the devastating impact of trauma on interpersonal relationships and sources of social support: ‘Traumatic events destroy the sustaining bonds’, and argues that reconnecting with groups is a necessary part of the healing and recovery process. Erikson (in Caruth 1995), in his follow up of the Buffalo Creek flood survivors, found that this was not possible within the community itself.

Numerous fields of inquiry have led to the development of these broader definitions of social support and its vital protective function. It certainly cannot be claimed to be an area of new knowledge, in that the beneficial aspects of social support, both in relation to physical and psychological health, have been long recognized. Some of the existential writings from Holocaust survivors, for example, portray most vividly the life-saving quality of social support. For example, Frankl (1984 57, 70) wrote that his survival of the concentration camp experience was due to the anchoring influence of his perceptions of social support, whether it be in the form of the imagined, perceived mental images of his wife or the concern for the survival of fellow inmates. Similarly, Bettelheim’s (1991 xvi) recognition of the importance of human links flows through his work –

The strongest motive for staying alive is that one has something for which one is determined to remain alive at all costs, at all risks. This is no problem as long as one has strong attachments to others, for whose sake one wishes to remain alive.

It is, however, only relatively recently that detailed research has been undertaken in an effort to demonstrate the significant impact on mind and body of supportive relationships with others. A number of critical studies precipitated or legitimized this focus, including Speigel, Bloom, Kraemer and Gottheil’s (1989) study of women with metastatic breast cancer and the life-enhancing impact of belonging to a support group and Peterson, Seligman and Vaillant’s (1988) Harvard Mastery of Stress, study which examined the impact of perceptions of earlier parental relationships on midlife health status.

Bornstein (1995 241) argues that the possible roles of social support in promoting physical health might include:
1. providing the dependent person with an opportunity to disclose troubling thoughts and feelings to others, thereby enhancing immune function
2. enhance physical health by diminishing feelings of loneliness in the dependent person
3. might promote healthy functioning in dependent individuals because interactions with significant persons in the environment provides the dependent person with an opportunity to learn new, adaptive strategies for coping with stress

Consistent with this, Perry, Difede, Musngi, Frances, and Jacobsberg (1992) found that social support was more predictive of psychological outcome from a burns injury than was the severity of the injury. Conversely, studies of Vietnam Veterans have found that ‘lower social support was associated with all disorders, except drug abuse’ (Boscarino 1995 317)

The subjective experience of social support is one often debated in the literature. Ornish (1998 24) offers this viewpoint:

While some studies measure the number or structure of social relationships, I believe that it is your perception of the quality of those relationships – how you feel about them – that is most important.

This is in contrast to the multitude of studies that have set about confirming subjective reports of social support with objective measures. Frankl’s statement above highlights, however, the importance of the individual’s perception of the experience, and the fact that the protective aspects of social support need not necessarily be present in the environment, but able to be imagined or remembered.

In relation to road trauma, many in Jeavons et al’s (1996 31-32) sample reported some change in their social support networks. In terms of relationships with partners or family, this contact was improved for 12% of the sample, unchanged for 59% and worsened for 29%. Overall, 35% reported contact with others had decreased, 61% had experienced no change and 4% had experienced an increase in contact. As a result, 50% of their sample experienced a decrease in pleasure from leisure, 44% were unchanged and 6% experienced an increase. Considerably different were Oxley and Fildes’ findings (1993 39). They found that 58% of their sample ‘acknowledged an impact of the accident on their personal or family life’, in terms of negative
This highlights the importance of social role valorization, not just intimacy needs, that social support networks provide (Wolfensberger 2000). While an extensive overview of Wolfensberger’s Social Role Valorization (SRV) theory is beyond the scope of this thesis, SRV has as its central premise the following:

> People who fill roles that are positively valued by others will generally be afforded by the latter the good things of life, but people who fill roles that are devalued by others will typically get badly treated by them (Wolfensberger 2000 105).

Although his theory is developed in relation to those with intellectual disability, it may have relevance to the traumatized individual who is unable to resume their pre-accident functioning, and thus loses their social role.

All of these different conceptualizations attempt, in their own way, to examine the way in which the individual negotiates their pre-existing and new psychosocial environments in the aftermath of their traumatic experience. This is where the biopsychosocial-spiritual model is most useful as a lens as it attempts to integrate the understanding of the individual in their particular context at a particular time. Changes in one zone of functioning will necessarily heighten the possibility of changes in another.

**VALIDATION OR DENIAL - THE ROLE OF THE WIDER RECOVERY ENVIRONMENT**

The extent to which a community regards an experience as traumatic will be, in part, reflected in the way in which it provides social, legal and financial resources to ameliorate the effects of the trauma (Gist & Lubin 1999 328). It will be reflected in the rituals and memorials it establishes and in the acknowledgment it gives to the ongoing memory of the experience. It will determine ‘the way survivors talk about their disaster concerns’ (Gist & Lubin 1999 329), if at all, in establishing a public discourse of the experience. Holman and Silver’s (1996 318) research found that the long term psychological effects of childhood incest were more closely related to ‘the
cognitive and social aftermath rather than to most abuse characteristics per se’. Thus the role of the wider community as a validating network is crucial (Herman 1992). It is widely acknowledged that in many instances following the experience of trauma, neither of these processes takes place (Kleber et al 1995 2-4).

These complex issues of social validation reverberate at all levels of decision making to determine the current level of service delivery and formal systems of support for road trauma survivors, and the day to day experience of trauma survivors. For example, due to widespread, aggressive campaigning by the TAC, public awareness of road trauma has been considerably heightened over the past decade. Regular, shock-tactic television advertisements show not only horrific accidents, but individuals in the longer-term recovery phases, attending rehabilitation and experiencing ongoing physical and psychological difficulty. There is no doubt that the advertisements reinforce the traumatic nature of road accidents. Equally, the existence of the TAC is in itself validation by the government of the enormous consequences of road trauma.

There are, however, other ways in which a society responds to road trauma, or any grief situation. Current social commentators note the ‘public emotions’ surrounding grief and loss, and the powerful expectation, for example, that the individual resumes their normal life, and put the traumatic experience behind them (Little 1999, Tacey 1995). Doka’s (1989) promotion of the notion of disenfranchised grief highlights the way in which many are marginalized in their grief because their loss is not recognized by the wider society.

**THE FORMAL SYSTEMS OF THE RECOVERY ENVIRONMENT**

> However, exposure to trauma and its aftermath is not generally a private experience. It is in a social setting that the traumatized who need help reveal themselves and that the processes that determine how victim cope with the events are played out over time.

Kleber et al (1995 13)

For optimal road trauma recovery to occur, formal systems of support are crucial. These include the quality and quantity of support available to the individual from
TAC, from the medical and rehabilitation processes, and from the legal system in terms of appropriate access to litigation and compensation. Yet the formal systems of care are rarely accounted for in the examination of how individuals recover from their road trauma experience. Two of these will be considered, albeit briefly, in the following pages - the TAC and the RTST (Vic).

The Transport Accident Commission

The Transport Accident Commission was established by the Victorian Parliament under the Transport Accident Act 1986 to operate as a state-owned commercial insurance body. It has responsibility for the funding of medical, rehabilitation and compensation costs relating to transport accident injuries under a ‘no fault’ system of insurance (Appendix 2).

The aims of the Act are to:

- ‘provide medical treatment and rehabilitation for people injured in transport accidents
- provide compensation to those injured - or to the dependents of those killed; and
- reduce the incidence and cost of transport accidents.’

It was established in response to an increasing road toll and therefore, increasing cost of injury, and an increasingly cumbersome litigious system of compensation and care under the former Motor Accident Board Scheme.

Through the compulsory payment of car vehicle registration by each owner, a comprehensive insurance scheme is established, covering all those who sustain injuries from a registered motor vehicle accident on Victorian roads or while travelling in Victorian registered vehicles, whether in Victoria or interstate.

The TAC was established, not only with the mandate to provide care and insurance cover for those directly affected by road trauma, but with the mandate to ‘reduce the incidence and cost of transport accidents’. Its triple mandate, to provide for those affected by trauma, to reduce the incidence of road trauma and reduce the cost of road
trauma (as well as operate with the expectations of being a commercial enterprise) has not always been an easy mandate to fulfil. From the client perspective, in particular, the competing mandates of providing care and minimizing care costs, are frequently perceived as problematic.

Despite the often problematic nature of the relationship, there is no doubt that the TAC provides a vital safety net for many who require rehabilitation, and indeed lifelong, care. To give some sense of the safety net (TAC website):

> The TAC pays out an average of $83,000 for each road death and $69,000 for each serious injury. In the 1996 financial year, the TAC paid out $450 million in benefits and compensation, which represents a direct cost to the Victorian community.

At 18 months post-accident, or when injuries have stabilized, survivors may undergo an impairment assessment, to establish an estimate of life-long impairment. If life-long impairment is assessed as being greater than 30%, the survivor is then is eligible for ongoing financial, medical and rehabilitation support and permitted to pursue a common law claim, if applicable. This restriction in being able to pursue litigation or receive compensation is a source of frustration and anger for many individuals and families.

**Litigation and compensation processes**

Much of the push behind the psychiatrization of the post-trauma effects has come from the litigation processes that have surrounded trauma experiences, particularly driven by Vietnam Veterans and survivors of domestic and sexual violence. Not only has the legal process been a major aspect of the movement to get PTSD formally recognized as a psychiatric disorder following trauma, it has meant that increasingly legal processes are a part of the individual survivor’s recovery process. Indeed, many have seen it as a necessary step in the recovery process (Herman 1992; Blankenship 1998).

Legal processes are acutely stressful processes for the individual to negotiate, however, and little attention has been paid to the fact that this is an ongoing stressor for many who experience it. As McFarlane suggests, ‘the current legal process is a
substantially hostile and unfriendly one to litigants’ (1995 33). Likewise, the TAC’s impairment assessment process is a difficult medico-legal negotiation. While research has been conducted around the possible impact of legal processes on an individual’s recovery in terms of malingering (Blanchard, Hickling, Taylor, Buckley, Loos, Walsh 1998; Fontana & Rosenheck 1998; Miller 1961), and compensation-seeking, little if any research acknowledges the very real impact of negotiating a stressful legal process. Thus, as an ongoing source of stress and trauma in itself, litigation and dealing with impairment processes have not been recognized as being such. This position that has been maintained over many years despite evidence to the contrary (that is, a survivor’s recovery is rarely linked with malingering in a legal process) has limited research into the very real and stressful consequences of legal action in the aftermath of road trauma.

**The Road Trauma Support Team (Vic)**

The RTST (Vic) was established in 1996 to operate as a befriender service to those affected, either directly or indirectly, by road trauma. It is a voluntary community group, established in recognition of the fact that people were adversely affected by the multiple losses of road trauma experiences, and yet often left to struggle with these difficulties alone (Jeavons in Mitchell 1997). There was also the perception that support from those who had been through similar experiences might be able to provide unique understandings for others. While it is primarily consumer-initiated and led, the Committee of Management was established to include a number of health and legal professionals. It has continued to maintain strong links with health care providers. Individual counselling is also available, provided by a social worker and a psychologist on staff.

**Rehabilitation systems**

Within both the acute hospital setting and the rehabilitation hospital setting, a multidisciplinary team provides treatment, usually on both an inpatient and outpatient basis. Within the Orthopaedic Unit, a rehabilitation plan is developed for each patient which could include any of the following health professionals: rehabilitation specialist (medical), physiotherapist, social worker, psychologist, neuropsychologist,
occupational therapist, speech therapist, vocational counsellor, and recreational officer.

One of the important components in this treatment is the psychosocial support that is available, through social work and psychological intervention. There is, at least, an initial assessment for each patient to ascertain a need for intervention. Many participate in longer-term social work and psychological interventions throughout their recovery.

**Counselling support**

Some studies have examined the effects of psychosocial support throughout trauma recovery phases. Jeavons et al (1996 32) for example, found that 22% of their sample had received counselling, 33% reported that counselling to be helpful, 44% found that it helped a little, and 22% reported that it had not been helpful. Importantly, they also examined who the survivors would have liked to talk to - 35% would have liked to talk to a professional counsellor, 3% volunteer, 9% somebody else; 47% nobody and 6% didn’t know. 36% said that they still thought they needed help for the medical, psychological, social or economic consequences, which they were not receiving. 26% specifically thought there had been a lack of opportunity to talk about feelings.

Other studies have examined the effects of counselling from a different perspective. Rather than seeking subjective opinions as to the helpfulness of counselling, there has been a measuring of the course of PTSD development over a period of time. Some studies have shown increased PTSD rates for those who received counselling than for those who received no intervention (Hobbs et al 1996) fuelling debates as to the efficacy of trauma counselling and posttrauma interventions (Raphael & Meldrum 1994; Kenardy 1996; Robinson & Mitchell 1993, 1995). Others have argued that those who seek counselling in the first place are more likely to represent only the most distressed group of survivors (Holman & Silver 1996 333), thus biasing any research findings.

Like many studies of counselling intervention and psychotherapy, many of these
studies vary in their assumptions (Kenardy 1996; Robinson & Mitchell 1993, 1995) - who provided the counselling, what theoretical model was used if any, how long the counselling continued, at what point counselling was initiated, at what point the assessment of the counselling process was undertaken. On the last issue, Watts (1994 32), for example, found in his sample of bus accident survivors, that only one participant, in retrospect, reported feeling the need for counselling during the first two weeks. In contrast, 59% felt the need for counselling in the subsequent year.

Social support as the exchange of resources

While Jeavons et al (1996 29) claim ‘There is no research literature dealing with victims’ reports of effects on their financial, occupational and social lives’, this statement is not entirely accurate. Oxley and Fildes (1993) began to address these issues in their pilot study looking at the longer-term consequences of road trauma, and Malt et al (1989) started the process some years earlier. In addition, a significant body of literature exists in relation to the long-term effects of physical injury and disability. Thus, it would be more accurate to say that the literature dealing with trauma survivors reports of effects on their financial, occupational and social lives is limited but emerging.

In relation to the financial effects, Oxley and Fildes (1993) found that there was little reported financial effect on the survivors in their study. Given all but one participant in their study had been under TAC claims, and all were covered additionally by Medicare and WorkCover13, they reported that while there were costs associated with the accident, ‘most estimated this personal cost to be less than $500’ (Oxley & Fildes 1993 36). This is an interesting finding given that the TAC only covers an 85% limit of loss of earnings, so there is a recognized 15% loss in income. Given the fact that 69% of survivors returned to work within 3 months, this may not have been perceived as a major financial loss. Jeavons et al (1996 32) found that 45% of their respondents described their financial situation as worse, 5% as better, and the remainder reported no change. Of those who had experienced change, 70% attributed it to the accident.

13 Medicare is the Commonwealth Government funded health system, providing free medical care to all Australian citizens. WorkCover is also a government insurance body providing insurance and rehabilitation for injured workers.
The financial effects of an accident are in part associated with employment status. Again, both Oxley and Fildes (1993) and Jeavons et al (1996) looked at change in occupational role. Jeavons et al found that 55% of their respondents reported no change in occupation and of those who did report change, 67% attributed it to accident, and another 3% partly so. Oxley and Fildes (1993:39), in looking at ‘time off work’ found that within 12 months, 21 out of their 26 participants had returned to their previous place of employment, and that 69% had in fact returned within the first three months following the accident. Thus, for some, major employment changes seem evident, and for others, their accident has little impact on this zone of their life.

The financial and employment effects may indicate major changes in other zones of survivors’ lives, in that the workplace frequently offers a social network, and finances are certainly fundamental to lifestyle, housing and in many instances, mental health. The loss of these zones may have major repercussions on a survivor’s ability to recovery fully from road trauma.

The social work role in psychosocial recovery from road trauma

"The primary aim of social work services in health care is to mitigate the impact of illness or injury on the individual and their family, and promote psychosocial adjustment and recovery."

Watts et al (1997:30)

"From the outset, social work intervention is structured to ensure the patient and significant others are actively involved in the recovery process, with promotion of recovery the primary goal"


In both acute medical settings and in rehabilitation settings, social work plays a vital role in supporting the recovery of road trauma survivors (Moonilal 1982; Watts et al. 1997). Medical social work has both historically and contemporaneously sought to empower road trauma survivors in two ways - through individual and family casework, addressing the various negative intra-psychic and interpersonal issues that can emerge, and through advocacy and liaison work with the various systems within which the survivor finds themselves. Consistent with this, Watts et al (1997:31) outline a range of assessment tasks, replicated in Figure 10, that warrant social work referral. They highlight also the need for assessment of the impact of the hospital
environment as a potential traumatogenic factor in its own right.

Social work’s involvement with road trauma has not only been at the coal-face of the hospital environment. Social workers have been instrumental in establishing and supporting the self-help group, the RTST (Vic) and a trauma special interest group of the AASW. These groups have been actively concerned with the well-being of road trauma survivors at an advocacy, policy and educational level. To a lesser extent, social work’s involvement has led to the development of research into, and theorizing about, the road trauma recovery processes. This thesis is part of this important process.

- exhibiting high levels of distress, or conversely, numbing of affect
- where the patient was a survivor of a fatal accident
- when death occurs, such as in transit to hospital or during treatment
- perceived narrow escape from death, either self or loved one/friend
- severe injury, particularly if likely to lead to disability
- circumstances of accident may have detrimental legal ramifications (eg culpable driving)
- accident may have been a suicide attempt
- prior suicide attempt(s) or psychiatric history
- pre-morbid abuse of alcohol or other drugs
- no or limited supports
- family conflict, or limited problem-solving and coping abilities
- stressful social situation (eg financial, accommodation)
- prior road trauma of some significance
- concurrent distress about event(s) other than the road accident

Figure 10: Factors warranting social work referral following a road accident
NEW PATHWAYS TO RECOVERY

In the Introduction and throughout Chapter One, the dominance of one trauma recovery pathway was highlighted, whereby trauma occurred, people experienced the negative consequences and eventually moved to recovery or non-recovery. In Chapter Two, another possibility was presented, which included a pathway through growth experiences. In adopting an ecological approach to trauma, as outlined in Chapter Three, the possibility of many pathways emerged.

These pathways now vary according to three, rather than two, factors. Firstly, the ongoing negative effects, secondly, the ongoing positive or growth effects, and thirdly, perceptions of recovery. Previously these pathways were considered to involve only the two factors of the ongoing negative effects and perceptions of recovery. Undoubtedly, these distinctions are arbitrary and problematic distinctions, falsely dichotomizing and simplifying the issues as either negative or positive consequences. For the purposes of clarity of argument, however, this division will be initially maintained, as they begin to accommodate the range of experiences possible in the aftermath of trauma.

Each pathway has five critical stages that need to be considered. The first stage is the pre-trauma stage, whereby the person is functioning in their particular ecological context prior to the traumatic event, as discussed in Chapter Four. The second stage is the occurrence of the traumatic event itself with its unique features, such as the severity of the accident itself, the severity of the injuries sustained and the degree of impact on the individual survivor. The third stage is the experiencing of negative consequences or not, predominantly considered with a psychological, and particularly PTSD, lens as discussed in Chapter One. The fourth stage is the experiencing of positive consequences or not, as discussed in Chapter Two. Intimately connected with each of these four stages, and indeed the fifth, are a range of risk and protective factors, and Chapter Four has addressed these. The fifth and final stage is considered to be the phase of recovery, or not.
Accounting for these growth possibilities, six broad pathways of trauma recovery might be evident. While it is not the intention of this thesis to attempt to establish or predict pathways of recovery, a brief consideration of each of these pathways is useful.

The first pathway is where there are neither negative nor positive consequences of the trauma experience, and the individual perceives themselves to have reached a point of recovery. That is, there is very little effect. There is some limited evidence (Granot 1988) for such a pathway, supporting the notion that some people move through relatively unscathed by trauma experiences (Pathway 1, Figure 11).

![Pathway 1 and Pathway 2 diagrams]

**Figure 11: The possible pathways to recovery (1)**

The second pathway is where there is seemingly no negative consequence, but there is an experience of both positive consequences and recovery (Pathway 2, Figure 11). Both these pathways have been relatively neglected in the research to date, and may provide crucial insights into how others could adapt to road trauma.

Where there is negative or traumatic effect, four pathways towards recovery can be considered. The first pathway is where there is report of the experience of both negative and positive effects and the survivor reports subsequent recovery (Pathway 3, Figure 12). The second is where there is traumatic effect and posttraumatic growth, and the survivor reports no recovery (Pathway 4, Figure 12).

---

14 Neither of the above pathways include the possibility of non-recovery given that there is no logic in arguing a pathway from the traumatic event, through no negative nor positive effect to a non-recovery
In the instances where there is negative effect but no posttraumatic growth, again, the survivor may either report experiencing eventual recovery (Pathway 5, Figure 13) or no recovery (Pathway 6, Figure 13). Each of these possibilities is illustrated in Figure X.

According to Tedeschi and Calhoun’s (1996) conceptualization, those who report posttraumatic growth are most likely to be on Pathway 3 or 4 rather than Pathway 5 or 6, where there is a co-existence of distress and growth experiences until a final recovery stage is reached. They would presumably argue that Pathway 2 is not possible given the absence of distress. That is, there needs to be the ongoing experience of distress to stimulate the rumination necessary for posttraumatic growth.

It is important to acknowledge that none of these pathways reflects a simple linear progression along a particular pathway, returning to Herman’s (1992) statement at the state.
beginning of this chapter or Antonovsky’s (1987) notion of a health ease/disease continuum. Rather each stage might be thought of as a continuum of experience along which the individual journeys. Each one of these five stages is uniquely defined and determined by the individual’s ecological context, their biopsychosocial-spiritual factors. A major deficit of previous models, of both negative and positive\(^{15}\) effects of trauma, has been the neglect of these factors as crucial influences at every stage of the trauma experience.

Thus, an ecological pathway model of recovery, in view of the recognition of positive growth processes and in view of the risk and protective factors, begins to look something like the model outlined in Figure 14. This model will form the basis of this research. It will assist in the formulation of relevant questions for the participants as their experience of the longer-term recovery from road trauma is explored. The task will be then to draw these themes together and to examine the ways in which an analysis of experiences of recovery from road trauma might best be conceptualized and whether the pathways outlined above offer a useful conceptualization.

**Summary**

To date, the major research themes addressed in the literature review have emerged as relating to the negative and positive consequences of trauma. The research suggests that between 10-45% of a road trauma sample may be continuing to experience PTSD, and a range of other psychological distresses. Although road trauma has not been specifically studied in relation to growth experiences, the literature suggests that there may be reports of growth, as survivors make new meaning from their ongoing trauma and distress.

An ecological understanding suggests that in order to explore the range of distress and growth experiences, a number of risk and protective factors need to be taken into account, at various levels of the social system in which the individual is functioning. Thus, social support structures at an informal and formal level may influence the experience. The ecological understanding also suggests that a range of individual

\(^{15}\) Tedeschi and Calhoun, for example, in their model of posttraumatic grief, highlight the social
factors will also influence the experience of recovery - including perceptions of the traumatic event, perceptions of recovery and perceptions of the future.

Figure 14: An ecological understanding of trauma recovery pathways

This thesis aims, therefore, to examine whether these are the aspects of the experience of recovery that are most important from a survivor perspective. What are the core themes of the survivors experiences of recovery in the aftermath of road trauma, compared with these issues identified in the previous road trauma literature?

support issues only in the latter phase of the aftermath reaction.
From an ecological perspective, exploration of these issues is only possible using multiple methods approach, which takes into account both the individuals’ experiences and the context in which they are functioning. An ecological perspective prescribes that both the subjective and objective features of the experience are important to consider. With these conclusions in mind, an appropriate research method was established, and is outlined in the following chapter.
PART TWO

THE DESIGN OF THE RESEARCH

CHAPTER FIVE

THE RESEARCH PROCESS

The previous chapters have established the theoretical context for this thesis. This chapter now overviews both the methodological concerns underpinning this thesis and the subsequent research method that was adopted.

METHODOLOGICAL CONSIDERATIONS

The general methodological concerns were, firstly, in relation to adequately addressing the many ethical considerations inherent in such research; secondly, finding ways in which the subjective experiences of survivors might best be incorporated into a research methodology; and thirdly, determining whether quantitative or qualitative data should be gathered.

A. ETHICAL CONSIDERATIONS

Ethics refers to that complex of ideals showing how individuals should relate to one another in particular situations, to principles of conduct guiding these relationships and to the kind of reasoning one engages in when thinking about such ideals and principles.

Smith in Guba (1990 141)

In any research inquiry, the issue of ethical research practices is paramount. Research within the trauma field is frequently considered to be more ethically complex than other areas of social work or psychological research. This is in view of concerns about re-traumatizing survivors through arousing memories of the traumatic memory and
posttrauma responses. This has led to a relatively cautious involvement of researchers in aftermath experiences, and much discussion about the most appropriate ways of venturing into sensitive areas of inquiry (Lee 1993; Carlson 1996; Crumpton-Cook 1996).

At every stage in the process, the way in which this research might impact on potential participants was given careful consideration. The importance of informed consent and adequate information about the study, the method of initiating contact and maintaining a high level of confidentiality, the motivation and agendas of the research, the ethics of various alliances (the researcher’s reliance on a treating agency for access to a client population), and the feedback processes were some of the issues that were of greatest concern. The method also had to address the important issue of the avenues for non-participation at every point of the research process. This involved considering how easy would it be for potential participants to refuse involvement. Each of these is discussed in the Method section on the following pages.

These ethical concerns arose from an overarching concern about the effect of intruding into people’s lives 3-4 years post-accident and possibly retraumatizing people. There was an awareness of trauma survivors’ ‘general reluctance to discuss the painful and distressing aspects of their experience’ (Kahana et al 1995 75). Asking about trauma recovery typically involves asking a range of sensitive questions about perceptions of blame, perceptions of the traumatic event and perceptions of social support. Thus, there is the unpredictable effect of asking such questions, both in the short term and long term.

The ethical guidelines outlined in Brzuzy, Ault and Segal (1997 80-81) were useful in prompting a range of important considerations for interviewees - in the preparation phase, in the conducting of the interviews and in the aftermath. These considerations involved the importance of anticipating worse-case scenarios (experiencing extreme distress etc), of being prepared with referral resources, of preparing interviewees for possible discomfort during the interviews, and for generally being available to interviewees both before and after the interview. Many of these ethical aspects were integrated into the research method employed.
B. THE IMPORTANCE OF THE SUBJECTIVE EXPERIENCE

_Only the man inside knows. His judgments may not be objective; his evaluations
may be out of proportion. This is inevitable._

Frankl (1984 24)

_Existential sociology: ‘valuing deep and personal experience within the subject’s
world’_

Ambert, Adler, Adler and Detzner (1995)

Approaching the issue of methodology raises the issue of subjectivity and its
centrality within social work research. Indeed, at the heart of social work intervention
is the notion of client-centred practice, an implicit valuing of the client’s perspective
and position. Yet many trauma researchers have a deep resistance or suspicion of such
a position. This is typified in the following statement by Cohen, Cimbolic, Armeli and
Hettler (1998 329),

> To date, empirical research on thriving has relied on victims’ reports of
stress-related positive outcomes. However, for obvious reasons,
researchers should be sceptical of the accuracy of victims’ self-reports of
thriving.

Such a comment undermines the subjective position. It is ironic in view of the fact
that these researchers found in their own study of growth experiences that there was a
significant positive relationship between self-reports of growth, and reports from
close friends and family.

In contrast, the complexity, but the importance, of listening to individual narratives of
thriving or suffering or of any aspect of their trauma experience is eloquently stated
by Massey, Cameron, Ouellette and Fine (1998 352-3):

> We find no easy correlation between ‘objective’ well-being and narratives
of thriving; and we find few respondents eager to offer a singular
attachment to thriving. Instead, our analyses suggest that discourses of
thriving and despair, like these experiences, are braided, interwoven into
the words and daily lives of men and women coping with the strains of
contemporary urban life. Their stories resonate back to us, the researchers,
as we search, yearn, wish for a pure discourse of thriving.

The dilemma of listening to the subjective experience is captured vividly in this
lengthy statement, the way in which it leaves researchers without a ‘pure discourse’ but rather, a complex, contradictory and confusing picture of recovery. Such a statement reinforces all the more the fact that until some of this complexity and confusion can be clarified, if ever, that as much of the subjective experience should be interwoven into research methodologies.

There is a striking contradiction in the trauma and growth research. Subjective reports of growth and perceived benefits are persistently questioned in terms of their validity, to the point where positive illusions (Taylor and Brown 1988) are argued. Yet reports of ongoing trauma and distress issues, while frequently questioned in legal proceedings, are taken at face value in the research, rarely questioned as to their potential to be distorted also or influenced by multiple, competing factors.

A major concern in the undertaking of this research has been how to accurately and sensitively portray the unique and idiosyncratic nature of so many diverse individuals and their experiences, at the same time having to arrive at some kind of conclusion or end point. Critiquing the quantitative method is relatively easy in this regard. The individual voice is generally and acceptably lost in the larger context of the group data. When it comes to the richness of quotations from the participants that capture in their immediacy the depth and uniqueness of experience, it was difficult to know how to maintain that real voice. There is then, an ethic of representation, ensuring that what is written or spoken is as adequately incorporated into the findings as possible, and an ethic of accuracy, ensuring that what is written or spoken is indeed as it was intended to be written or spoken.
C. COMBINING QUANTITATIVE AND QUALITATIVE RESEARCH METHODS

Qualitative methods may be more suitable when flexibility is required to study a new phenomenon about which we know very little or when we seek to gain insight into the subjective meanings of complex phenomena in order to advance our conceptualization of them and to build theory that can be tested in future studies. Quantitative methods, on the other hand, may be more appropriate when we study a phenomenon about which we already know much, when we have a relatively high degree of control of the research situation or when we seek to verify hypotheses or describe with precision the characteristics of a population.

Rubin and Babbie (1992 30)

Relying solely on a priori scales, however, should be done only when the experience or type of experience is already well-known by investigators from previous work in an area. In any new area, it is especially important to allow the emergence, in the subject's own words, of stressor experiences that might not be thought of by investigators.

Green and Grace in Everly and Lating (1995 121)

Rubin and Babbie (1992), as cited above, highlight the conditions under which each of the quantitative or qualitative methods might be more appropriate. Given the different stages of development in understandings of distress and growth, a multimethod approach seems appropriate.

The well-researched phenomenon of PTSD seems to have undergone what Rubin and Babbie (1992 132) suggest is a process of conceptual entrapment. The first stage in this process is when there are observations of phenomena and the recognition that they have something in common. The second stage is the recognition that it is inconvenient to keep describing specific observations and therefore a name is given to the general concept, in this case, PTSD. The third phase is when people begin to think the name is something and the fourth stage is when there is a belief that the concept itself is real but an irony arises - people begin discussing and debating whether specific observations are ‘really’ sufficient indicators of the concept. The history of the development of the diagnosis of PTSD follows this process. In contrast, as Tedeschi, Park and Calhoun (1998 23) suggest, the notion of PTG is in its infancy. They therefore perceive the research that is available regarding PTG to be scarce and ‘for the most part, methodologically primitive’. Qualitative methods will help to illuminate this phenomenon which is only beginning to undergo quantitative
conceptualization.

As most of the trauma research has emerged from the disciplines of psychiatry and psychology, a great deal of the rich subjective material of peoples’ lives has been overlooked in favour of quantifiable objective ‘hard’ data. This is not to deny the importance of this approach to understanding trauma reactions and recovery. It is to merely to recognize its limitations as an approach as discussed earlier.

It illuminates the dilemma for social work research, and postmodern perspectives generally - that in valuing the individual and the subjective, the challenge then arises as to how to represent the collective voice (Pease & Fook 1999). In order to advocate for change in systems and structures, there is a reliance on grouping and naming, and therefore quantitative data can be critical. For social workers to intervene in any situation there is the necessity of assessment, discernment, practice wisdom and judgment. Yet there is the necessity of simultaneously representing the subjective experience.

It is the aim of this research to work with the assumed or known themes of PTSD, growth, social support and personality traits as a benchmark, and to simultaneously begin to ask whether there are other ways in which the recovery experiences might be understood. The tension, therefore, in this research is about maintaining a dialogue with, and a relevance to, the current research in the road trauma area, but at the same time, beginning to challenge some of the dominant psychiatric ideologies that prevail within the field. This requires an examination of both fields, at the same time as not wanting to dichotomize the field in this way. In assuming an ecological perspective, a research method is required that might hold together multiple possibilities and realities.

Given this challenge, it is a fundamental risk to set out to explore the issue in this manner, looking to combine both a quantitative analysis and a qualitative analysis of individuals who have experienced serious road trauma. The risks include falling into the similar traps of other areas of trauma research - that is, looking for certainty in what is constantly a shifting territory; looking for a model that provides an explanatory framework that will guide people through a shattering experience. The
task rather is to listen to their experiences at one or two points in time - to listen to the themes across a group of survivors, both the ‘usual suspects’ and also some of the other possibilities, the responses that emerge when survivors are presented with open-ended questions. This overcomes the risk of not hearing what a ‘good’ recovery actually involves from a survivor perspective or not knowing what it is that should be promoted in the interventions with survivors.

The risk in combining both qualitative and quantitative methods is of being seduced by the quantitative statistics that tend to offer a simpler objectivity, at the same time sanitizing the experiences of pain and suffering that are often central to the experience.

This thesis therefore aims to incorporate numerous methods in order to build a more complex and ecological understanding of recovery. This presents the challenge of having adequate baseline quantitative data for the purposes of comparison within the trauma literature, and at the same time, having adequate qualitative data to allow for the emergence of new, subjective themes. The aim is to use both methods to illuminate aspects of the experience and to see how divergent these two approaches might be in the data that they yield.

To locate the sample in its research context, quantitative methods are proposed to gather data relating to distress experiences and possibly PTSD experiences, social support experiences, optimism experiences and posttraumatic growth experiences. Data will also be gathered from relevant sources such as the Australian Bureau of Statistics and the TAC, to assist with this location process. A range of other demographic data will be sought.

Qualitative methods are proposed to gather the subjective experiences and themes of recovery - perceptions of the event, perceptions of recovery, perceptions of ongoing areas of difficulty, and perceptions of strengths.

The method proposed consists of three phases of data collection. The first phase is through mail-out surveys. The second phase is to involve interviews with road trauma survivors. The third phase is to conduct focus group discussions with social workers.
While these phases are examined separately in the following pages, each is designed to inform the other, and may occur simultaneously. The aim of the data analysis is to integrate these findings throughout. This decision was based on the ecological imperative to reflect and understand the many layers of the experience. The specific data analysis methods are commented on later in this chapter.
METHOD

In view of the discussion above, the research was designed to include both qualitative and quantitative research methods. The first phase of the research was to conduct a mail-out survey of individuals affected by serious road trauma 3 - 4 years ago, and to analyze their experiences of psychosocial recovery. If necessary, a second phase of research, using face-to-face interviewing, would be conducted to obtain qualitative data to illuminate or clarify the survey findings.

A. THE SELECTION CRITERIA

The time period

The selection of a particular time period of recovery for the focus of this research was an important issue. The time period of 3-4 years post-injury was considered to be a critical recovery phase. In relation to physical recovery, the injuries have generally resolved or stabilized, or have become either disabilities or sources of chronic pain. Most people have moved out of the health care systems for management and many have been through an impairment assessment process with the TAC, if this is an appropriate avenue for them. Thus, often the legal issues have been resolved.

In relation to psychosocial recovery, many survivors are expected to have resolved trauma issues, and to have resumed normal or new roles within their family environments and their work environments.

The sample

After careful consideration of the gaps in the literature, it was decided that the participants in the research were to be:

a) patients at one rehabilitation centre who had sustained serious injuries in road trauma incidents. They were to be receiving rehabilitation between the period of the financial year of 1996/7. This would enable the analysis to be focussed on one treatment centre only and one broad level of injury.
b) orthopaedic patients, without serious acquired brain injuries. The complications associated with recovery from acquired brain injuries are well documented and were considered beyond the scope of this thesis. Many patients with ABI have no recall of the accident itself that was an important consideration in this research.

c) over the age of 18.

B. THE PARTICIPATING GROUPS

Identifying a potential sample within the Victorian road trauma population

Having established the particular time frame for recovery from road trauma and the participant selection criteria, a sample of road trauma survivors was sought. This involved reviewing the Victorian road trauma population for the time period of 1996/7 and seeking an appropriate sample from within it.

The Victorian road trauma population

*Every day, there is somebody that dies, on average; every eight days, someone becomes a paraplegic or quadriplegic; every four days, someone has a brain injury; and about every two hours, someone has a modest injury like a broken arm or a broken leg.*

Jackson in Kissane (2001 3)

The road trauma population includes those who are killed in motor vehicle accidents, those who are injured and require hospitalization, and those who are injured but do not seek medical attention. Due to the data collection methods and sources that different organizations use, the actual figures for how many people are injured in road trauma differ.

From the Australian Transport Safety Bureau, the following time series statistics were obtainable, showing the number of persons hospitalised by State/Territory from 1990 to 1996, which gives both the broader Australian context as well as the Victorian context (Table 2).
Table 2: The number of persons hospitalized by State/Territory from 1990-1996 (ATSB)

<table>
<thead>
<tr>
<th>year</th>
<th>NSW</th>
<th>VIC</th>
<th>QLD</th>
<th>SA</th>
<th>WA</th>
<th>TAS</th>
<th>NT</th>
<th>ACT</th>
<th>AUSTRALIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>5975</td>
<td>6077</td>
<td>4469</td>
<td>1701</td>
<td>2592</td>
<td>439</td>
<td>480</td>
<td>245</td>
<td>21978</td>
</tr>
<tr>
<td>1995</td>
<td>6127</td>
<td>6124</td>
<td>4605</td>
<td>1521</td>
<td>2890</td>
<td>528</td>
<td>401</td>
<td>172</td>
<td>22368</td>
</tr>
<tr>
<td>1994</td>
<td>6244</td>
<td>6045</td>
<td>4576</td>
<td>1514</td>
<td>2660</td>
<td>523</td>
<td>386</td>
<td>185</td>
<td>22133</td>
</tr>
<tr>
<td>1993</td>
<td>6337</td>
<td>5953</td>
<td>4027</td>
<td>1599</td>
<td>2583</td>
<td>522</td>
<td>430</td>
<td>156</td>
<td>21557</td>
</tr>
<tr>
<td>1992</td>
<td>6398</td>
<td>5929</td>
<td>3961</td>
<td>1599</td>
<td>2554</td>
<td>490</td>
<td>403</td>
<td>178</td>
<td>21512</td>
</tr>
<tr>
<td>1991</td>
<td>6702</td>
<td>6198</td>
<td>3825</td>
<td>2058</td>
<td>2565</td>
<td>538</td>
<td>430</td>
<td>212</td>
<td>22528</td>
</tr>
<tr>
<td>1990</td>
<td>7466</td>
<td>7117</td>
<td>3970</td>
<td>2397</td>
<td>2643</td>
<td>607</td>
<td>544</td>
<td>217</td>
<td>24961</td>
</tr>
</tbody>
</table>

According to the TAC statistics, in 1996/7 a total of 17,680 claims were accepted in Victoria (Table 3). The following table indicates the number of claimants who subsequently claimed for acute hospital treatment and/or inpatient rehabilitation treatment. These figures are presented according to the claimants’ area of residence at the time of the accident.

Table 3: The number of accepted TAC claims lodged in 1996/7

<table>
<thead>
<tr>
<th>area of residence</th>
<th>total claims</th>
<th>acute hospital treatment</th>
<th>% of total claims - acute</th>
<th>rehab inpatient treatment</th>
<th>% of total claims - rehab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro – Inner</td>
<td>898</td>
<td>244</td>
<td>27%</td>
<td>80</td>
<td>9%</td>
</tr>
<tr>
<td>Metro - Inner Eastern</td>
<td>1556</td>
<td>356</td>
<td>23%</td>
<td>88</td>
<td>6%</td>
</tr>
<tr>
<td>Metro - Southern</td>
<td>1378</td>
<td>342</td>
<td>25%</td>
<td>105</td>
<td>8%</td>
</tr>
<tr>
<td>Metro - Outer Western</td>
<td>1926</td>
<td>476</td>
<td>25%</td>
<td>105</td>
<td>5%</td>
</tr>
<tr>
<td>Metro - North Western</td>
<td>1001</td>
<td>244</td>
<td>24%</td>
<td>38</td>
<td>4%</td>
</tr>
<tr>
<td>Metro - North Eastern</td>
<td>1657</td>
<td>353</td>
<td>21%</td>
<td>56</td>
<td>3%</td>
</tr>
<tr>
<td>Metro - Outer Eastern</td>
<td>2124</td>
<td>504</td>
<td>24%</td>
<td>136</td>
<td>6%</td>
</tr>
<tr>
<td>Metro - South Eastern</td>
<td>1671</td>
<td>377</td>
<td>23%</td>
<td>76</td>
<td>5%</td>
</tr>
<tr>
<td>Metro - Mornington Pen.</td>
<td>892</td>
<td>309</td>
<td>35%</td>
<td>26</td>
<td>3%</td>
</tr>
<tr>
<td>rural</td>
<td>4577</td>
<td>1318</td>
<td>29%</td>
<td>87</td>
<td>2%</td>
</tr>
<tr>
<td>total</td>
<td>17680</td>
<td>4523</td>
<td>26%</td>
<td>797</td>
<td>5%</td>
</tr>
</tbody>
</table>

It can be inferred from these statistics that an average of 26% (4523 claimants) of all the TAC claimants have experienced severe physical road trauma, requiring acute medical treatment, and 5% (797 claimants) of all TAC claimants have experienced physical trauma severe enough to require further inpatient rehabilitation treatment.

Giving a different picture of road trauma experiences in Victoria, Operation Countdown (the road safety program conducted by the Victoria Police 2000) classifies injuries according to whether they are minor, serious or major. Minor injuries are where the survivor ‘complained of soreness’, serious being where the survivor ‘required medical treatment’ (for bruising, contusions, loss of consciousness, 

16 It is presumed that these figures are not mutually exclusive, but that the rehabilitation figures are a subset of the overall acute care figures.
pain) and major injuries being ‘injuries requiring hospital admittance’. Their figures for 1997 (Table 4) showed that there were 13,883 minor injuries, 7,660 serious injuries and 2,836 major injuries.

Table 4: The number of people hospitalized by road user group from 1990 - 1996 (ATSB)

<table>
<thead>
<tr>
<th>year</th>
<th>driver</th>
<th>passenger</th>
<th>pedestrian</th>
<th>motor cyclist</th>
<th>cyclist</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>9788</td>
<td>5751</td>
<td>2792</td>
<td>2463</td>
<td>1134</td>
<td>21978</td>
</tr>
<tr>
<td>1995</td>
<td>10091</td>
<td>5913</td>
<td>2778</td>
<td>2574</td>
<td>988</td>
<td>22368</td>
</tr>
<tr>
<td>1994</td>
<td>9622</td>
<td>5876</td>
<td>2789</td>
<td>2738</td>
<td>1081</td>
<td>22133</td>
</tr>
<tr>
<td>1993</td>
<td>9182</td>
<td>5748</td>
<td>2683</td>
<td>2694</td>
<td>1102</td>
<td>21557</td>
</tr>
<tr>
<td>1992</td>
<td>8925</td>
<td>5765</td>
<td>2828</td>
<td>2640</td>
<td>1198</td>
<td>21512</td>
</tr>
<tr>
<td>1991</td>
<td>9194</td>
<td>6147</td>
<td>2848</td>
<td>2926</td>
<td>1212</td>
<td>22528</td>
</tr>
<tr>
<td>1990</td>
<td>10338</td>
<td>6415</td>
<td>3294</td>
<td>3146</td>
<td>1577</td>
<td>24961</td>
</tr>
</tbody>
</table>

Inviting The Victorian Rehabilitation Centre to participate

The VRC was considered to be an appropriate site from which to recruit a group of road trauma survivors. This was in preference to approaching the TAC for access to a general road trauma population. The reasons behind this decision were many. The primary reason was to avoid relying on the TAC as the recruiting body because of the implications of such an alliance. Many road trauma survivors have difficult relationships and perceptions of the TAC. To align with the TAC would have potentially biased the willingness of survivors to participate in the study and potentially constrained the direction of the research. Thus, the VRC was perceived to be more accessible recruitment site than the TAC. Given that it was the treating organization rather than the insurance body itself, relationships may not have been as strained between client and organization as in the case with the TAC.

In addition, by approaching this one centre, all participants would have been exposed to a similar recovery environment, typically involving an acute hospital stay, followed by an inpatient and outpatient rehabilitation experience. All survivors had sustained injuries of a severity level that required ongoing rehabilitation, placing them in the most seriously affected road trauma population.

These considerations allowed for maximum control over factors such as different

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17 Although, arguably, access to a larger road trauma population may have been possible.
treatment environments, treatment philosophies, access to services and primarily the types of injuries (orthopaedic rather than head injuries). All participants would have experienced their accidents within a relatively similar time period. For the many factors that are known to influence outcomes, these were considered to be important controls on who would be invited to participate.

Contact was initiated in August 1999 with Michelle Talbot, the Secretary to the Research Committee at the VRC. The VRC’s participation in the research was proposed as the provision of facilitating contact with road trauma survivors who had received rehabilitation services between July 1996 - June 1997 at the Centre. This would involve them sending to all these former patients a survey booklet. In order to seek approval for this participation a written application to their Research Committee was completed.

The TAC population at VRC

In the financial year of 1996/7, the TAC inpatient population at VRC included 214 male admissions (mean age 39.91) and 140 female admissions (mean age 45.22). The TAC male population formed 49.2% of the overall VRC admissions for the year and females 32.2%. Thus, the TAC population formed 81.4% of the VRC population (refer to Table 5). The other 18.6% of the population included those admitted under WorkCover, HBA, Medibank Private and other private insurance companies.

<table>
<thead>
<tr>
<th>TAC clients</th>
<th>admission age (mean)</th>
<th>no of admissions</th>
<th>% of total admissions</th>
<th>length of stay: bed-days (mean)</th>
<th>% total bed-days</th>
</tr>
</thead>
<tbody>
<tr>
<td>males</td>
<td>39.91</td>
<td>214</td>
<td>49.2%</td>
<td>7298 (34.10)</td>
<td>51.8%</td>
</tr>
<tr>
<td>females</td>
<td>45.22</td>
<td>140</td>
<td>32.2%</td>
<td>4711 (33.65)</td>
<td>33.5%</td>
</tr>
</tbody>
</table>

The structure of the VRC at the time of the research was such that there were four clinical streams for rehabilitation - the Orthopaedic Unit, the Acquired Brain Injury Unit, the Child & Adolescent Unit and the Work & Community Unit. The Orthopaedic Unit was the largest unit at the Centre, as indicated in Table 6 overleaf.
For the purposes of this research, a sample of TAC-compensable, orthopaedically injured participants was sought. Taking into account those who were either inpatients and/or outpatients of the orthopaedic unit throughout 1996/7 and TAC insured, the population to be approached as the participants in this research numbered 305.

Table 6: The number of TAC inpatient admissions for all VRC units in 1996/7

<table>
<thead>
<tr>
<th></th>
<th>Orthopaedic Unit</th>
<th>Acquired Brain Injury Unit</th>
<th>Child &amp; Adolescent Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>male</td>
<td>female</td>
<td>male</td>
</tr>
<tr>
<td>inpatient</td>
<td>139</td>
<td>120</td>
<td>60</td>
</tr>
</tbody>
</table>

The outpatient admissions include both transferred inpatients (Table 6) and direct outpatient admissions, as indicated in Table 7. These figures represent all patients at the VRC, including TAC and patients insured under other private health cover schemes.

Table 7: The number of outpatient admissions across all VRC units in 1996/7

<table>
<thead>
<tr>
<th></th>
<th>Orthopaedic Unit</th>
<th>ABI Unit</th>
<th>C&amp;A Unit</th>
<th>Work &amp; Community Unit</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>transitional outpatient admissions</td>
<td>196</td>
<td>56</td>
<td>19</td>
<td>3</td>
<td>274</td>
</tr>
<tr>
<td>direct outpatient admissions</td>
<td>111</td>
<td>41</td>
<td>16</td>
<td>121</td>
<td>289</td>
</tr>
<tr>
<td>total</td>
<td>307</td>
<td>97</td>
<td>35</td>
<td>124</td>
<td>563</td>
</tr>
</tbody>
</table>

All VRC admissions were considered to represent serious road trauma injuries, according to the criteria set out on page 76.

The representativeness of the sample

Considering the statistics overviewed, the TAC orthopaedic population represents more than one third, approximately 38%, of the total TAC statewide rehabilitation population in 1996/7. This is based on the figures of 305 orthopaedic patients at VRC and 797 total TAC rehabilitation claimants statewide.

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18 The VRC population represents about 2% of the overall TAC general population
Recruitment of the involvement of the Road Trauma Support Team

Concurrent with the development of the survey, contact was initiated with Margaret Haywood (Appendix 3), the Co-ordinator of the Road Trauma Support Team (Victoria) at the time. The RTST befrienders were invited to participate in the research in two ways:

a. To pilot the surveys with survivors of road trauma who were linked to the RTST
b. To participate as the debriefing and counselling support should assistance be required by participants as a result of participating in the research. Mention of the existence and availability of the RTST would be made in the covering letter of the survey for all participants in the research if approval to participate was granted.

Approval to participate was granted by the Committee of Management of the RTST (Vic).

C. RECRUITMENT OF THE SAMPLE

Access to survivors is clearly an important issue in any study, and traumatized survivors are not a group that are likely to be beating our door down, even to get our help, let alone be our research subjects.

Green and Grace (1995 111)

A third party recruitment method was selected for this research. Given the nature of the research, and the concerns associated with re-traumatizing people by the unexpected arrival of such research into their private lives, it was thought that the survey booklets should be distributed by the VRC. The mail-out was conducted by a member of staff from the VRC. In this way, the researcher had no access to the names and addresses of any VRC patients, unless they gave their personal details to consent to participate in the second phase of the research. This ensured the confidentiality of the participants.

It was decided that no second mail-out would take place. Although follow-up mail-outs often recruit responses (de Vaus 1995 118-120), in light of the ethical concerns, this strategy was considered too intrusive.
D. DATA COLLECTION METHODS

PHASE ONE: THE SURVEY METHOD

Survey research is probably the best method available to the social scientist in collecting original data for describing a population too large to observe directly.

Strauss and Corbin (1990 314)

A survey method was selected as the appropriate research method given the following well-documented benefits of such an approach (Rubin & Babbie 1992; de Vaus 1995). The survey method enables:

1. participants’ responses to be collated across a large disparate group, ‘too large to observe directly’ (Strauss & Corbin 1990 314) which was particularly important in reaching the 305 potential participants, some of whom lived interstate.

2. a more cost-effective sampling method, in view of the potential size of the sample.

3. participants to consider whether or not they would choose to participate without the pressures of a direct contact by telephone or in person. Many of the potential participants had not had contact for several years with the VRC and approaching them by mail seemed the more appropriate research strategy, giving them time to consider their willingness to participate.

4. complete anonymity - identifying data only needed to be exchanged if the participant wished to be involved in the second phase of the research, the interviews.

5. the reporting of controversial attitudes or behaviours in guaranteeing anonymity. In comparison to a focus group, where group pressures can be highly influential, the survey was considered to offer the space for individual responses.

6. minimal traumatization in that the survey was hidden in an envelope within the survey booklet, and only after reading the introductory letter did they then need to decide whether to read the survey or not.

7. both within and across subject comparison, and analysis of responses, not always possible via an interview and transcript method.

The limitations of the survey method are, however, similarly well-documented and need to be acknowledged as placing constraints on the research findings.
They include:

1. encouraging the participation of subjects who are able to or feel comfortable articulating their thoughts and feelings in written form as distinct from those who are not.
2. relying on questions that are valid and reliable, and therefore likely to be interpreted by participants in a consistent manner
3. being unable to control for the environmental conditions in which the questions are responded to - have others, for example, contributed to the responses given and provided an important memory prompt or another opinion?
4. not allowing in any way for clarification or discussion of the questions in depth.
5. becoming a matter of ‘fitting round pegs into square holes” as Rubin and Babbie have expressed it, whereby “designing questions that will be at least minimally appropriate to all respondents, you may miss what is most appropriate to many respondents” (1992 332), leading to, as they term it, an inevitable superficiality in both the questions that are asked and potentially in the answers that are given.
6. being time-limited in reflecting a participant’s response at a particular point in time, seldom dealing with the context of the participant’s social life - that is, it is difficult to develop the feel for the total life situation (Rubin & Babbie 1992 333) in which the participant is a part.

These potential limitations were noted and minimized where possible.

The development of the survey kit

Each survey kit included two letters of introduction, a survey booklet, a further participation card and a return envelope.

Within each envelope, two letters were placed on the front of the survey booklet. The first letter was from the Medical Director at the VRC (Appendix 4), outlining the research and inviting their participation. The second letter was from the researchers (Appendix 5), outlining the aims and the process of the research, and again, inviting their invitation. Details of the RTST (Vic) were also provided.

The survey was presented as an eleven-page booklet (Appendix 6). There were two
major components of the survey. The first component was the quantitative measures selected for the purposes of the research focus. These four scales, discussed in the following pages, were the Impact of Event Scale (IES), the Social Support Scale (SSS), the Posttraumatic Growth Inventory (PTGI) and the Life Orientation Test - Revised (LOT-R). The second component of the survey was a number of open-ended questions relating to other psychosocial recovery issues. These questions were designed to gather data of a more subjective and qualitative nature and examine issues relating, in particular, to the respondents’ thoughts about recovery and growth, and other risk and protective factors discussed in previous chapters. Each question was designed such that there was a quantifiable code and then invitation for extensive comment. It was anticipated that in asking open-ended questions, new zones of response might be elicited.

These two components were integrated into a six-part survey that gathered data in relating to:
1. Personal demographic information
2. Accident, injury and rehabilitation information
3. Trauma response information
4. Social support information
5. Posttraumatic growth information
6. Optimism and recovery information

A further participation card (Appendix 7) was developed to invite people into an interview phase of the research and to enable them to be contacted at a later date about the findings of the research. This card was separated immediately on receipt so that no identifying data accompanied any survey material.

A ‘refusal to participate’ card was considered for inclusion. It was decided, however, that it was inappropriate to include a card for people to fill in if they did not wish to complete the survey, indicating their reason for non-participation. While it would have been most useful information to obtain this information, it was thought to overstep the privacy of individuals.

Within each survey kit was a stamped, addressed envelope in which to return the
completed survey to the researcher. This ensured the participants did not incur any financial costs. They were asked to return a blank survey booklet if they did not wish to participate, to enable some estimate of refusal rates.

Proposed instruments

The Posttraumatic Growth Inventory

The early work establishing the presence of positive consequences of trauma experiences was conducted using single question design methods rather than developed measures. For example, Bulman and Wortman (1977), as discussed earlier, asked a question about present-state happiness in their research of the effects of road trauma.

The PTGI (Tedeschi & Calhoun 1996) is currently the most commonly used quantitative measure of the positive consequences of trauma. Other scales have been developed over the years to measure a range of positive consequences of trauma. They are the Perceived Benefits Scale (McMillen & Fisher 1998) and the Stress-Related Growth Scale (Park, Cohen & Murch 1996).

The PTGI (refer to Appendix 6, Part 6, questions 1-21) is a 21-item, self-administered scale, designed to measure subjective reports of perceived growth in the aftermath of a traumatic event.

The PTGI was generated originally from 34 items extracted from a ‘general review of studies of perceived benefits’ (Tedeschi & Calhoun 1995). The specific 21-item scale was developed using a sample of undergraduate students (199 males and 405 females) who had experienced a significant trauma within the past 5 years. This sample had an age range of 17 - 25 years and 95% were single.

The PTGI is in its early stages of development. A 13 item scale has been developed, but it was too late for inclusion in this research, and was, like the IES-R (Weiss & Marmar 1996; discussed on the following pages), not going to be a useful means of comparing growth to other studied groups, given the methodological problems of
The scoring of the PTGI is problematic. In the initial presentation of the PTGI (Tedeschi & Calhoun 1995 139-141), each question was scored on a 6-point Likert scale:

1 = I did not experience this change as a result of my crisis
2 = I experienced this change to a very small degree as a result of my crisis
3 = I experienced this change to a small degree as a result of my crisis
4 = I experienced this change to a moderate degree as a result of my crisis
5 = I experienced this change to a great degree as a result of my crisis
6 = I experienced this change to a very great degree as a result of my crisis

While the mean for the total PTGI score was not reported, the mean for the females’ scores (M=75.18, SD=21.24) and males’ scores (M=67.77, SD=22.07) was reported, along with the t-test finding (t(1,590)=3.94, p<0.001) to support a significant gender difference.

Using the above scoring scale, the total score range is therefore 21-126. The problem that emerges with this scoring is that a score of 1 is given throughout to signify ‘no change’. That is, a minimum score, or a no growth score, is 21, when in fact no growth would be better represented by a score of 0. No mention is made of this bias.

In a subsequent article, Tedeschi and Calhoun (1996 459) report that the 6-point Likert scale should range from 0-5 on each question, thus more accurately reflecting ‘no change’ in a 0 score throughout. In the statistics, however, they report in the article, it seems that they are continuing to use a 1-6 scale, thus maintaining inflated PTGI scores, as they report the statistics above as the sample means (Tedeschi & Calhoun 1996 460). This issue will be discussed in both the next section and in Chapter Twelve.

The 21 items have been analyzed to yield 5 significant factors or growth domains. Thus, a total PTGI score is obtained as well as 5 factor scores. The five factors are ‘relating to others’, calculated by adding the responses to questions 6, 8, 9, 15, 16, 20 and 21; ‘new possibilities’ from questions 3, 7, 11, 14, and 17; ‘personal strength’
from questions 4, 10, 12, and 19; ‘spiritual change’ from questions 5 and 18; and ‘appreciation of life’ from questions 1, 2 and 13.

These factors have been found to be independent of each other, and therefore the PTGI offers a multidimensional construction of posttraumatic growth. This sets it apart from other perceived benefit scales which are, to date, unable to discriminate between factors associated with posttraumatic growth, such as the Stress-Related Growth Scale (SRGS; Park et al 1996) - a unidimensional measure of thriving (McMillen & Fisher 1998).

The PTGI is now beginning to emerge in a number of studies whereby subjective reports of positive changes in response to trauma are being analyzed. These include studies by McMillen & Fisher (1998), relating to a Perceived Benefit Scale, and Cohen, Cimbolic, Armeli & Hettler (1998) in their study of perceived thriving and Weiss (2001) in her study of women with breast cancer and their husbands. The findings in relation to the PTGI are illustrated in Table 8.

Table 8: Comparable PTGI scores

<table>
<thead>
<tr>
<th>study and sample characteristics</th>
<th>PTGI Mean (SD)</th>
<th>PTGI Mean (SD)</th>
<th>PTGI Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=199 males, 405 females university students</td>
<td>67.77 (22.07)</td>
<td>75.18 (21.24)</td>
<td>not reported</td>
</tr>
<tr>
<td>N= 117 college students N(males) = 55, N(females)=62</td>
<td>70.25 (21.87)</td>
<td>81.60 (21.09)</td>
<td>not reported</td>
</tr>
<tr>
<td>mean age 22.5 years, 85% single</td>
<td>not reported</td>
<td>not reported</td>
<td>76.5 (22.0)</td>
</tr>
<tr>
<td>death of a child - 6-8 months ago</td>
<td>82.19 (19.97)</td>
<td>83.47 (20.21)</td>
<td>79.72 (19.50)</td>
</tr>
<tr>
<td>mean age 52.9</td>
<td>67.00 (22.83)</td>
<td>81.21 (18.81)</td>
<td>not reported</td>
</tr>
</tbody>
</table>

The inventory has been found to have good internal consistency (0.90) and for the factors, consistency ranges from 0.67 to 0.85. Test-retest reliability, using a sample of 28 people, over a 2-month period was found to be acceptable (r = 0.71). Females were found to receive higher scores ($M=75.18$, $SD=21.24$) than males ($M=67.77$, $SD=22.07$).
In relation to the construct validity of the instrument Tedeschi and Calhoun (1996 461) examined the relationships with social desirability, optimism, religious participation and personality factors, to ‘determine the tendency to perceive benefits arising from experiences with trauma was not merely a reflection of some other tendency’. Four measures were used to determine the level of correlation between posttraumatic growth (and its five specific factors) and social desirability, optimism, religious participation and personality style. The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe 1960), the Life Orientation Test (Scheier & Carver 1985), a 3-item measure of religious participation and the NEO Personality Inventory (measuring the ‘big five’ personality traits - Neuroticism, Extroversion, Openness to Experience, Agreeableness and Conscientiousness; Costa & McCrae 1985) - were used respectively to assess these possible correlations. Table 9, replicated from Tedeschi and Calhoun (1996 464), overviews the findings.

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>M-C Social Desire</th>
<th>LOT optimism</th>
<th>Relig Partic</th>
<th>NEO Neurotic</th>
<th>NEO Extraver</th>
<th>NEO Openness</th>
<th>NEO Agreeable</th>
<th>NEO conscient</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>.14</td>
<td>.28</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>.22</td>
<td>.16</td>
<td>.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>.22</td>
<td>.15</td>
<td>.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>.17</td>
<td>.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>-.15</td>
<td>.15</td>
<td>.50</td>
<td>.16</td>
<td>.15</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>.23</td>
<td>.25</td>
<td>.29</td>
<td>.21</td>
<td>.18</td>
<td>.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Only correlations significant at $p < .01$ or greater are included

Underpinning the development of an instrument such as the PTGI is the understanding that it should reveal benefits as they are experienced from the exposure to trauma. Thus Tedeschi and Calhoun (1996 464) also argue that those who experience severe trauma ‘would report more benefits than those whose beliefs and perceptions were not challenged by extraordinary events’.

They established the factor and total score means for a comparative sample of those who had experienced severe trauma in the past twelve months and those who had not (from Tedeschi & Calhoun 1996 466). These findings are shown in Table 10. Higher scores were obtained on all factors by those who had experienced trauma when $p<0.001$ (Tedeschi & Calhoun 1996 460).
compared with control groups who had not experienced trauma. Therefore it appears that the PTGI enables a valid and reliable objective measurement of the subjective experience of posttraumatic growth.

Table 10: Comparative PTGI scores for those with or without trauma experience

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>females</th>
<th>males</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no trauma</td>
<td>trauma</td>
<td>no trauma</td>
<td>trauma</td>
</tr>
<tr>
<td>I  relating to others</td>
<td>n=31</td>
<td>n=31</td>
<td>n=32</td>
<td>n=23</td>
</tr>
<tr>
<td>females</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I  relating to others</td>
<td>23.94</td>
<td>29.68</td>
<td>22.16</td>
<td>23.30</td>
</tr>
<tr>
<td>II new possibilities</td>
<td>18.26</td>
<td>20.94</td>
<td>15.19</td>
<td>18.35</td>
</tr>
<tr>
<td>III personal strength</td>
<td>14.65</td>
<td>17.90</td>
<td>13.63</td>
<td>15.30</td>
</tr>
<tr>
<td>IV spiritual change</td>
<td>6.48</td>
<td>8.29</td>
<td>5.56</td>
<td>4.96</td>
</tr>
<tr>
<td>V  appreciation of life</td>
<td>10.16</td>
<td>13.45</td>
<td>9.59</td>
<td>11.70</td>
</tr>
<tr>
<td>total PTGI</td>
<td>73.49</td>
<td>90.26</td>
<td>66.13</td>
<td>73.61</td>
</tr>
</tbody>
</table>

A number of limitations are noted with the PTGI. These include:

i. The wording of the questions -
In some of the items it is ambiguous as to whether the perceived change is negative or positive. Thus as McMillen and Fisher (1998 185) suggest, there may be a need for rewording of the item in order to clarify the direction of change. They use the example of the item ‘A sense of closeness with others’ being changed to read as ‘Increased closeness with others’.

The grammatical construction of the questions is also inconsistent at times, varying from ‘I’ statements to passive statements of change. The wording was altered for this research to present a more consistent grammatical construction of each item. For the purposes of the research, the items were specifically worded to refer to the accident as the trauma from which growth was experienced.

ii. The scoring of the items

Using Tedeschi and Calhoun’s scoring, a person reporting ‘no growth’ ends up with a minimum score of 21. This bias is never distinguished in their work, and thus scores based on their initial work seem higher than they are. For example, when the data from this study was calculated on the basis of no growth = 0, significantly lower means were obtained across the sample, and some relationships were not found to be significant as a result. It would seem more accurate to score the scale from 0-5,
accurately distinguishing that no growth is equated with a score of 0, rather than 21.

During the confirmation of candidature meeting, Professor Creamer highlighted that the PTGI scoring does not allow differentiation between ‘no change at all’ and no change as a result of the crisis. Thus it could remain unclear as to whether the change was experienced at all, or as a result of another crisis experience. For the purposes of the research, the layout of the items was altered to offer a clear ‘yes/no’ differentiation before asking for a quantitative differentiation if change was experienced. This was changed given the complications in scoring 1 for ‘yes’ and the difficulty in discriminating what this 1 then actually signified. Tedeschi and Calhoun’s (1996) scoring (0-5) was also used so that comparison across a number of studies could take place. However, this significant bias in their scoring should be noted, and future studies should be developed around a 0-5 scoring rather than 1-6.

iii. The biases in its development

Tedeschi and Calhoun counteract the criticism that their inventory was developed using a tertiary student sample, on the basis that the bias within the population would be that there was not the same level of exposure to trauma as in the normal population, by showing that this bias did not exist. A more concerning bias in the instrument has possibly emerged from basing it on one cohort with such unique age and relationship status characteristics. The problems associated with the homogeneity of age and relationship status are not to be overlooked, given that existential issues may vary across the life-span, particularly around factors such as ‘appreciation of life’ and ‘spiritual change’ which are arguably more salient later in life.

While these limitations were noted, the PTGI was considered an adequate measure of growth. It will be referred to as the growth measure throughout.

The Impact of Event Scale

There is a vast body of literature examining the assessment issues associated with the negative consequences of trauma (Lee 1993; Carlson 1997). A range of trauma assessment tools is available for the assessment of the negative psychological consequences of trauma. These tools are designed to gather information in varying
degrees in relation to the DSM-IV PTSD diagnosis, as well as information about personal trauma histories, demographics and other clinical information. These tools are overviewed comprehensively in Carlson’s (1997) *Trauma Assessments: A Clinicians Guide* or are part of an extensive list on the PILOTS database (National Centre for PTSD 2000).

The Impact of Event Scale (IES; Horowitz et al 1979) (refer to Appendix 6, part 3, questions 1-15) is a 15-item, self-administered scale, designed to measure reports of intrusive and avoidant thoughts in the past seven days associated with the traumatic event.

The IES was designed in 1979 by Horowitz, Wilner and Alvarez, in an attempt to measure ‘the current degree of subjective impact experienced as a result of a specific event’ (1979 209). It was designed to measure this impact over periods of time, and allow comparison of the ‘degree of subjective distress after a particular life event’ (Horowitz et al 1979 209) with the relative impact on different populations. It has remained one of the most commonly used instruments in measuring the impact of traumatic life events.

Its design enables the measurement of two major response sets, outlined in the previous theoretical chapters - intrusion and avoidance

In addition to being widely used in the road trauma survivor research (Blanchard & Hickling 1998; Malt 1988; Hobbs & Adshead 1993; Watts 1994; Bryant & Harvey 1996; Green et al 1993; Hobbs, Mayou & Worlock 1993; Feinstein & Dolan 1991; Burstein 1986; Brom et al 1993; Epstein 1993) the IES has been used across numerous trauma groups, providing a valuable insight into the comparative or relative impact of different stressful experiences. It has been used to examine the impact of firefighting in bushfires (McFarlane 1992); in recovery workers in the Newcastle earthquake disasters (Kenardy et al 1996); and to establish similarities between Vietnam Veterans and adult survivors of childhood sexual assault (McNew & Abell 1995).

Specific to road trauma, Jeavons et al (1996) used the LEAIQ (Malt et al 1989), as
discussed in Chapter One, to assess the negative consequences. They noted that, although there was considerable research around the negative psychological consequences of road trauma, it was limited by a neglect of other factors such as financial and occupational consequences. The LEAIQ was, however, too lengthy and too confined by the structure of its questions to be of relevance to this research. The IES also provided a large comparative research basis, as the above discussion demonstrates.

The IES is an instrument with fifteen questions, seven of which assess the degree of intrusive thoughts, and eight of which assess the degree of avoidant thoughts. The three degrees of positive endorsement are scored accordingly as 1, 3 & 5, with a negative endorsement being scored as 0. The total score is thus used as the overall indicator of impact of the traumatic event, and two subscores for intrusion and avoidance can be calculated, with questions 1, 4, 5, 6, 10, 11 & 14 relating to intrusion and 2, 3, 7, 8, 9, 12, 13 & 15 to avoidance.

The IES is frequently used to ‘infer whether an individual meets criteria for PTSD’ (Blanchard & Hickling 1998 77). What score on the IES should reflect PTSD or severity of distress is an unresolved one, in that the IES is designed to be a subjective measure of comparable distress, not necessarily a diagnostic instrument of PTSD. In Blanchard and Hickling’s (1998) review, a number of studies showed that MVA-PTSD ranged from IES scores of 35-39 with a mean of 41.1. A widely accepted standard for the subscales is that established by Horowitz (1982) which states a low level of impact is 0 - 8, a medium level of impact is 9 - 19 and a high level of impact is 20+ on each of the subscales (Watts, 1994 24; Hytten & Hasle 1989 52; Malt 1988 813). Others have accepted that a significant post-traumatic stress level is a total IES score greater than or equal to 30 (McFarlane 1988; Bryant & Harvey 1995; Blanchard & Hickling 1998).

Green et al (1993) found that high scores on the IES, among motor vehicle accident survivors who were hospitalized for their injuries, were found to be predictive of PTSD. This was at one month post injury, in their sample where one third were found to develop PTSD. Feinstein and Dolan (1991) similarly found that IES scores at one week predicted PTSD at six months.
The IES is a widely validated and highly reliable measure of the traumatic impact of an event (McFarlane 1992). In the initial reporting of the instrument, it was found that total subjective stress scores were not significantly affected by sex. Its internal reliability was found to be high, with a split-half reliability correlation of $r=0.86$, its internal consistency (using Cronbach’s alpha coefficient) on intrusion = 0.78 and avoidance = 0.82. A correlation of 0.42 was found between intrusion and avoidance, indicating that the two subsets are associated but are not similar.

The IES is widely criticised for its exclusion of a range of other symptoms associated with PTSD, particularly a third significant factor, hyperarousal or the experience of disturbed arousal (Joseph, Williams & Yule 1997). This has been remedied in the subsequent IES developed by Weiss and Marmar (1996). There is also the broader issue as to whether intrusion and avoidance (and hyperarousal) are ‘the primary dimensions around which the phenomena of PTSD are organized’ (McFarlane 1992 400). Thus, there are numerous other instruments that could have been used for researching the impact in terms of post-traumatic stress symptoms. Some were arguably far more specific and diagnostic in their approach (e.g. GHQ, PCL, CAPS interview) and in relation to road trauma impact particularly (LEAIQ; Malt et al 1989).

However, the IES was favoured in view of two issues:
1. Bryant and Harvey’s (1995) finding that the IES was the tool most able to identify risk of developing PTSD and therefore its continuing use as a screening tool. While comparisons of IES scores and the diagnoses for PTSD obtained through CAPS interviews have led to the discovery of a high false-negative result19, the IES is still used frequently in the study of traumatized samples.
2. The widespread use and validation of the IES as a measure of important aspects of PTSD, particularly in relation to road trauma, and therefore its capacity for comparison across a number of trauma groups and studies.

Blanchard and Hickling (1998) have summarized the findings with the IES among motor vehicle accident survivors, given its widespread use within this specific trauma

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19 Of the 58% who scored an IES total greater than 30, 28% of these did not meet the full criteria for
population. Their summary, with the addition of the findings from their Albany study and other studies, is replicated in Table 11 on the following page.

A more fundamental concern about the IES relates to whether it actually measures what it claims to measure, subjective distress. While the questions establish the frequency of a number of cognitive experiences in relation to a particular incident, does this:

(a) frequency adequately reflect distress? For example, respondent A may only encounter one dream or one intrusive thought in the past seven days and be emotionally distraught as a result. Respondent B may dream nightly or experience intrusive thoughts daily but experience relatively little distress as a result. According to the IES score, Respondent B would be experiencing more distress. Frequency does not necessarily signify distress.

(b) reflect distress generally? If the scale is completed with a pleasurable incident in mind, an equally high ‘impact’ score can be obtained. All the total IES score indicates is the frequency, in fact, of a number of specific thought processes. It indicates nothing of the qualitative impact of these experiences.

For the purposes of this study, the questions were adapted to relate specifically to the distressing event as ‘the accident’. This was similar to Malt (1988) who, in his study of accidental injury, adapted the wording to emphasize the accident and not the injury.

PTSD according to the CAPS interview (Blanchard & Hickling 1998 77).
Table 11: The IES scores found in other road trauma studies

<table>
<thead>
<tr>
<th>study</th>
<th>population</th>
<th>%MVA</th>
<th>%PTSD</th>
<th>findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burstein (1986)</td>
<td>19 MVA survivors with PTSD referred for treatment vs. 11 with sudden loss and PTSD</td>
<td>100.0</td>
<td>100</td>
<td>MVA PTSD v M=49.3 vs 9+ on intrusion M=48.0</td>
</tr>
<tr>
<td>Malt (1988)</td>
<td>113 hospitalized accident victims from MVA</td>
<td>40.7</td>
<td>1</td>
<td>21% 9+ on intrusion 44% 9+ on avoidance</td>
</tr>
<tr>
<td>Feinstein &amp; Dolon (1991)</td>
<td>48 MVA survivors with leg fractures</td>
<td>100.0</td>
<td>25 at 6 weeks</td>
<td>Intrusion M=24.4 Avoidance M=14.9</td>
</tr>
<tr>
<td>Green et al (1993)</td>
<td>24 hospitalized MVA survivors</td>
<td>100.0</td>
<td>8 at 1 month</td>
<td>PTSD v M=34.4 (SD=15.7) Non-PTSD M=7.0 (SD=5.8)</td>
</tr>
<tr>
<td>Brom et al (1993)</td>
<td>151 (of 738) survivors of serious MVA’s</td>
<td>100.0</td>
<td>N/R</td>
<td>Using the Dutch IES: Intrusion M=10.7 Avoidance M=7.8 Total IES M=19.5</td>
</tr>
<tr>
<td>Epstein (1993)</td>
<td>15 accident survivors hospitalized on trauma unit</td>
<td>100.0²</td>
<td>40</td>
<td>PTSD v Intrusion M=21.5 (SD=10.5) v Avoidance M=18.7 (SD=7.1) Non-PTSD M=10.2 (SD=6.9)</td>
</tr>
<tr>
<td>Bryant and Harvey (1996)</td>
<td>114 hospitalized MVA survivors</td>
<td>100.0</td>
<td>N/R</td>
<td>31% had IES≥30 25% had high intrusion (20+) 18% had high avoidance (20+)</td>
</tr>
<tr>
<td>Blanchard and Hickling (1997)</td>
<td>114 MVA survivors</td>
<td>100.0</td>
<td></td>
<td>PTSD M=35.4 (SD=17.7) sub-PTSD M=17.8 (SD=13.0) non-PTSD M=8.2 (SD=11.4)</td>
</tr>
<tr>
<td>Hobbs et al (1993)</td>
<td>N=114 59 to intervention group 55 to control group</td>
<td>100.0</td>
<td></td>
<td>Intervention M=15.13 (SD=14.82) Control M=15.3 (SD=12.35) Followup M=15.97 (SD=15.32) M=12.87 (SD=14.22)</td>
</tr>
</tbody>
</table>

Note: N/R = not reported

¹ significant difference
² data not certain
During the pilot phase of the research, two respondents raised questions in relation to the actual wording of the scale, remarking that it was ambiguous as to what the question was asking. This raises more serious questions about compliance with a pen and paper scale when questions are not fully understood and the possible inaccuracies of self-reports.

The IES is referred to as the distress score throughout the thesis.

**Social Support Scale**

The Social Support Scale (SSS; Boscarino 1995) (refer to Appendix 6, part 4, questions 1-7) is a 7-item, self-administered scale, designed to measure ‘the perceived availability and perceived adequacy of social support’ (Boscarino 1995 322). It is a measure of the current, functional aspects of social support rather than a measure of descriptive or quantitative aspects.

The SSS is part of the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan & Ratcliff 1981; Robins, Helzer & Cottler 1987), a general scale designed to measure the presence of a range of psychiatric conditions according to, then, DSMIII, and now DSM-IV, criteria.

This is a multitude of social support scales available, with some more frequently used in the research literature such as the Social Support Questionnaire (Sarason, Levine, Basham & Sarason 1983). These more frequently used questionnaires were not used because they are typically longer (the SSQ, for example, has 27 items; Sarason et al 1983 157), or they measure more quantitative aspects of social support such as the network size and density (McDowell & Newell 1996; Sarason, Sarason, Potter & Antoni 1985; D’Abbs 1982). Many of them are not necessarily specific to trauma situations. The SSS, in measuring social support from a functional perspective, and more importantly, from a subjective perspective (that is, the perception of social support is the measure, not the objective availability) was considered to meet the criteria of being a brief scale, a subjective scale and one specifically used with trauma groups (Boscarino 1995).
The SSS score is the sum of responses to seven questions. Each question is coded to have one of three values, ranging from 0 to 2. Thus, the score range is 0-14. In Boscarino’s (1995) large scale sampling (N=1972) of the SSS with Vietnam Veterans, a sample mean of 9.37 (SD=2.08) was obtained. Those more traumatized were found to have a lower SSS mean score (M=9.31) compared to those without PTSD (M=9.5). Cronbach's alpha coefficient for this scale is 0.58.

The SSS has a number of limitations, with perhaps its most significant being that it does not enable the distinction between family and friends, that is, it is a global measure of the perceived availability and function of social support. Consistent with this, it is not a measure of network size, density, reciprocity or other social support and social network features, all of which may be important information to gather (McDowell & Newell 1996; Milardo 1988). As with many social support scales, it does not capture change at all. Given the discussion in Chapter Four, this aspect of change may be the most significant aspect of the protective or risk factor of available social support.

Despite extensive searches, very little data were available for the purposes of comparison. This limitation is discussed in Chapter Twelve.

**Life Orientation Test - Revised**

The Life Orientation Test - Revised (LOT-R; Scheier, Carver & Bridges 1994) (refer to Appendix 6, part 6, questions 22-31) is a 10-item self-administered scale. It is designed to measure dispositional optimism, or ‘generalized positive outcome expectancies’ (Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinobu, Gibb, Langelle & Harney 1991) or ‘generalized expectancies concerning important future outcomes’ (Carver, website).

The original 8 item scale (with 4 filler questions) developed in 1985 was revised by Scheier, Carver and Bridges (1994) to form the LOT-R. The major change that was made at this time was the removal of two items that were related to coping rather than optimism.
It has been used extensively in the coping research - with breast cancer patients (Carver, Pozo, Harris, Noriega, Scheier, Robinson, Ketcham, Moffat & Clark 1993), in personality psychology (Scheier, Carver & Bridges 1994; Smith, Pope, Rhodewalt & Poulton 1989) and as a measure of both optimism and pessimism (Carver 1999).

Four of the ten items on the checklist are fillers, leaving questions 1, 3, 4, 7, 9 & 10 as the scored items of the scale. Three questions are ‘keyed in a positive direction’ and 3 questions are ‘keyed in a negative direction’ (Scheier et al 1994 1073). The negatively directed questions are reverse coded prior to being totalled. The total score is calculated by adding each item from 1-5, according to the following: 0 = strongly disagree; 1 = disagree; 2 = neutral; 3 = agree; and 4 = strongly agree. Scores range, therefore, from 0 - 24. As Scheier et al (1994) suggest, affirmation of optimism and disaffirmation of pessimism can be calculated separately, using the subtotals of the relevant items. For the purposes of this research, however, only total optimism scores will be considered. Thus, overall high scores indicate high optimism.

Some norms established for the LOT-R, and reported in Scheier et al (1994 p.1076) are listed in Table 12.

**Table 12: Comparative data for the Life Orientation Test - Revised**

<table>
<thead>
<tr>
<th>sample</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>college students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>2,055</td>
<td>14.33</td>
<td>4.28</td>
</tr>
<tr>
<td>females</td>
<td>622</td>
<td>14.42</td>
<td>4.12</td>
</tr>
<tr>
<td>males</td>
<td>1,394</td>
<td>14.28</td>
<td>4.33</td>
</tr>
<tr>
<td>bypass patients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>159</td>
<td>15.16</td>
<td>4.05</td>
</tr>
<tr>
<td>females</td>
<td>37</td>
<td>14.92</td>
<td>3.97</td>
</tr>
<tr>
<td>males</td>
<td>122</td>
<td>15.24</td>
<td>4.09</td>
</tr>
</tbody>
</table>

It has been found to correlate strongly with hope scales (Snyder et al 1991 574).

Tedeschi and Calhoun (1996 461-464) used the LOT to establish the construct validity of the Posttraumatic Growth Inventory (see next section), and found that ‘the eight items scored have an internal consistency of $\beta = 0.76$ and a test-retest reliability over four weeks of $r=0.79$’. In indicating that there were eight scored items, it is presumed that this is related to the LOT rather than the LOT-R.

The LOT-R has been found to have adequate predictive and discriminant validity
Questions have been raised as to whether ‘effects attributed to optimism are distinguishable from those of unmeasured third variables, most notably neuroticism’ (Carver website), and this argument has been supported by some such as Smith et al (1989). Again, for the purposes of this research, it was considered an adequate scale to measure optimism.

Reliability and validity issues

*Reliability: a matter of whether a particular technique, applied repeatedly to the same object, would yield the same result each time*

Rubin & Babbie (1992 169)

*Validity: refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration*

Rubin & Babbie (1992 171)

In the discussion of each of the quantitative measures so far, consideration has been given to both reliability and validity issues. There is an extensive literature addressing the general reliability and validity issues associated with trauma research (Carlson 1996, 1997; Weisaeth 1989; Yehuda & McFarlane 1995; Krinsley & Weathers 1995). This literature examines reliability and validity issues in relation to both the conceptualization of research and the instruments used in such research (Krinsley & Weathers 1995). Many of the difficulties with the conceptualization of trauma responses have already been discussed in Chapters One to Four. These difficulties relate to defining trauma, assessing multiple dimensions of trauma, and the reliability and validity of subjective and objective measurements.

At the core of many of the concerns about reliability and validity in relation to trauma is the question of traumatic memory. Krinsley and Weathers (1995 2) for example, discuss the importance of the extent to which ‘reported memories of traumatic events accurately correspond to actual events’. To some extent, given the theoretical basis of this research, the question is redundant. In adopting a strong appreciation for the subjective experience of recovery, many of the concerns about validity are diminished. What is considered of more importance from a social work perspective is
the perception in the present of a past event, and how that present perception is influencing future functioning. From a therapeutic or intervention point of view, subjective concerns are the valid concerns. From this point of view, issues of rigour become more important, rather than reliability or validity (Rice & Ezzy 2000). Thus, the interviews offer a rigorous way of illuminating and validating the survey material.

This research, in having no longitudinal or control group component, has no formal reliability check. The commonality of emergent themes from both the survey data and the interview data, and from the discussions with the AASW Trauma Special interest group, however, will be one way of observing the reliability of the questions asked.

Each of the quantitative scale can be assessed for reliability and the appropriate measures will be reported.

**Ethics Approval**

This research was conducted subject to approval from three separate ethics committees - the Ethics Committee of the School of Social Work at The University of Melbourne, the Human Research Ethics Committee of The University of Melbourne, and the Research Committee of the Victorian Rehabilitation Centre.

The Statistical Consulting Centre provided advice in relation to the design of the survey questions, and primarily in relation to the recruitment methods, given the need for a high level of sensitivity in approaching people about past trauma issues. Confidentiality issues also required careful consideration.

Ethics approval was granted by the University of Melbourne’s Human Research Ethics Committee in September 1999 after minor modifications to the survey covering letter were made. These modifications included making mention of the fact that the surveys would in no way be matched with any identifying data on the further participation card and that the findings would be available in the form of group data, not individually recognizable data.
Pilot phase of survey development

The survey was piloted during September 1999 and amended through contact with:

- road trauma survivors from the RTST (Vic)
- The University of Melbourne Statistical Consulting Centre
- Christine Durham, a road trauma survivor and author of Doing Up Buttons
- Professor Mark Creamer, Professor Alun Jackson and Associate Professor Dorothy Scott during the PhD candidature review meeting on June 15 1999.

Numerous issues arose from the piloting of five surveys with road accident survivors and one detailed discussion about the survey with a sixth person. The suggestions were to:

1) include the status of ‘separated’ in the marital status categories
2) alter the question relating to issues of responsibility for the accident, to include ‘not at all’ and change ‘poor’ to ‘low’. It was advised that the hierarchy of responses should be turned around so as to presume low responsibility for the accident first.
3) code or cluster the time frames of counselling
4) code the counselling categories
5) code more succinctly questions 4.8, 5.4, 6.32 and 6.33
6) note the problems encountered with IES - with comments made on one written survey and one verbal report about its ambiguity. This is addressed further in Chapter Twelve.

The general feedback from the participants was that:

1) the survey took about 20 minutes to complete
2) it was not experienced as distressing to complete
3) the wording of the survey may make it inaccessible to some
4) anger with ‘professionals’ would be a strong deterrent to participation

The survey response rate

It was anticipated from the outset that the response rate would be fairly low for the
survey, given:

1) the typically low numbers frequently obtained in trauma research due to the nature of the experience and the recognised difficulties or reluctance those affected have in talking with strangers about such an experience (Weisaeth 1989)

2) the time frame of the research. Given that it was 3-4 years since survivors had experienced their road accident, it was anticipated that they may not wish to be reminded of their experience or to write of their experience, at the request of a researcher unknown to them. Many could also be non-contactable via the details the VRC had as to their whereabouts.

On the other hand, motivation to participate was considered likely on the grounds that:

1) many survivors, in the aftermath of a traumatic experience, express the need or wish to tell their story, often feeling neglected by recovery systems once discharged from them.

2) many survivors recognize the lack of longer term understanding there is of road trauma experiences and in being invited to assist with this understanding may respond positively.

The calculation of the response rate became a problematic exercise, primarily due to the complications inherent in the third party recruitment process. In order to maintain the confidentiality of the VRC’s clients, as mentioned previously, the researcher was not permitted to access the names and addresses of those who had been either inpatients or outpatients at VRC during the 1996/7 financial year. The client list was not organized according to compensable status, meaning that allowing the researcher access to the list would not only give exposure to TAC clients who may not wish to be disclosed, but also other clients totally unrelated to the purposes of this study.

A database had to be created for the purposes of this research, taking the 1996/7 client list from the existing database and entering them into a word format system. This allowed for checking for duplications of names over re-admissions throughout the year and transfers from inpatient to outpatient status. While this third party recruitment method ensured confidentiality between the researcher and the client population, it led to two unexpected consequences.
In March 2000, 350 surveys were delivered to the VRC, where the letter from the Medical Director was added and the envelopes were sealed and posted out. The Secretary of the Research Committee, however, requested additional surveys. Given that this meant that either accounting statistics were incorrect (considered highly unlikely) or that surveys had been sent out to the wrong people, clarification as to who the surveys had been sent to was sought.

In the first 350 surveys sent out, some were sent to clients who had been treated in the Orthopaedic Unit at the time, who had not experienced road trauma. In order to reach all the road trauma population, a further 43 surveys were delivered.

In the final analysis, 393 surveys were apparently sent out over the period of a week in March 2000. Given the large size of the population and the nature of the database that is kept, some duplications may have occurred and certainly some non-road trauma orthopaedic patients were contacted. This unanticipated problem meant that there was no way of establishing an exact response rate for the survey. A request was then made that the VRC provide the exact numbers of TAC clients. A list was provided back to the VRC of the names of people who were uncontactable due to death or relocation. These were checked off against the master list that VRC had developed. Of the return to sender list, 35 were TAC clients and the other 2 were WorkCover and private clients. Of the four deceased, one was a TAC client, bringing the TAC inaccessible population to 36. The total number of surveys mailed was 393 but a recount determined that 88 of these were in fact not TAC clients, giving a total of 305 as the TAC population within this cohort.

A number of survey booklets were returned for the following reasons:

- 35 were ‘return to sender’ deliveries, due to relocation or unknown at the address
- 1 patient had died in the interim period
- 37 were considered refusals to participate as the surveys were returned, not completed, in the white envelope, in accordance with the instructions on the covering letter. It was impossible to determine exactly how many of these were TAC patients as there had been a problem with the mail-out going to a significant number of non-TAC compensable clients.
Thus, to use Parslow, Jorm, O’Toole, Marshall and Grayson’s (2000) terminology there was a refusal rate of 12% (based on 37/305), a noncontact rate of 12% (based on 36/305) and a response rate of 27% (based on 82/305), accounting for 51% of this particular population.

There is some evidence that those who refuse to participate in or withdraw early from trauma or bereavement research tend to be those who are more traumatized than those who do participate (Blanchard and Hickling 53; Weisaeth 1989). However, this finding has been contradicted by Green and Grace (1995 119) who found in two studies of trauma survivors that there ‘were not large differences between people who [are] willing and not willing to participate in a research study about responses to a traumatic event’.

82 completed surveys were received. Three of these were excluded later from the data analysis. One respondent was more likely to have been injured in a workplace accident rather than in a road accident, and thus inappropriately recruited into the study. At the second phase of the research, during an interview, it became apparent that the interviewee had completed the survey and interview based on her daughter’s experience of injury rather than her own. While she had been in the accident also, she had not required rehabilitation for her own injuries. A third completed survey was received beyond the time frame of the data collection period. Therefore, a total of 79 completed surveys were considered useable and appropriate for analysis.

The lowest possible response rate, therefore, involves a simple calculation of 79 surveys received back from the original total of 305 potential participants. This gives a response rate of 26%. However, if it is taken into account that, of these 305 participants, 1 had died and 35 were ‘return to sender’ because of relocation, and two were incorrectly included in the sample, the accessible population can be calculated as 267. 79 participants from this accessible population is a response rate of 30%.

In terms of the generalizability of any of the findings, the extent to which the sample was representative of the statewide rehabilitation population was considered. With 79 participants out of the 797 statewide TAC claimants, the sample includes 10% of the overall rehabilitation population for this time period. Considered in the context of the
17,680 TAC claimants for the time period, this sample represents 0.5% of total TAC population for the 1996/7 time period.

The demographic details of the survey sample are outlined in Chapter Six.

**Survey Data Collection and Analysis**

The aim of the data collection was two-fold. Firstly, it was to develop comparable baseline data on distress levels and growth experiences, using quantitative measures used in other research. Secondly, it was to expand and uncover the central themes of the experience based on new or open-ended questions.

a. Quantitative data analysis

The data from the 79 surveys were collated and analyzed using qualitative and quantitative data analysis methods. Statistical analyses, using SPSS 10.0, were conducted of posttraumatic stress responses using the IES, personality factors using the LOT-R, perceived social support using the SSS and posttraumatic growth using the PTGI. Frequencies, cross-tabs (Chi square), correlations, linear and logistic regressions and t-tests, where appropriate, were run on these above variables and other quantifiable survey variables. Given that it was the intention of this thesis to examine the more thematic, subjective aspects of the effects of road trauma, rather than predictive aspects, regression analyses and more complex statistical procedures were only minimally employed.

In order to determine the most appropriate statistical tests to use, tests of normality were conducted for the IES, the PTGI, the SSS and the LOT-R. With the exception of the total PTGI score and some of the factor scores, all of the scales were found to be significant, according to the Kolmogorov-Smirnov tests, indicating that non-parametric statistics should be used (refer to Table 13). The advice, however, from the Statistical Consultant was that t-tests would be appropriate to carry out with the above measures. This was on the basis that the sample was large enough (N=79) for the central limits theorem to be justified, therefore overall normality could be assumed (Bachman & Paternoster 1997 224).
Table 13: The analysis of the distributions of the four quantitative scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Kolmogorov-Smirnov statistic</th>
<th>Df</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IES intrusion</td>
<td>.109</td>
<td>75</td>
<td>0.027</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>.159</td>
<td>75</td>
<td>0.000</td>
</tr>
<tr>
<td>IES total</td>
<td>.125</td>
<td>75</td>
<td>0.005</td>
</tr>
<tr>
<td>SSS</td>
<td>.176</td>
<td>75</td>
<td>0.000</td>
</tr>
<tr>
<td>PTGI relating to others</td>
<td>.076</td>
<td>75</td>
<td>0.200</td>
</tr>
<tr>
<td>PTGI new possibilities</td>
<td>.166</td>
<td>75</td>
<td>0.000</td>
</tr>
<tr>
<td>PTGI personal strength</td>
<td>.088</td>
<td>75</td>
<td>0.200</td>
</tr>
<tr>
<td>PTGI appreciation of life</td>
<td>.117</td>
<td>75</td>
<td>0.013</td>
</tr>
<tr>
<td>PTGI total score</td>
<td>.059</td>
<td>75</td>
<td>0.200</td>
</tr>
<tr>
<td>LOT-R</td>
<td>.107</td>
<td>75</td>
<td>0.033</td>
</tr>
</tbody>
</table>

The significance level that has been assumed throughout is \( p < 0.05 \), consistent with much of the road trauma literature. Unless otherwise specified, therefore, whenever significant findings are referred to, it is with the assumption of a 95% confidence interval. Spearman’s Rho correlation coefficients were calculated. Where appropriate, Fishers Exact Tests were conducted to verify all significant chi-square values, allaying concerns about adequate cell sizes.

All variable relationships were examined. Due to the limitations of the thesis, however, not all are reported.

b. Qualitative data analysis

A content analysis was conducted of the qualitative responses, coding and clustering data for the frequency of central themes. This process of coding was inductive, consistent with Berg’s (1995 230) notion of ‘researchers ‘immersing’ themselves in the documents in order to identify the dimensions or themes that seem meaningful to the producers of each message’. This meant reading through all the responses multiple times, developing initial common categories, refining categories and then carefully recoding all responses. As Berg (1995) notes, it is not always possible to be purely inductive in that the research is being developed in the context of a particular knowledge and research base. In enabling all themes that seemed meaningful to the respondents to be acknowledged, rather than those imposed by the researcher, it

---

20 Bachman and Paternoster (1998 239-246) provide a useful overview of the various implications of minimizing or maximizing the confidence interview from a 95% confidence interval.

21 In view of the tests of normality, these nonparametric methods were preferred.
seemed new categories were able to emerge.

As a way of demonstrating the richness of the qualitative data, ‘typical’ comments are included throughout. Any unidentified statements in italics in the following chapters are survivors’ comments.

The statistical and content analyses were then integrated to form the survey findings of the thesis. The intention of this integration was to extract the common themes. Thus rather than looking specifically ‘within subjects’ for specific patterns, it was to listen ‘across subjects’ for the common themes of the subjective experience of recovery. Integrated into these findings from the survey, both implicitly and explicitly, were the data from the 24 telephone interviews that were conducted. Rather than provide a separate section of findings from the telephone interview data, the data were interspersed where appropriate, serving to illuminate the survey data.

PHASE TWO: TELEPHONE INTERVIEWING

Following the return of the 79 surveys and their further participation cards, it was found that 53 of the respondents were willing to be contacted for an interview. The initial proposal had been to conduct face-to-face interviews. In view of the unanticipated high response rate, the spread of these people across the State of Victoria, and the costs involved in terms of time and resources, the possibility of telephone interviewing was examined and found to be the preferable option.

Telephone interviewing is useful in reaching specialized samples, particularly when distance does not allow easy or affordable access to conduct face-to-face interviews (de Vaus 1995). It allows for greater accessibility and safety in terms of when and where the interviews can be conducted, particularly given the unavailability of people during work hours and their preference for evening appointments. It has enabled the collection of data for large scale prevalence studies, such as the sexual assault study conducted by Resnick, Kilpatrick, Dansky, Saunders and Best (1993).

While it is argued that telephone interviewing is not as adequate as face-to-face
interviews for the asking of complex questions (de Vaus 1995), this seems contrary to the widespread recognition that telephone interviews are ideal for the asking of open-ended questions. Where telephone interviews are limited is in being able to deal with too many response categories (de Vaus 1995) and certainly in being able to provide non-verbal data.

Some researchers have expressed concerns about the quality of data collected using telephone interviews. Most studies so far have indicated that there are few major differences in the quality of information between telephone and face-to-face or household interviews (Fenig, Levav, Kohn & Yelin, 1993; Fox, Heimendinger & Block, 1992; Rohde, Lewinsohn & Selley, 1997; Weeks, Kulka, Lessler, Whitmore, 1983). For example, telephone interviews are equivalent to face-to-face interviews in terms of validity, reliability, precision of estimates and response rates (Bauman, 1993). A number of studies, however, have been unable to support these findings and have concluded that it is still open to question which mode yields more accurate data (Donovan, D'Arcy, Holma, Corti & Jalleh, 1997, Starr, Grande, Taylor & Wilson, 1999). This concern seemed less relevant to this phase of the research, where subjective, qualitative data rather than quantitative data, was sought.

The conducting and taping of in-depth interviews has many advantages over surveys or more quantitatively focussed interviews. According to Denzin (1989 cited in Rice and Ezzy 2000 67) they allow for the emergence of the ‘subjective meanings and interpretations that people give to their experiences’. In doing so, they encourage a more inductive theoretical approach as distinct from deductive approaches. They allow for critical elements of interpersonal and social processes to be captured. Perhaps the most important aspect in relation to this sample is that in using in-depth interviewing, ‘people generally find the experience rewarding’ (Rice & Ezzy 2000 68). This conclusion has, however, been questioned by others such as Brzuzy, Ault and Segal (1997 76). They noted that some trauma survivors, rather than experiencing interviews as ‘therapeutic, cathartic, emancipatory and educational’, found they were ‘experiencing a lack of concentration and anxiety in anticipating the interviews, emotional distress while discussing events and nightmares after recounting their experiences’.
Development of the interview sub-sample

Of the 53 survey respondents willing to participate in the second phase of the research, 24 were interviewed. The features of this sub-sample are outlined in Appendix 8, and indicate their representativeness of the total sample.

Development of interview questions

The development of a semi-structured, in-depth interview schedule (Rice & Ezzy, 2000) took place throughout May 2000 as the initial analysis of the survey data was undertaken.

The interview schedule included 10 questions which were designed to be answered in about 20 minutes, thought to be the maximum period of time beneficial for telephone interviews. The interview schedule (Appendix 9) included a number of initial consent questions, the London Handicap Scale (Harwood, Gompertz, & Ebrahim 1994) and a series of open-ended questions. These questions were developed from an initial analysis of the survey responses and from a couple of questions that had been considered to be too difficult to use in the survey initially22.

As with the development of the survey questions, it was recognized that the nature of the questions would shape the nature of the interview and the ‘frame of reference’ of the interviewee. The last question of the interview schedule, therefore, was an open question, asking for any other issues or themes the interviewee thought was important that had not been addressed by the questions to date.

The London Handicap Scale

The LHS (Harwood et al 1994; Harwood & Ebrahim 1995; 2000) is a 6 item, self-administered measure of ‘the disadvantage experienced as a result of ill health’. It is based on the 6 dimensions of handicap established by the World Health Organization, although these have subsequently been rewritten. These six dimensions are mobility,

---

22 This was particularly in relation to the notion of recovery - ‘What does the word recovery mean to you?’.
orientation, occupation, physical independence, social integration, and economic self-sufficiency. The LHS has been used for a variety of health issues, primarily stroke survivors (Harwood et al 1994; Jenkinson, Mant, Carter, Wade & Winner 2000).

The LHS has 6 items, each of which has a six point rating system, ranging from extreme disability (5) to no disability (0). A score ranging from 0-30 is then calculated to give an indicator of handicap level.

While there has been some discussion around the validity and weighting of LHS scores (Jenkinson et al 2000), internal reliability has been found to be high (Cronbach’s alpha = 0.83) and unweighted scores have been found to be adequate.

The LHS was included as some form of standardizing measure of physical and social functioning in the aftermath of injury. This was on the basis that it was ‘acceptable to patients as it is both brief and easily understood’ (Jenkinson et al 2000). However, the administering of this scale was extremely problematic for a number of reasons and therefore it was not included in the analysis.

These concerns related to:
1) the method of administration. It was very difficult to administer the scale verbally in the telephone interviews rather than having the respondents self-administer the scale in a written survey. In the context of a discursive, open-ended interview, it was difficult to impose the rigid structure of administering a ‘response’ set. It led to frequent elaboration that made it clear that the interviewees meant something quite different from the answer that they had given.
2) levels of interpretation were different, particularly for question (b) relating to looking after yourself. Many interpreted this as relating to physical self-care whereas others interpreted it as psychological self-care - for example, taking ample time for meditation or nurturing.
3) question (d), in asking about how interviewees were getting on with other people, was interpreted to be a question of psychological factors (eg less tolerant of others) rather than the cognitive effects of an injury and the impact on social functioning.
4) question (e), a question about cognitive capacity, was interpreted as a question
relating to existential reframings of the world, a very complex psychological/cognitive capacity and change

5) the question of how one could logically answer question (e) in the affirmative when stating you had trouble understanding the world around you would seem to render the other answers invalid.

Given these significant concerns, the data gathered was considered to be unreliable and invalid, and was therefore excluded from the data analysis.

**Arrangement of interviews with participants**

A letter was sent to all respondents who had expressed a willingness to participate in an interview. The letter primarily explained that there were delays in the ethics committee process and that contact would be made with them as soon as approval was gained if they were selected to participate in the second phase. The letter served also as a reminder of consenting to participate, ensuring that the researcher’s future contact was not unexpected.

The potential interviewees were then contacted by phone to establish whether they were still willing to participate in an interview, and if so, a suitable time was scheduled. This preparation was done deliberately to give participants time to think about their experience and mentally prepare for the interview, rather than ringing them unexpectedly and expecting that they could easily participate in such an interview. Of the 53 respondents who consented to participate in interviews, a random selection of 25 was made. Only one out of this number declined to participate when approached to be interviewed.

**Conducting of interviews and transcription of recordings**

The interviews commenced on 24/8/00. They were conducted using a conference phone. If interviewees gave their consent to have the interview recorded, they were transferred onto the speaker phone. The interview was then recorded using a dictaphone, and later transcribed. Only one participant did not consent to have the interview recorded. Permission was given for working notes to be taken of this
Due to the length of each interview, and the number of interviews conducted in total, the transcription of the interview began with responses to Question 5. All questions prior to this were recorded on a fact sheet, completed at the beginning of each interview. Any salient comments were also transcribed during this first phase of the interview. The rest of interviews were all transcribed verbatim, with only minor deletions of either the researcher’s minimal encouragers and in some instances, repetitive use of redundant, filler language - for example, ‘you know’ or ‘I mean’.

24 interviews were conducted in total. One was later excluded as it became evident that the interviewee was talking about her daughter’s experience of recovery more so than her own. Her survey was also withdrawn from the sample, as discussed on page 150.

At about interview 17, a saturation point seemed to be reached, particularly in relation to the question asking ‘What does the word ‘recovery’ mean to you?’. This experience was consistent with what Strauss and Corbin (1990 188) refer to as ‘theoretical saturation’, ‘when additional analysis no longer contributes to discovering anything new about a category’. Thus, 24 interviews were considered adequate for the purposes these interviews were to serve.

Other observations of the interview process were that:
1) each interview was conducted on average for half an hour, with the longest being one and a half hours and the shortest being ten minutes.
2) all interviewees consented to recording and to matching with the survey data, with the exception of one interviewee
3) there was a strong sense that the interviewees found the questions relevant to their experience, in that most questions received extensive replies
4) the interviewees seemed very positive about the research experience generally
5) some of the interviewees were keen to clarify the researcher’s alignment, if any, with TAC
6) some interviewees had been approached to participate in a study being conducted by La Trobe University. The impact of being approached to participate in
numerous studies seemed validating for these interviewees of the severity of their experiences.

The time factor between Phase One and Two

Most respondents completed the survey in February-March 2000, and the interviews then took place in September-October 2000. The decision to not re-administer any of the quantitative measures was based on the fact that telephone administering would have added another method of quantitative data collection, confounding the reliability of the findings. The overall purpose of interviews, to gather qualitative data to illuminate the survey data (rather than use the interviews as a reliability check), was also a strong determinant in this decision.

Feedback to participants

All participants who had disclosed their contact details were sent a summary of the findings at the conclusion of the research. They were advised that detailed copies could be available to them once the submission of the thesis had been successful.

Phase Three: Discussions with the AASW Trauma Special Interest Group

In order to ensure the location of the research within a social work framework, discussions were organized with the Trauma Special Interest Group of the AASW. This group of social workers, working primarily in both acute and rehabilitation hospital settings, was considered to be a group of key informants or ‘knowledgable insiders’ (Padgett 1998 53).

The initial research findings were presented to the AASW Trauma Special Interest Group meeting on Thursday 14 December 2000 and a second discussion took place on February 22 2001. The aim of these sessions was to invite their response to the data, particularly around their notions of recovery based on varying years and contexts of social work practice. In doing so, this was considered to be an informal
but important reliability check on the data, and a way of broadening the interpretations of the data within a social work context. It was noteworthy that the discussions generated great curiosity and hunger for more information and research, highlighting the demands of practice and the lack of time for consideration of theoretical and research themes. The interest and involvement of the group were also an important validation of the research and its specific aims. The discussions will continue with this group.
PART THREE

THE FINDINGS

CHAPTER SIX

WHO CHOSE TO PARTICIPATE

From the 1996/7 VRC population of 305, 79 road trauma survivors were recruited into the sample. Of these 79 respondents, 42 were male (52.5%) and 37 were female (47.5%). The sex ratio of the sample, therefore, was consistent with the VRC orthopaedic unit population (54% male and 46% female) and the overall Victorian road trauma population. While consistent with the road trauma populations, this sample was unusual in its sex bias. Other comparable road trauma studies such as those by Blanchard and Hickling (1995) and Jeavons et al (1996) have had female biases, more typical of the trauma research samples generally, as noted in Chapter Four.

The mean age of the respondents was 49.2 years ($SD=18.3$, range = 22-85). For males, the mean age was 47.2 years ($SD=17.9$, range = 22-83) and for females, 51.5 years ($SD=18.7$, range = 22-85). These mean ages were higher than the TAC inpatient average ages, being 39.9 years for males and for females, 45.2 years. They were also higher than mean ages in comparable studies such as Jeavons et al (1996), Blanchard and Hickling (1995, 1998), and Tedeschi and Calhoun (1996). For the purposes of some of the analyses, ages were clustered according to ABS (2000) groupings, as shown in Appendix 10. In Table 14, the age ranges are shown in decades to more accurately reflect the distribution of ages in the latter part of the life-span.
Table 14: The age of the respondents

<table>
<thead>
<tr>
<th>age group</th>
<th>males N=42</th>
<th>females N=37</th>
<th>total N=79</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29 years</td>
<td>23.8%</td>
<td>18.9%</td>
<td>21.5%</td>
</tr>
<tr>
<td>30-39 years</td>
<td>11.9%</td>
<td>8.1%</td>
<td>10.1%</td>
</tr>
<tr>
<td>40-49 years</td>
<td>23.8%</td>
<td>13.5%</td>
<td>19.0%</td>
</tr>
<tr>
<td>50-59 years</td>
<td>16.7%</td>
<td>29.7%</td>
<td>22.8%</td>
</tr>
<tr>
<td>60-69 years</td>
<td>11.9%</td>
<td>10.8%</td>
<td>11.4%</td>
</tr>
<tr>
<td>70-79 years</td>
<td>4.8%</td>
<td>10.8%</td>
<td>7.6%</td>
</tr>
<tr>
<td>80-89 years</td>
<td>7.1%</td>
<td>8.1%</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

43.6% of the respondents (N=78) were married at the time of completing the survey. 15.4% were divorced or separated and 11.5% were widowed. ‘Living with a partner’ was a category included to refer to those living in a de facto relationship, either heterosexual or homosexual, and only 2.6% of respondents were in this category. A further 26.9% of respondents were single. There was one major difference in marital status on the basis of sex (refer to Table 15). Nearly one quarter (24%) of the female respondents was widowed, compared to none of the male respondents. This finding is consistent with the general population trends, given the sex differences in longevity.

Table 15: The marital status of the respondents

<table>
<thead>
<tr>
<th>marital status</th>
<th>males N=41</th>
<th>females N=37</th>
<th>total N=78</th>
</tr>
</thead>
<tbody>
<tr>
<td>single</td>
<td>31.7%</td>
<td>21.6%</td>
<td>26.9%</td>
</tr>
<tr>
<td>married</td>
<td>48.8%</td>
<td>37.8%</td>
<td>43.6%</td>
</tr>
<tr>
<td>divorced/separated</td>
<td>17.1%</td>
<td>13.5%</td>
<td>15.4%</td>
</tr>
<tr>
<td>widowed</td>
<td>0%</td>
<td>24.3%</td>
<td>11.5%</td>
</tr>
<tr>
<td>living with partner</td>
<td>2.4%</td>
<td>2.7%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Again, there were differences in this sample from other trauma samples. Tedeschi and Calhoun’s (1996) sample was predominantly single (95%), being college students. Participants in Jeavons et al’s (1996) study were 49% married or de facto, 38% single, 15% widowed, divorced or separated. Blanchard and Hickling (1995) specified that 41% of their sample was married, but did not specify as to the status of the remainder of their sample referred to as ‘not married’.

The majority of the respondents were of Australian or New Zealand birth origins (73.4%) with 8.9% then being from both the UK and Europe, and a very small number from either the USA/Canada, Asia or other countries. Compared with ABS statistics, the sample therefore was representative of country of origin ratios in the general Australian population (Appendix 11), indicating that there was no major bias against involving participants from non-English speaking backgrounds.
At the time of completing the survey, 44.9% of the respondents were employed, and an equal 44.9% were unemployed. A further 10.3% explicitly stated that they were retired even though this was a category that was not offered in the question design. This figure may well be an under-representation that is skewing the unemployment category. Thus, 55.2% of the sample were not in paid employment at the time of the survey.

Comparisons were made with ABS statistics (2000) for the 1996/7 period that showed an overall 8% decrease in the employment/population ratio for those in the sample compared to the general population (Table 16). The most marked decreases were in the 35-44 age group and the 55-59 age group.

Table 16: The employment/population ratio (1996/7) according to age

<table>
<thead>
<tr>
<th>age group</th>
<th>ABS total</th>
<th>ABS males</th>
<th>ABS females</th>
<th>VRC sample total</th>
<th>VRC sample males</th>
<th>VRC sample females</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>71.9</td>
<td>75.3</td>
<td>68.5</td>
<td>83%</td>
<td>100</td>
<td>100%</td>
</tr>
<tr>
<td>25-34</td>
<td>74.1</td>
<td>85.5</td>
<td>62.8</td>
<td>65%</td>
<td>64%</td>
<td>66%</td>
</tr>
<tr>
<td>35-44</td>
<td>76.7</td>
<td>86.4</td>
<td>67.1</td>
<td>54%</td>
<td>55.5%</td>
<td>50%</td>
</tr>
<tr>
<td>45-54</td>
<td>73.7</td>
<td>82.8</td>
<td>64.3</td>
<td>75%</td>
<td>100</td>
<td>62.5%</td>
</tr>
<tr>
<td>55-59</td>
<td>53.5</td>
<td>66.5</td>
<td>40.1</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>60-64</td>
<td>30.0</td>
<td>42.2</td>
<td>18.0</td>
<td>50%</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>over 64</td>
<td>5.7</td>
<td>9.5</td>
<td>2.8</td>
<td>0%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

For those who were in paid employment (N=50), their occupational area was coded into one of six possible categories derived from the responses - trade/labour, health, business/sales, administration/clerical, teaching and engineering (Table 17). More than one third of the males were employed in trade or labour, followed by business or sales areas of occupation, in contrast to the females who were more likely to be involved in unpaid labour, or administrative/clerical occupations.

Table 17: The occupational groups of the respondents

<table>
<thead>
<tr>
<th>occupation</th>
<th>males N=26</th>
<th>females N=24</th>
<th>total N=50</th>
</tr>
</thead>
<tbody>
<tr>
<td>trade/labour</td>
<td>34.5%</td>
<td>4.2%</td>
<td>20%</td>
</tr>
<tr>
<td>health</td>
<td>8%</td>
<td>21%</td>
<td>14%</td>
</tr>
<tr>
<td>business/sales</td>
<td>19%</td>
<td>12.5%</td>
<td>16%</td>
</tr>
<tr>
<td>administration/clerical</td>
<td>11.5%</td>
<td>25%</td>
<td>18%</td>
</tr>
<tr>
<td>unpaid - mother, carer, student, retired</td>
<td>15%</td>
<td>33.3%</td>
<td>24%</td>
</tr>
<tr>
<td>teaching</td>
<td>8%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>engineering</td>
<td>4%</td>
<td>0%</td>
<td>2%</td>
</tr>
</tbody>
</table>

One quarter (25.3%) of the respondents (N=75) became unemployed as a result of the
accident (Table 18). Consistent with the sample in Jeavons et al’s (1996) study, a further 23.9% changed employment (2.6% being those who moved into early retirement) as a result of the accident, indicating a change of employment for nearly half (49.2%) of the respondents. This change was reported as a loss in some instances, and in others as an opportunity otherwise not available to them, for example in terms of allowing for retraining. This result overall, of 49.2% changing or losing employment, is significantly higher than other studies and reflect the severity of injury for this sample.

Table 18: The changes in employment status as a result of the accident

<table>
<thead>
<tr>
<th>current employment status</th>
<th>employment changed as a result of the accident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=75</td>
</tr>
<tr>
<td>employed</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>21.3%</td>
</tr>
<tr>
<td>unemployed</td>
<td>25.3%</td>
</tr>
<tr>
<td>retired</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

For the group who experienced no change in employment as a result of the accident, 25.3% continued in employment, and a further 20% continued in their unemployment. Of the 6 respondents who had indicated that they had experienced no change in their employment status, and who provided comment, two were able to recover to the point of returning to their previous jobs, two were retired at the time of the accident, and two were students.

The reasons for changes in employment are complex and a factor both of the accident and its aftermath, as well as time and opportunity. Only one respondent commented on the fact that ‘It has changed since the accident but not because of it’. For another respondent, a new career pathway had opened up. The vast majority commented on the way in which they had attempted to return to previous places of employment but found that their injuries prevented them from participating as they had prior to their accident. Others commented on how they had either been sidestepped for other employees or had had to make decisions about early retirement. Some of these comments are presented in Figure 15, overleaf.

A small percentage of the respondents (3.8%) had completed their education at
Figure 15: Typical comments about changes in employment

Retired because unable to maintain level of performance needed to continue (in my opinion) at level of stress job demanded

I attempted to return to work and found myself unable to cope even marginally

Can no longer do the old job, leg just won’t let me. Tried but the pain drove me out of the job

Approx 4 months after the accident, my employer was approached, regarding returning to work on modified duties and hours. I was informed they no longer had a position for me.

I have had to undertake further tertiary study to remove myself from previous very physical nursing duties eg constant lifting of heavy incapacitated patients

I can no longer stand, walk or sit for more than ½ hour nor am I able to lift

I was 60 yrs of age at the time and have found it impossible to return to my work

I have been unable to return to my usual work situation due to the after effects of my injuries

Promised promotion given to other candidate due to incapacity
primary school level\textsuperscript{23}. A further 29.5\% had completed to middle secondary level and 33.3\% of the sample had completed secondary school. Of the 33.4\% who went on to tertiary education, 24.4\% attained undergraduate qualifications and 9\% postgraduate qualifications (Table 19).

\textbf{Table 19: Levels of education according to the sex of the respondent}

<table>
<thead>
<tr>
<th>highest level of education</th>
<th>males N=42</th>
<th>females N=36</th>
<th>total N=78</th>
</tr>
</thead>
<tbody>
<tr>
<td>primary</td>
<td>2.4%</td>
<td>5.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>middle secondary</td>
<td>35.7%</td>
<td>22.2%</td>
<td>29.5%</td>
</tr>
<tr>
<td>secondary completed</td>
<td>31.0%</td>
<td>36.1%</td>
<td>33.3%</td>
</tr>
<tr>
<td>tertiary undergraduate</td>
<td>21.4%</td>
<td>27.8%</td>
<td>24.4%</td>
</tr>
<tr>
<td>tertiary postgraduate</td>
<td>9.5%</td>
<td>8.3%</td>
<td>9%</td>
</tr>
</tbody>
</table>

This sample is representative of the general Australian population (ABS 2000) in relation to educational attainment. In 1998, 42\% of the 15-64 year old Australian population had completed a ‘recognized post-school qualification’ compared to 33\% of this sample. Postgraduate qualifications were more strongly represented (9\%) than the general population (4\%). Blanchard and Hickling’s (1998 39) sample had education levels that were 26\% high school or less, 47\% some college through to Bachelor of Arts graduates and 27\% graduate training, representing a much more highly educated sample.

A summary of the demographic characteristics of the respondents is outlined in Figure 16, overleaf.

\textsuperscript{23}These respondents were identified as being 68, 76 and 85 years, and therefore of a cohort when attaining secondary and tertiary education levels were not necessarily the social norm.
Of the 305 VRC patients who were eligible to participate, 79 returned completed, useable surveys giving a response rate of 26%.

Of these 79 participants:
- 52.5% were male
- the mean age was 49.22 years
- the majority were Australian-born (73.4%)
- 45% were employed at the time of the accident, and 49% were unemployed, with a further 10% indicating that they were retired.
- 25% became unemployed and a further 23.9% changed employment as a result of the accident.
- many were married (43.6%) had been married (widowed (11.5%) or were divorced/separated (15.4%))
- 66.7% had completed either secondary school or tertiary education

Figure 16: A summary of the demographic characteristics of the respondents
CHAPTER SEVEN

THE PSYCHOLOGICAL CONSEQUENCES OF ROAD TRAUMA

This chapter examines the range of psychological consequences reported by the survivors. It examines initially whether respondents were experiencing ongoing psychological difficulties, and if so, the types of difficulties. These were considered to be the subjective responses, unstructured and therefore undirected by the researcher. It examines also the data from the quantitative measures of distress experiences (according to the IES) and growth experiences (according to the PTGI). Any relationships between these three variables are then analyzed.

SUBJECTIVE REPORTS OF ONGOING PSYCHOLOGICAL DIFFICULTIES

Nearly two thirds of the respondents (62%, N=76) reported that they were experiencing ongoing psychological difficulties as a result of their road trauma. Significantly more females (75%) than males (50%) reported these difficulties ($\chi^2=5.018$, df=1, p<0.01), a finding consistent with many studies of post-traumatic stress (as discussed in Chapter One).

33% of the respondents provided comment. A very small percentage, 3%, reported that they did not have ongoing psychological difficulties:

still love my wife of 45 years!

I have accepted what happened to me as an accident. I am just lucky I am alive and can still walk and continue my nursing career

The remaining 30% of respondents commented specifically on areas of ongoing difficulty, as outlined in Table 20. These areas were coded into eight categories. The eight categories were general anxiety or stress responses, specific forms of driving anxiety, a damaged sense of self (in terms of reduced self-confidence or esteem),
depression, memory problems, feelings of vulnerability about their own mortality and
the future, and for one respondent, merely ‘minor’ experiences of difficulties.

Table 20: The areas of ongoing psychological difficulties

<table>
<thead>
<tr>
<th>areas of ongoing psychological difficulty*</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>general anxiety/stress responses</td>
<td>52%</td>
</tr>
<tr>
<td>driving anxiety</td>
<td>22%</td>
</tr>
<tr>
<td>damaged sense of self - confidence, esteem</td>
<td>17%</td>
</tr>
<tr>
<td>depression</td>
<td>13%</td>
</tr>
<tr>
<td>memory problems</td>
<td>13%</td>
</tr>
<tr>
<td>mortality &amp; vulnerability issues</td>
<td>9%</td>
</tr>
<tr>
<td>future fantasy</td>
<td>9%</td>
</tr>
<tr>
<td>minor - unspecified</td>
<td>4%</td>
</tr>
</tbody>
</table>

* not mutually exclusive categories

As Table 20 illustrates, more than half of all the respondents were reporting general
anxiety and stress responses, typified in the following comments:

* loud noises (music/household) cause unsettled/anxious

* nightmares, flashbacks, panic attacks, reduced ability to cope ... short fuse

Nearly one quarter of the respondents reported some form of driving anxiety:

* only when passenger in car or whenever I observe a pedestrian crossing roads
  when not using official crossing

* Dislike driving at night and flinch when there is oncoming traffic

* Very unsettled and anxious in a car when other people are driving. I prefer to
drive as I feel more in control. Very jumpy when I hear loud noises unexpectedly

and one fifth reported what might be termed a ‘damaged sense of self’:

* loss of self esteem, no longer able to cope with my previous job.

* I lack confidence to try new things

* I think about my self and injuries every day

* forgetfulness. Confidence in myself has suffered
Just over 10% of respondents reported feelings of depression and experiences of memory loss. Just under 10% of respondents reported encounters with mortality & vulnerability issues and with specific anxieties about the future.

In these descriptions, many of the trauma disturbances, outlined in Chapter One, were evident. There were experiences of cognitive disturbance, and many of these disturbances were well-known posttraumatic stress symptoms such as hyperarousal and intrusion symptoms. There were disturbances of existential awareness, and there were disturbances of the ego and libido. There were possibly neurobiological disturbances for the 13% who reported memory difficulties. Less evident in these descriptions were disturbances of usual coping mechanisms, disturbances of inner narratives, and psychosocial disturbances.

**ONGOING PSYCHOLOGICAL DISTRESS SYMPTOMS**

The IES was used as a more specific and objective measure of psychological distress, giving a measure of intrusion and avoidance symptoms, and an overall distress score.

Scores on the IES (N=78) ranged from 0 to 71 with a mean of 22.27 (SD=19.35). The mean for the intrusion scores was 12.15 (SD=9.99) and for avoidance scores, the mean was 10.12 (SD=10.05). Internal reliability was found to be high (Cronbach’s alpha coefficient = 0.9266). A summary of these findings is outlined in Table 21.

No significant differences were found between the means of male and female IES scores (t=-1.404, df=76 p>0.05). There was, however, a trend towards males showing lower IES scores than females, consistent with the subjective reports of ongoing psychological difficulties.

**Table 21: The means of the IES scores**

<table>
<thead>
<tr>
<th>IES score</th>
<th>males N=41</th>
<th>females N=37</th>
<th>total N=78</th>
</tr>
</thead>
<tbody>
<tr>
<td>intrusion</td>
<td>mean SD</td>
<td>mean SD</td>
<td>mean SD</td>
</tr>
<tr>
<td>avoidance</td>
<td>mean SD</td>
<td>mean SD</td>
<td>mean SD</td>
</tr>
<tr>
<td></td>
<td>8.10 10.00</td>
<td>12.35 9.76</td>
<td>10.12 10.05</td>
</tr>
<tr>
<td>total</td>
<td>mean SD</td>
<td>mean SD</td>
<td>mean SD</td>
</tr>
<tr>
<td></td>
<td>19.37 20.43</td>
<td>25.49 17.79</td>
<td>22.27 19.35</td>
</tr>
</tbody>
</table>
No significant correlations were found between the IES scores and the current age of the respondents.

Specific ‘problem’ areas

In order to examine specific problem areas, each question of the IES was analyzed. Table 22 illustrates the distribution of respondents’ experiences as to whether they experienced the ‘symptom’ or not.

Table 22: The percentage of respondents endorsing each IES question (N=78)

<table>
<thead>
<tr>
<th>Qu</th>
<th>IES question</th>
<th>not at all</th>
<th>often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I thought about the accident when I didn’t mean to</td>
<td>27%</td>
<td>19%</td>
</tr>
<tr>
<td>4</td>
<td>I had trouble falling asleep or staying asleep</td>
<td>68%</td>
<td>14%</td>
</tr>
<tr>
<td>5</td>
<td>I had waves of strong feelings about the accident</td>
<td>43%</td>
<td>23%</td>
</tr>
<tr>
<td>6</td>
<td>I had dreams about the accident</td>
<td>76%</td>
<td>6%</td>
</tr>
<tr>
<td>10</td>
<td>Pictures about the accident popped into my head</td>
<td>29%</td>
<td>16%</td>
</tr>
<tr>
<td>11</td>
<td>Other things kept making me think about the accident</td>
<td>28%</td>
<td>27%</td>
</tr>
<tr>
<td>14</td>
<td>Any reminder brought back feelings about the accident</td>
<td>35%</td>
<td>18%</td>
</tr>
<tr>
<td>2</td>
<td>I avoided letting myself get upset when I thought about it</td>
<td>44%</td>
<td>18%</td>
</tr>
<tr>
<td>3</td>
<td>I tried to remove the accident from my memory</td>
<td>55%</td>
<td>26%</td>
</tr>
<tr>
<td>7</td>
<td>I stayed away from reminders of the accident</td>
<td>66%</td>
<td>3%</td>
</tr>
<tr>
<td>8</td>
<td>I felt as if the accident hadn’t happened or unreal</td>
<td>65%</td>
<td>9%</td>
</tr>
<tr>
<td>9</td>
<td>I tried not to talk about the accident</td>
<td>62%</td>
<td>8%</td>
</tr>
<tr>
<td>12</td>
<td>I was aware I still had feelings but didn’t deal with them</td>
<td>58%</td>
<td>13%</td>
</tr>
<tr>
<td>13</td>
<td>I tried not to think about the accident</td>
<td>52%</td>
<td>20%</td>
</tr>
<tr>
<td>15</td>
<td>My feelings about the accident were kind of numb</td>
<td>65%</td>
<td>9%</td>
</tr>
</tbody>
</table>

In the seven days prior to the survey, 76% of respondents had no experience of ongoing dreams about the accident. 68% of respondents had no difficulties with sleeping and 66% had no experience of trying to avoid reminders of the accident.

On the other hand, to varying degrees of frequency, 73% of respondents thought about the accident when they didn’t mean to, 72% found that other things reminded them of the accident and 71% had pictures of the accident pop into their head at some time during the previous week.

The symptoms experienced ‘often’ during the past week were being reminded of the accident by other things (27% of respondents) and trying to remove it from memory (26% of respondents). 23% of respondents found that they were frequently having strong waves of feeling about it.
What remains unclear within these findings is the degree to which any of these experiences caused distress, as the scale assumes. This issue is discussed further in Chapter Twelve.

**Analysing high and low IES scores**

Using the severity demarcations outlined in Chapter Five, more than one third of the sample was found to be reporting high levels of distress (34.5%, IES≥30) overall. At the other end of the distress spectrum, 13% of respondents were totally asymptomatic (IES=0) and another third (17%) who were mildly symptomatic (IES<9), leaving the other third somewhere in between these two ranges (Table 23).

<table>
<thead>
<tr>
<th>Table 23: The distribution of total IES scores according to sex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>IES&lt;9</td>
</tr>
<tr>
<td>IES=9-19</td>
</tr>
<tr>
<td>IEST&gt;20</td>
</tr>
<tr>
<td>IEST≥30¹</td>
</tr>
</tbody>
</table>

¹χ² (IES≥30)=3.089, df=1, p>0.05

Thus, there was a group of respondents who were experiencing a wide range of symptoms with a high rate of frequency, and another group experiencing very little in the way of subjective distress as measured by the IES. In the analyses to follow, these different groups will be observed.

Another way in which IES scores have been considered is to examine the subscores that are greater than 9. Table 24 shows the scores distributed in this way. Analyzing each of the IES factors using this demarcation for the total sample, 54% had a score of 9+ on intrusion and 46% had a score of 9+ on avoidance.

<table>
<thead>
<tr>
<th>Table 24: The distribution of the IES subscale scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>males</td>
</tr>
<tr>
<td>N=41</td>
</tr>
<tr>
<td>females</td>
</tr>
<tr>
<td>N=37</td>
</tr>
<tr>
<td>total</td>
</tr>
<tr>
<td>N=78</td>
</tr>
</tbody>
</table>
While other studies have varied in terms of sample size and the timing of the administration of the IES, some comparison was possible and yielded a variety of findings. Using the data set out in Chapter Five (p. 141), the IES scores for the sample were much lower than those found by Burstein (1986) and Feinstein and Dolan (1991). This was not unexpected given that the former study involved a clinical sample, all of whom had a PTSD diagnosis, and the latter sample were assessed very soon after their accident at six weeks.

On the other hand, this sample had much higher scores than those found by Malt (1988) and Brom et al (1993). Again, this was not unexpected given that only 1% of Malt’s sample was found to have PTSD and that the majority of the sample was non-MVA survivors, being survivors of other accidental injury. With three studies, (Green et al 1993, Epstein 1993, and Blanchard & Hickling 1997) the IES scores were lower than those found for their PTSD-diagnosed sub-sample, but higher than their non-PTSD group, and in some instances (cite) higher than their sub-syndromal PTSD sub-sample.

The IES findings were most consistent with Bryant and Harvey’s (1996) and Hobbs et al (1993). In Bryant and Harvey’s sample, 31% had high IES total scores (≥30), compared to this sample’s 34.5% at this high rate. The comparative table of figures is outlined in Figure 17. It is important to note that these samples were reporting these experiences within typically much earlier time frames.

What can be concluded from these comparisons? Given the length of time since the accident, it is arguable that the mean scores for at least one third of the sample, particularly for women, are high and indicative of ongoing posttraumatic stress symptoms.
<table>
<thead>
<tr>
<th>Study</th>
<th>Findings</th>
<th>This Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burstein (1986) N=30</td>
<td>MVA PTSD v loss PTSD</td>
<td>M=49.3 M=48.0 M=22.27 SD=19.35</td>
</tr>
<tr>
<td>Malt (1988) N=113 (46 MVA)</td>
<td>21% = 9+ on intrusion</td>
<td>54% = 9+ on intrusion</td>
</tr>
<tr>
<td>Green et al (1993) N=24</td>
<td>PTSD v Non-PTSD</td>
<td>M=34.4 (SD=15.7) M=7.0 (SD=5.8) M=22.27 (SD=9.99)</td>
</tr>
<tr>
<td>Epstein (1993) N=15</td>
<td>PTSD v Non-PTSD</td>
<td>M=21.5 (SD=10.5) v M=10.2 (SD=6.9)</td>
</tr>
<tr>
<td>Bryant and Harvey (1996) N=114</td>
<td>31% had IES ≥30</td>
<td>34.5% had IES ≥30</td>
</tr>
<tr>
<td>Blanchard and Hickling (1997)</td>
<td>PTSD sub-PTSD non-PTSD</td>
<td>M=35.4 M=17.8 M=8.2 M=22.27</td>
</tr>
<tr>
<td>N=114 59 to intervention group 55 to control group</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 17: The comparative IES scores
**GROWTH EXPERIENCES AS MEASURED BY THE PTGI**

The PTGI was used to measure growth. Scores on the PTGI (N=79) ranged from 0-105, with a mean of 44.86 ($SD=25.05$). For males, the mean score was 38.83 ($SD=22.97$) and for females, the mean score was 51.70 ($SD = 25.85$) (refer to Table 25). Internal reliability was found to be high (alpha coefficient = 0.8235).

Using Tedeschi and Calhoun’s original scoring (1-6 rather than 0-5), the sample mean was found to be 65.53 ($SD=25.01$). For males, the mean score was 59.48 ($SD = 22.74$) and for females, the mean score was 72.41 ($SD = 25.97$). Therefore, overall growth scores for the sample were slightly lower in comparison to other samples. These scores were lower than Tedeschi and Calhoun’s (1995) finding for males ($M=67.77$) and females ($M=75.18$) in their sample of college students. They were also lower than bereaved parents in the Compassionate Friends study (refer to p.133 for comparative data).

This is an important finding. Based on Tedeschi et al.’s (1998), this sample would arguably be expected to be more traumatized than college students and theoretically should be demonstrating higher levels of growth. These issues will be discussed further in Chapter Twelve. Throughout the rest of the analyses, the 0-5 scoring was used.

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>means</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>relating to others</td>
<td>mean</td>
<td>14.38</td>
<td>19.78</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>8.95</td>
<td>9.45</td>
</tr>
<tr>
<td>new possibilities</td>
<td>mean</td>
<td>6.76</td>
<td>8.54</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>7.28</td>
<td>7.25</td>
</tr>
<tr>
<td>personal strength</td>
<td>mean</td>
<td>8.36</td>
<td>10.78</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>5.13</td>
<td>6.31</td>
</tr>
<tr>
<td>spiritual change</td>
<td>mean</td>
<td>1.67</td>
<td>3.67</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>2.84</td>
<td>4.08</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>mean</td>
<td>7.67</td>
<td>9.03</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>4.95</td>
<td>4.50</td>
</tr>
<tr>
<td>total growth score</td>
<td>mean</td>
<td>38.83</td>
<td>51.70</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>22.97</td>
<td>25.85</td>
</tr>
</tbody>
</table>

On all factors, females scored higher means. However, significant differences in mean scores, on the basis of the sex of the respondents, were found on only two of the PTGI
factors and therefore the overall PTGI score. Males were less likely than females to report growth in the areas of ‘relating to others’ (t=-2.608, df=77) and ‘spiritual change’ (t=-2.470, df=61), and therefore less likely to score as highly overall on posttraumatic growth experiences (t=-2.343, df=77). This finding is consistent with research that highlights the sex differences in coping generally - that women tend to seek relational and emotional ways of coping and men tend to seek task focussed ways of coping. It is not surprising that these more general gendered patterns of coping style are reflected in reports of growth and change.

As with the distress scores, no significant correlations were found between any of the PTGI factors and the current age of the respondents. Thus, growth experiences were not related to age.

Specific growth areas

While overall growth scores were not high, compared to other studies, a number of specific observations about the areas of growth reported by participants can be made from the responses outlined in Table 26. Change was reported by 86% of respondents in the area of ‘knowing that I can count on people in times of trouble’ and by 81% in both ‘being able to accept the way things work out’ and in having ‘an appreciation for my own life’.

More than half of all respondents reported great to very great change in relation to ‘knowing that I can count on people in times of trouble’ and ‘being able to accept the way things work out’. More than half of all respondents (52%) also reported great to very great change in relation to ‘having compassion for others’. Change was experienced least in the areas of ‘spiritual change’, and ‘new possibilities’. More than half of the respondents experienced no change or growth in these areas, with the exception of 47% of respondents on question 7, ‘establishing a new path for my life’. This finding raises questions about the growth experiences from road trauma, particularly given the finding of low growth in the area of ‘new possibilities’. The changes reported most frequently are internal, psychological changes. To a far lesser extent, respondents were reporting growth in relation to external changes or opportunities. This issue will be examined further in Chapter Twelve.
Table 26: The percentage of respondents endorsing each of the questions on the PTGI

<table>
<thead>
<tr>
<th>PTGI question</th>
<th>% of respondents N=79</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1 -relating to others</strong></td>
<td></td>
</tr>
<tr>
<td>6. knowing that I can count on people in times of trouble</td>
<td>14 33 57 72</td>
</tr>
<tr>
<td>8. a sense of closeness to others</td>
<td>40 21 31 48</td>
</tr>
<tr>
<td>9. a willingness to express my emotions</td>
<td>45 5 15 37</td>
</tr>
<tr>
<td>15. having compassion for others</td>
<td>22 41 52 62</td>
</tr>
<tr>
<td>16. putting effort into my relationships</td>
<td>35 18 32 49</td>
</tr>
<tr>
<td>20. I learned a great deal about how wonderful people are</td>
<td>33 17 39 52</td>
</tr>
<tr>
<td>21. I accept needing others</td>
<td>25 19 37 56</td>
</tr>
<tr>
<td><strong>Factor 2 - new possibilities</strong></td>
<td></td>
</tr>
<tr>
<td>3. I developed new interests</td>
<td>53 8 17 35</td>
</tr>
<tr>
<td>7. I established a new path for my life</td>
<td>47 14 28 43</td>
</tr>
<tr>
<td>11. I'm able to do better things with my life</td>
<td>52 13 25 38</td>
</tr>
<tr>
<td>14. new opportunities are available which wouldn't have been otherwise</td>
<td>66 9 18 22</td>
</tr>
<tr>
<td>17. I'm more likely to try to change things which need changing</td>
<td>52 12 18 39</td>
</tr>
<tr>
<td><strong>Factor 3 - personal strength</strong></td>
<td></td>
</tr>
<tr>
<td>4. a feeling of self reliance</td>
<td>49 21 29 44</td>
</tr>
<tr>
<td>10. knowing I can handle difficulties</td>
<td>22 27 43 63</td>
</tr>
<tr>
<td>12. being able to accept the way things work out</td>
<td>19 17 27 59</td>
</tr>
<tr>
<td>19. I discovered that I'm stronger than I thought I was</td>
<td>33 23 36 49</td>
</tr>
<tr>
<td><strong>Factor 4 - spiritual change</strong></td>
<td></td>
</tr>
<tr>
<td>5. a better understanding of spiritual matters</td>
<td>59 15 24 33</td>
</tr>
<tr>
<td>18. I have a stronger religious faith</td>
<td>67 9 18 24</td>
</tr>
<tr>
<td><strong>Factor 5 - appreciation of life</strong></td>
<td></td>
</tr>
<tr>
<td>1. my priorities about what is important in life</td>
<td>23 23 41 66</td>
</tr>
<tr>
<td>2. an appreciation for the value of my own life</td>
<td>19 28 44 67</td>
</tr>
<tr>
<td>13. appreciating each day</td>
<td>26 26 45 53</td>
</tr>
</tbody>
</table>

Given that the sample mean of the total PTGI score was 45, a cross tab calculation was made of scores below and above 45. Table 27 outlines the findings of this calculation. Comparisons were then made on a range of variables of those scoring above or below 45, and are reported on in the following chapters.

Table 27: The relationship between sex and PTGI scores ≥45

<table>
<thead>
<tr>
<th></th>
<th>males N=42</th>
<th>females N=37</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTGI&lt;45</td>
<td>67%</td>
<td>38%</td>
</tr>
<tr>
<td>PTGI≥45</td>
<td>33%</td>
<td>62%</td>
</tr>
</tbody>
</table>

$\chi^2=6.566$, df=1, $p<0.05$

*Analysing high and low PTGI scores*

There was only one respondent who reported no growth (Table 28). A small group within the sample (6%) reported ‘very great change’ and a further 18% reported ‘great change’. That is, 24% of respondents were reporting high levels of growth, compared to 20% who were reporting no or very small growth changes. The majority of
respondents reported small (28%) to moderate growth (28%) experiences. It is important to note that 99% of the sample reported at least very small experiences of growth.

Table 28: The distribution of the respondents across the PTGI score ranges

<table>
<thead>
<tr>
<th>PTGI response</th>
<th>score range</th>
<th>frequency</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>no change</td>
<td>0</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>very small change</td>
<td>1-20</td>
<td>15</td>
<td>19%</td>
</tr>
<tr>
<td>small change</td>
<td>21-41</td>
<td>22.5</td>
<td>28%</td>
</tr>
<tr>
<td>moderate change</td>
<td>42-62</td>
<td>22.5</td>
<td>28%</td>
</tr>
<tr>
<td>great change</td>
<td>63-83</td>
<td>14</td>
<td>18%</td>
</tr>
<tr>
<td>very great change</td>
<td>84-105</td>
<td>5</td>
<td>6%</td>
</tr>
</tbody>
</table>

RELATIONSHIPS BETWEEN REPORTS OF DISTRESS, GROWTH AND ONGOING PSYCHOLOGICAL DIFFICULTIES

The relationship between reports of distress and growth

As Table 29 shows, three of the five growth factors scores, as well as the total growth score, were found to be significantly correlated with distress scores, indicating a small to moderate, positive relationship between distress and growth experiences.

Table 29: The correlations between PTGI and IES scores

<table>
<thead>
<tr>
<th>PTGI factors</th>
<th>IES intrusion</th>
<th>IES avoidance</th>
<th>IES total</th>
</tr>
</thead>
<tbody>
<tr>
<td>males N=41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>0.305</td>
<td>0.193</td>
<td>0.285</td>
</tr>
<tr>
<td>new possibilities</td>
<td>0.442**</td>
<td>0.287</td>
<td>0.421*</td>
</tr>
<tr>
<td>personal strength</td>
<td>0.213</td>
<td>0.116</td>
<td>0.188</td>
</tr>
<tr>
<td>spiritual change</td>
<td>0.266</td>
<td>0.204</td>
<td>0.262</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>0.312*</td>
<td>0.209</td>
<td>0.308*</td>
</tr>
<tr>
<td>total score</td>
<td>0.407**</td>
<td>0.267</td>
<td>0.385*</td>
</tr>
<tr>
<td>females N=37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>0.052</td>
<td>0.144</td>
<td>0.109</td>
</tr>
<tr>
<td>new possibilities</td>
<td>0.208</td>
<td>0.348*</td>
<td>0.326</td>
</tr>
<tr>
<td>personal strength</td>
<td>0.065</td>
<td>0.091</td>
<td>0.102</td>
</tr>
<tr>
<td>spiritual change</td>
<td>0.108</td>
<td>0.079</td>
<td>0.125</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>-0.017</td>
<td>0.182</td>
<td>0.106</td>
</tr>
<tr>
<td>total score</td>
<td>0.124</td>
<td>0.224</td>
<td>0.203</td>
</tr>
<tr>
<td>total N=78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>0.218</td>
<td>.218</td>
<td>.234*</td>
</tr>
<tr>
<td>new possibilities</td>
<td>0.373**</td>
<td>.365**</td>
<td>.401**</td>
</tr>
<tr>
<td>personal strength</td>
<td>0.180</td>
<td>.170</td>
<td>.192</td>
</tr>
<tr>
<td>spiritual change</td>
<td>0.198</td>
<td>.184</td>
<td>.212</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>0.216</td>
<td>.245*</td>
<td>.251*</td>
</tr>
<tr>
<td>total score</td>
<td>0.314**</td>
<td>.301**</td>
<td>.333**</td>
</tr>
</tbody>
</table>

* Correlation is significant at p<0.05 (two-tailed)
** Correlation is significant at p<0.01 (two-tailed)
Thus, significant positive moderate correlations were found between ‘new possibilities’ scores and intrusion, avoidance and total distress scores. Significant small positive correlations were found also between ‘appreciation of life’ and avoidance scores, and the total distress score. A significant small positive correlation was found between ‘relating to others’ and the total distress score. As a result, significant small to moderate positive correlations were found between all three distress scores and the total growth score.

There were sex differences in these relationships, as Table 29 also illustrates. Males showed a significant positive moderate correlation on intrusion scores and ‘new possibilities’ leading to a significant moderate positive correlation between ‘new possibilities’ scores and total distress scores. There was a significant small to moderate positive correlation between ‘appreciation of life’ and intrusion scores. There was also a significant moderate positive correlation between total growth and intrusion scores. Overall, for males, the total IES and PTGI scores were therefore significantly moderately positively correlated.

For females, there was a significant positive moderate correlation between ‘new possibilities’ and avoidance scores, and thus between ‘new possibilities’ and total distress scores. This is a difficult, counter-intuitive finding to interpret, where avoidant thoughts seem to be related to seeing new possibilities.

Thus, overall, there was a significant, small to moderate, positive relationship between distress scores and growth scores, specifically for males in the areas of new possibilities and appreciation of life, and, for females, in the area of new possibilities. These findings are suggestive of an ability of many respondents to identify areas of growth and positive change in the midst of the continuing experience of disruption and distress caused by the accident.

There was a significant relationship between high distress scores (IES≥30) and higher than average growth scores (PTGI>45), $\chi^2=5.778$, df=1. This finding is consistent with the rumination model of posttraumatic growth as outlined in Chapter Two whereby greater distress promotes the ongoing search for new meaning and insight.
The relationship between reports of distress and ongoing psychological difficulties

Comparisons were then made between subjective reports of ongoing psychological difficulties and distress, as measured by the IES. Those who were reporting ongoing psychological difficulty were significantly more likely to report intrusion symptoms \( t=6.006, df=73 \), avoidance symptoms \( t=7.291, df=68 \) and therefore overall distress as measured by the IES \( t=6.971, df=73 \). This was the case for both males \( t(IES\ total)=4.139, df=29 \) and females \( t(IES\ total)=4.261, df=34 \). The means are presented in Table 30.

<table>
<thead>
<tr>
<th>psychological difficulties</th>
<th>N</th>
<th>mean</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>males</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion yes</td>
<td>20</td>
<td>17.25</td>
<td>0.000</td>
</tr>
<tr>
<td>no</td>
<td>20</td>
<td>5.20</td>
<td></td>
</tr>
<tr>
<td>IES avoidance yes</td>
<td>20</td>
<td>13.65</td>
<td>0.001</td>
</tr>
<tr>
<td>no</td>
<td>20</td>
<td>2.95</td>
<td></td>
</tr>
<tr>
<td>IES total yes</td>
<td>20</td>
<td>30.90</td>
<td></td>
</tr>
<tr>
<td>no</td>
<td>20</td>
<td>8.15</td>
<td></td>
</tr>
<tr>
<td><strong>females</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion yes</td>
<td>27</td>
<td>15.48</td>
<td>0.001</td>
</tr>
<tr>
<td>no</td>
<td>9</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>IES avoidance yes</td>
<td>27</td>
<td>15.26</td>
<td></td>
</tr>
<tr>
<td>no</td>
<td>9</td>
<td>2.11</td>
<td></td>
</tr>
<tr>
<td>IES total yes</td>
<td>27</td>
<td>30.74</td>
<td></td>
</tr>
<tr>
<td>no</td>
<td>9</td>
<td>7.11</td>
<td></td>
</tr>
<tr>
<td><strong>total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion yes</td>
<td>47</td>
<td>16.23</td>
<td>0.000</td>
</tr>
<tr>
<td>no</td>
<td>29</td>
<td>5.14</td>
<td></td>
</tr>
<tr>
<td>IES avoidance yes</td>
<td>47</td>
<td>14.57</td>
<td>0.000</td>
</tr>
<tr>
<td>no</td>
<td>29</td>
<td>2.69</td>
<td></td>
</tr>
<tr>
<td>IES total yes</td>
<td>47</td>
<td>30.81</td>
<td></td>
</tr>
<tr>
<td>no</td>
<td>29</td>
<td>7.83</td>
<td></td>
</tr>
</tbody>
</table>

The extent to which reports of ongoing psychological difficulties were related to high distress scores was also examined. Significant relationships (refer to table 31) were found, for both males and females, between ongoing psychological difficulties and high distress scores.

<table>
<thead>
<tr>
<th>ongoing psychological difficulties</th>
<th>IES≥30</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N (males)</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>yes</td>
<td>9</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>no</td>
<td>2</td>
<td>18</td>
<td>6</td>
</tr>
</tbody>
</table>

\( \chi^2 \) (males)=6.144, df=1 p<0.01 and \( \chi^2 \) (females)=9.600, df=2, p<0.01
Thus, the reports of distress and psychological difficulty were related. This is an important finding, addressing a key concern of this thesis - the degree to which objective and subjective reports of the negative consequences of trauma are consistent.

The relationship between reports of ongoing psychological difficulties and growth

In contrast to the above findings, there was only one significant relationship between reports of ongoing psychological difficulties and growth experiences. This was in relation to ‘appreciation of life’ and ongoing psychological difficulties, where a significant difference in mean scores was found, $t=2.000$, df=74. Consistent with this, there was no significant relationship between higher than average growth scores and ongoing psychological difficulties, $\chi^2=1.245$, df=1, $p>0.05$.

Thus, while distress scores were related to a number of particular growth factors, similar connections were not identified between ongoing psychological difficulties and growth, with the exception of growth in the area of ‘appreciation of life’.

Illuminating the relationship between distress and growth:

The findings of the previous pages in relation to distress and growth were presented to the telephone interviewees in Phase Two of the research for further exploration. 39% of the interviewees understood the issue of a relationship existing between distress and growth, and were able to provide some response to the question. These interviewees connected personally with experiences of ongoing distress and growth in their own lives. As one interviewee commented,

*I’ve definitely changed in so many ways since then and I’ve felt that distressed that I couldn’t cope with at times. I’ve had my most distress out of it and my most change as well.*

For the other interviewees, both distress and growth were discussed. However, *either* distress or growth tended to be discussed rather than the relationship between the two. There was little linkage made between the two experiences in terms of possible cause
and effect. It highlights the difficulty in articulating the relationship between distress and growth. While they were both frequently perceived to be parts of the experience, they were seen to be separate constructs rather than potentially simultaneous or even dependent experiences. 17% of respondents clearly stated that they did not know how to address the issue of a relationship between growth and distress. Of those who did understand the possibility of a simultaneous experience of growth and distress, a number of comments are included to provide an insight into how they perceived the experience.

"Well I would expect I’ve probably been saying that all along, because it has been, you date back so many times to since the accident this that and the other and it happens that I’ve grown in this area. But how painful it has been, how difficult it has been to do that. You sort of feel like a crumpled up rag at times, you know and so if there is change, there always will be that to put up with, and so on. And so yes there has been growth in it though.

I’d have to agree. It gives you another perspective in that you don’t take things for granted. It’s very difficult to explain in that everyone takes life for granted and things and until such a serious accident happens, you don’t sort of think it can happen to you. And for that, it expands, it expands your way of looking at life and enjoying life and your personal growth in that way. Like you’re not, you’ve only got life once sort of thing. And that’s how it certainly made me look at things. You’ve only got, you only live life once, and you know unfortunately you know, I can’t think of the word! But we’re not immortal and I suppose it happens to all of us one day and unfortunately for some people it’s not of old age, it’s accidents and I guess in that way in my opinion, that’s how I’ve grown, to see things, to not take things for granted.

Yep, I’d say I’ve found it incredibly distressing but I’ve grown more than definitely more than I would have if I hadn’t have had that accident.

Hmm, that’s a curly one! Um, I’m still angry about it. But I’m not letting that anger eat me away. Yep. Um, but as far as the growth bit is concerned, I don’t know. Oh yes. Yes. It’s taught me patience.

Well it does, doesn’t it, because how shall I put it? I think the more difficulties you have to face, one of two things can happen. You go under or you come through it. And when you come through it, you’ve grown. You are a different person really.

It is evident that the relationship between distress and growth is a complicated one, and one that remains difficult to articulate, for researchers and survivors alike. A summary of the core themes of the psychological consequences of road trauma is outlined in Figure 18 overleaf.
Ongoing psychological difficulties

62% of respondents reported ongoing psychological difficulties, with females significantly more likely to do so than males. Of the ongoing psychological difficulties reported by the respondents, they were most likely to be in the form of general anxiety or stress responses (52%), driving anxiety (22%) or a damaged sense of self-confidence (17%).

Distress

13% of respondents were reporting no experiences of ongoing distress, as measured by the IES. 34.5% had an IES score indicating high distress compared to 13% who were totally asymptomatic. The mean scores on the IES were consistent with a number of other road trauma studies. Given the length of time, however, since the accident, the high scores are of concern. Specific areas of difficulty included thinking about the accident when respondents didn’t mean to, being reminded of the accident by other things and having pictures of the accident pop into their heads.

Growth

Overall growth reports were lower than other posttraumatic growth studies, although 99% of the sample reported at least very small degrees of growth. Females were significantly more likely to report growth in the areas of ‘relating to others’ and ‘spiritual change’. More than 25% of respondents reported either small or moderate growth, with 20% reporting no growth to very small growth and at the other end of the spectrum, 25% reporting very great levels of growth. Growth was reported by 80% of all respondents in the area of ‘knowing that I can count on people in times of trouble’.

Growth, distress and ongoing psychological difficulties

There was a significant, moderate positive relationship between distress and growth scores:
- for males, in the areas of new possibilities and appreciation of life
- for females, in the area of new possibilities.

Overall, there was a significant, small to moderate, positive relationship between distress and growth experiences.

Reports of ongoing psychological difficulties for males and females were found to be significantly related to intrusion and avoidance symptoms. Those experiencing high levels of distress were more likely to be reporting ongoing psychological difficulties.

Subjective and objective reports of the negative consequences of road trauma, by comparing distress scores and reports of ongoing psychological difficulties, were related.

One significant relationship was found between subjective reports of ongoing psychological difficulties and growth experiences, relating to ‘appreciation of life’.

39% of telephone interviewees were able to describe an understanding of a relationship between distress and growth, whereas the majority of interviewees described their understanding of either distress or growth.

Figure 18: A summary of the psychological consequences of road trauma
CHAPTER EIGHT

ACCIDENT AND INJURY FACTORS

This chapter analyses the sample for a range of specific accident and injury factors that were identified in Chapter Four as potential risk or protective factors.

ACCIDENT PROFILE

While 1996/7 was chosen as the period of time from which to recruit the participants, it was anticipated that there would be individuals who were continuing in rehabilitation programs for accidents that had happened prior to this time. Given the arguments around the impact of time as a healing or at least influencing variable, this information was obtained for comparative purposes.

The majority (84%, N=76) of respondents had experienced their road trauma within the 1996/7 time frame. A small number of respondents (16%) had had an accident prior to this time and were still active participants in rehabilitation at the time of recruitment into the study. There were five males and seven females in this subgroup. No significant differences on any variables were found for this subgroup.

THE NATURE OF THE ACCIDENT

Respondents were invited, using an open-ended question, to provide details of their accident. This was to enable participants to construct their own narrative around their accident, rather than respond to prescribed areas of their accident. Many of them provided detailed graphic descriptions of their situation.

TYPE OF ROAD USER

It was possible to ascertain road user type from the descriptions that they gave of their
accident circumstances, with the exception of 15 respondents. Table 32, below, indicates that 50% of respondents were known to be drivers at the time of the accident, with the other major groups being pedestrians (20.3%) and motor cyclists (20.3%).

Males were more likely to have had an accident as a result of riding a motor bike and females as a result of being either a driver or a pedestrian.

Table 32: The frequency of road user type according to the sex of the respondent

<table>
<thead>
<tr>
<th>Type of Road User</th>
<th>Males (N=39)</th>
<th>Females (N=25)</th>
<th>Total (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver</td>
<td>46.2%</td>
<td>56%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Passenger</td>
<td>7.7%</td>
<td>4%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>12.8%</td>
<td>32%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Motor Cyclist</td>
<td>28.2%</td>
<td>8%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Cyclist</td>
<td>5.1%</td>
<td>0%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

**TYPE OF ROAD ACCIDENT**

Other key aspects of the road accidents were coded from the responses. A major aspect was the nature of the road accident in terms of being a single vehicle accident, a head-on accident, a side-on collision or a rear-end collision. 60 respondents were identifiable by road user type and accident type, and a further four were identifiable by type but not usage.

Table 33: The frequency of the type of road accident according to the type of road user

<table>
<thead>
<tr>
<th>Type of Road Accident</th>
<th>Single Vehicle</th>
<th>Head-on Collision</th>
<th>Side-on Collision</th>
<th>Rear-end Collision</th>
<th>Total (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver</td>
<td>17%</td>
<td>13%</td>
<td>16%</td>
<td>3%</td>
<td>49%</td>
</tr>
<tr>
<td>Passenger</td>
<td>3%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>19%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>19%</td>
</tr>
<tr>
<td>Motor Cyclist</td>
<td>8%</td>
<td>1.5%</td>
<td>11%</td>
<td>0%</td>
<td>19.5%</td>
</tr>
<tr>
<td>Cyclist</td>
<td>0%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Unknown User Type</td>
<td>0%</td>
<td>5%</td>
<td>1.5%</td>
<td>0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Total</td>
<td>47%</td>
<td>21%</td>
<td>30%</td>
<td>3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

As Table 33 shows, nearly half of the respondents (47%) were involved in single vehicle accidents whereby many of the well-known hazards of road use were experienced. Sometimes this was the result of swerving away from another car, or animals on the road in some instances, other times there were incidents whereby feet
became stuck under accelerators, motor bikes revved and overturned, cars skidded off gravel roads and hit trees.

To illustrate:

I was a passenger in a car on an unsealed section of a country road when, as we moved to the left to avoid an oncoming car, we skidded in rough loose gravel and the car slammed into a tree. I was in the passenger seat which took the main impact. The driver was unhurt, other passenger whiplash but we were all conscious and there was no panic and no other car involved. An ambulance arrived and took us to hospital about 1/2 hour later.

Hit loose gravel on road while riding motor bike.

I was riding a motor cycle in my court where I live when it developed a mechanical fault which ended in crashing at the end of the court.

motor cycle accident. Was hit by a flying object thrown by an individual. Lost control and impacted into a telegraph/streetlight pole at 60-70km p/hr. Fractured pubic syn, sacro iliac right hip etc. Pelvis was generally fractured all round.

Nearly one fifth of respondents were pedestrians who were involved in a variety of incidents, with cars whereby some were stationery and others were mobile, or motorcyclists.

To illustrate:

Was out walking. Reached a cross street. Was about to cross when a car about to make a left hand turn. Stopped. I waved the driver on. He waved me to cross. I was about 2/3rd way across the side street when the stationary car was struck from behind. The impact jolted the driver’s foot off the brake onto the accelerator. I was picked up on the bonnet and dropped onto the roadway about 40 yds down the side street. As a result I received a compact fracture to left elbow.

car veered off road into me on footpath - pushing me though shop window

I was trying to hail a taxi from the median strip in the middle of a highway and overbalanced onto the road and was hit by an outcoming 4 wheel drive travelling at 70 km/hr.
and the more unusual:

*I intercepted a burglar from my house in my car, who ran over me as I was standing on the road. Newspapers and TV ran a story on it “man run over by own car”.

*I was guiding my husband to drive over a portable ramp so he can change the motor oil and oil filter from under the car. I guided him 3 or 4 time a year for 28 years until the accident happened. The car fell from the ramp and I was squeezed between the car and back yard fence. To my best of luck the fence was rotten and collapsed minimising the severity of the accident.

While for the majority of respondents, the accident was instantaneous, four respondents indicated that they had remained trapped for a considerable amount of time within their vehicle before appropriate assistance arrived to release them. These lengths of time included half an hour, two hours, three hours and five hours. In an interview, another participant spoke of her fear in being trapped in the vehicle. This element of an accident may present very different coping demands to the person who must deal with the other possibilities that could emerge in this critical period of time. For example, the car might explode, their injuries could jeopardize their chances of survival if left unattended, and there is the psychological trauma of being unable to be physically freed from the wreckage.

The responses were analyzed for references to speed and alcohol as causative factors in the accidents, two factors targeted most aggressively by the TAC prevention campaigns. There were only four references to speed, with the other party in each case being the speeding party, and there were no references made to alcohol being factor in the accident. One respondent referred to his own inappropriate medication levels as being the cause of the accident. It is probably that these aspects of driving behaviour have been under-reported given that no specific question had been asked.

Fourteen respondents did not provide details of their accident, and this group was examined to see if there were any distinguishing features that would explain this non-response, particularly in view of the high response rates generally to the survey questions. A number of factors could have influenced this higher non-response rate. These factors include concerns about legal implications and how the information could be used (particularly if they considered themselves to have high responsibility
for the accident); concerns about retraumatization through the process of recalling and writing down the details; and concerns about possible identification by circumstances.

It was possible to compare non-responses and perceptions of responsibility. Two of the fourteen reported extremely high responsibility, six reported none at all, and the other six reporting between extremely low to moderate perceived levels of responsibility. The two reporting extremely high levels of perceived responsibility were not associated with fatalities as far as the data reveals. Three respondents were later participants in the interview phase of the research and it was possible to establish from these conversations some aspects of their accident situation. One woman had been a pedestrian crossing the road in the dark and another the driver of a vehicle colliding in an intersection. The third interviewee did not disclose any aspects of his accident. Thus, it remains uncertain as to the reasons for this non-response.

There was an absence of emotive, victim language in the descriptions provided. There was an absence of anger or rage expressed at any point in the survey, with the exception of one respondent. Respondents tended to give objective, factual accounts, simultaneously indicating high levels of innocence. Given the consequences caused by the obviously careless actions of others and, therefore, the potential for feelings of anger and blame, this is noteworthy.

EXAMINING THE RELATIONSHIP BETWEEN ACCIDENT PROFILE FACTORS AND DISTRESS, ONGOING PSYCHOLOGICAL DIFFICULTIES AND GROWTH

No significant correlations were found between the length of time since the accident and distress symptoms. Nor were any significant correlations found between length of time since the accident and growth.
INJURY AND REHABILITATION PROFILE

THE SEVERITY OF THE INJURIES

According to the criteria outlined in Chapter Five, all respondents met the criteria of having experienced serious road trauma by virtue of the fact that they spent more than 48 hours in hospital. The majority of them had also been involved for a considerable period of time in inpatient rehabilitation, arguably indicating severe road trauma.

Subjective reports of ongoing physical difficulties:

The majority of the respondents (86%, N=78) reported experiencing ongoing physical difficulties. There was no significant difference in the reporting of ongoing physical difficulties according to the sex of the respondents, with 85.7% of male respondents and 86.1% of female respondents reporting difficulties.

Of those who indicated ongoing problems, 42% provided comments that illustrated the nature of their difficulties in daily life. The responses were coded (refer to Table 34) and reflected two major themes, each reported by more than half of the respondents. These were, firstly, experiencing ongoing difficulties associated with changes or limitations in physical movement, and secondly, experiencing ongoing pain. Other minor themes to emerge included managing fatigue and weakness, sensory and nerve damage, scarring, and to difficulties in some instances, being referred to as ‘minor’.

Table 34: The frequency (%) of ongoing physical difficulties

<table>
<thead>
<tr>
<th>type of ongoing physical difficulty</th>
<th>% of respondents N=33</th>
</tr>
</thead>
<tbody>
<tr>
<td>changes in movement, activity or lifestyle</td>
<td>55%</td>
</tr>
<tr>
<td>pain</td>
<td>52%</td>
</tr>
<tr>
<td>fatigue/weakness</td>
<td>12%</td>
</tr>
<tr>
<td>sensory loss/ nerve damage</td>
<td>15%</td>
</tr>
<tr>
<td>scarring</td>
<td>9%</td>
</tr>
<tr>
<td>reported as ‘minor’</td>
<td>6%</td>
</tr>
</tbody>
</table>

More than half of the respondents (55%) referred specifically to experiencing ongoing
difficulties associated with changes or limitations in physical movement, which, for some, led to significant losses in lifestyle. This percentage, if generalised, relates to at least 23% of the entire sample experiencing ongoing physical difficulties.

Some of their comments include:

I can’t get around like I used to.

walking, dancing, playing golf, ten pin bowling, working with hand tools, playing with my grandchildren have all been affected.

Never owned a car always cycled, ran. Cannot run or cycle I walk dog 1 hr- 11/2 hr a day. Pain is constant.

lack flexibility. Unable to stand for extended periods. Should not life/carry heavy objects.

am no longer able to play sport. Daily activities eg vacuuming, lifting etc limited due to fused vertebrae. Pain in neck and spine daily.

I am unable to walk long distances. Because of cysts in sacrum already had pain so the leg that has withered has not much strength so to protect hips need a stick. Using the one hand continually has also caused torn tendon in right shoulder - painful.

Walking long distances, walking up stairs, sitting for long periods

52% of those who provided comment referred specifically to experiencing ongoing pain. To illustrate:

ongoing pain and discomfort

My whole body is in substantial pain and have had several ortho specialists agree it will be life long - 11 - 13 operations.

suffer from back pain and headaches

constant low grade pain. Loss of stamina, permanent limp.

the pain that doesn’t go away
The majority of respondents (64%) provided one category of comment about their physical difficulties, with 24% then reporting difficulties across two categories and 12% across three.

Experiencing physical difficulties (that is, how they feel) seemed to be strongly linked with experiencing other areas of difficulty (that is, how they function). Of those who were experiencing ongoing physical difficulties, 69% were also experiencing psychological difficulties, 64% social difficulties, 20% spiritual difficulties, 62% financial difficulties, and 44% legal difficulties. Perhaps this relationship between ongoing physical difficulties and other zones of functioning is more vividly portrayed by the inverse relationships. That is, of the 14% who were not experiencing ongoing physical difficulty, 10% were experiencing psychological difficulties, and 0% were experiencing social, spiritual, legal and financial difficulties.

There was a significant difference in the mean distress scores for those experiencing ongoing physical difficulties, as illustrated in Table 35. That is, those who reported experiencing ongoing physical difficulties were significantly more likely to experience intrusion (t=7.075, df=37), avoidance (t=9.544, df=65) and overall distress symptoms (t=9.009, df=72). This was the case for males and females alike.

<table>
<thead>
<tr>
<th></th>
<th>ongoing physical difficulty</th>
<th>N</th>
<th>mean</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IES intrusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>yes</td>
<td>35</td>
<td>12.74</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>2.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES avoidance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>35</td>
<td>9.49</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>35</td>
<td>22.23</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>2.67</td>
<td></td>
</tr>
<tr>
<td>females</td>
<td>IES intrusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>31</td>
<td>14.97</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES avoidance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>31</td>
<td>14.00</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>31</td>
<td>28.97</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>IES intrusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>66</td>
<td>13.79</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>11</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES avoidance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>66</td>
<td>11.61</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>11</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>66</td>
<td>25.39</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>11</td>
<td>2.00</td>
<td></td>
</tr>
</tbody>
</table>

Notable in Table 35 is the finding in relation to ongoing physical difficulties and
avoidance symptoms, where the mean score for the avoidance subscale is 0 for both males and females.

Examining the relationship between ongoing physical difficulties and distress scores, significant relationships were found for females but not for males on distress scores greater than or equal to 30. As Table 36 shows, all respondents with total IES scores higher than both a score of 30 (and indeed, 20) were experiencing ongoing physical difficulties.

Table 36: The relationship between high IES scores and ongoing physical difficulties

<table>
<thead>
<tr>
<th>ongoing physical difficulties</th>
<th>IES≥30²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>males</td>
</tr>
<tr>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>24</td>
</tr>
<tr>
<td>no</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

²χ² (males)=2.577, df=1, p>0.05 and χ² (females)=4.645, df=1, p<0.05

Consistent with these findings, a significant relationship was found between ongoing physical difficulties and ongoing psychological difficulties, χ²=12.821, df=1, p<0.01. That is, those reporting ongoing psychological difficulties were significantly more likely to be reporting ongoing physical difficulties.

No significant relationships were found between reports of ongoing physical difficulties and any growth factors (Appendix 12). Thus, ongoing physical difficulties were related to distress and ongoing psychological difficulties, but not in any way to growth experiences.

THREE MEASURES OF INJURY

a. Injury descriptions

The respondents were asked to describe their injuries. The types of injuries people experienced were primarily orthopaedic, obviously prescribing their admission to the Orthopaedic Unit. The injuries were coded firstly as to type - whether they were fractures, soft tissue or bruising injuries or a combination of both. Secondly, they
were coded as to whether they were single or multiple injury sites. Thirdly, they were coded if they were referred specifically to spinal or head injuries.

Of the respondents (N=76), 21% had soft tissue injuries, 35.5% had fractures and 43.5% had a combination of the two. 87% of respondents reporting multiple injury sites and 13% reported single injury sites.

10.5% of respondents reported spinal injuries and 13% reported head injuries, with a further 4% reporting both head and spinal injuries\(^{24}\). Those who reported head injury included those who experienced even the briefest period of loss of consciousness at the time of the accident. Initially it was proposed that these respondents be excluded from the sample. It was decided, however, that given their primary treating unit was the Orthopaedic Unit, they would be observed as a subgroup within the analysis for any particular difficulties that might arise as a function of their injuries rather than be excluded altogether from the research.

Three respondents indicated that their accident had involved a fatality. This information was gathered from responses to other questions in the survey, not from their own injury descriptions. From the descriptions provided, it seemed these fatalities had involved other unknown parties in the accidents, rather than known family members or friends.

**b. TAC Impairment assessment levels**

This was considered to be an objective assessment of injury severity, having been established by specialists connected with the TAC at either 18 months or when injuries had sufficiently stabilised, according to TAC.

Two impairment percentages are of particular significance - an impairment assessment level of at least 10% which then entitles the claimant to compensation, and an impairment assessment level of at least 30% which then entitles the claimant to

\(^{24}\) Notably absent from the sample were survivors with either paraplegic or quadriplegic spinal injuries. This may have related to the methodological issue of having to fill in a survey, or to issues of severity of injury and therefore unwillingness to participate, or to low numbers of spinal patients during 1996/7.
take action at common law, if a case exists. These levels are of acute importance to the road trauma survivor in terms of their eligibility for compensation and access to common law rights.

63% of respondents had undergone a TAC impairment assessment. According to Table 37, 11% of respondents were ineligible, therefore, for either financial compensation or legal compensation. 36.5% of respondents were above the level considered serious enough for financial compensation, and 19.5% were eligible to access common law rights if a sufficient case was established.

Table 37: TAC impairment assessment levels according to the sex of the respondent

<table>
<thead>
<tr>
<th>TAC impairment level</th>
<th>males N=40</th>
<th>females N=32</th>
<th>total N=72</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9</td>
<td>12.5%</td>
<td>9.4%</td>
<td>11%</td>
</tr>
<tr>
<td>10 - 29</td>
<td>20%</td>
<td>12.5%</td>
<td>17%</td>
</tr>
<tr>
<td>30 - 49</td>
<td>12.5%</td>
<td>25.0%</td>
<td>18.1%</td>
</tr>
<tr>
<td>50+</td>
<td>2.5%</td>
<td>0</td>
<td>1.4%</td>
</tr>
<tr>
<td>pending</td>
<td>5%</td>
<td>3.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>unknown</td>
<td>12.5%</td>
<td>6.3%</td>
<td>9.7%</td>
</tr>
<tr>
<td>not applicable</td>
<td>35%</td>
<td>43.8%</td>
<td>38.9%</td>
</tr>
</tbody>
</table>

Higher impairment levels were significantly associated with high distress scores ($\chi^2=7.557$, df=2) but not with high growth scores, $\chi^2=0.818$, df=2, $p>0.05$.

c. Length of rehabilitation program

The length of time someone continues in a rehabilitation program is also indicative of the severity and complication of an injury, particularly given the encouragement people are usually given to move through such a program as quickly as possible.

The respondents provided detailed descriptions of their rehabilitation, in that they recalled the time frame down to days and certainly weeks. For this recall some 3-4 years later, it highlights the significance of the experience for many.
As Table 38 shows, there was little variation on the basis of sex, with approximately 30% of both males and females completing their active rehabilitation process in the first three months following their accident. Some difference occurred within the next time frames. 23.9% of males and 11.8% of females completed their rehabilitation within 6 months, and a further 26.5 of females completed by 12 months, compared to 17.4% of males within this third time category. By one year, 79% of males and 71% of females had completed their rehabilitation. 18% of male and 14% of female respondents were either in rehabilitation for more than two years, or were still continuing in rehabilitation.

There was a significant small negative correlation (r= -0.242) between age groups and the length of time in rehabilitation, indicating that with increasing age, there was a small decrease in the length of time spent in rehabilitation.

**PERCEPTIONS OF THE REHABILITATION PROCESS**

In addition to gaining information about the length of time the rehabilitation program took to complete, many respondents (N=62) made comments about the rehabilitation experience, some commenting solely on length of time and/or the location of their treatment, while others commented on various aspects of this treatment. Of the respondents, most (85%) focussed explicitly on the former aspects of their rehabilitation, compared to 15% who focussed on the latter, highlighting positive or negative aspects, specific zones of functioning such as physical or psychological and for a few, their confusion as to what a rehabilitation program actually entailed.
To illustrate:

*What program. 30 days TAC rehab Centre Glen Waverley then home. Home with wheelchairs 3 mths. Now walking stick.*

*2 weeks of excellent treatment at VRC Springvale Rd*

*Approx 12 months. Could not fault the physio side but had some difficulties understanding some of the other processes*

*define rehabilitation program*

*At TAC Rehab Centre I was there 8 days. I requested to be discharged (probably far too early)*

**RELATIONSHIPS BETWEEN THE INJURY PROFILES & REPORTS OF ONGOING PSYCHOLOGICAL DIFFICULTIES, DISTRESS AND GROWTH**

No significant correlations were found between the length of time respondents were in rehabilitation, and either their distress or growth scores. That is, distress and growth did not seem to be related to the length of time spent in rehabilitation. Nor were there any statistically findings (Appendix 13) for relationships between spinal injuries or acquired brain injuries and either distress, growth or ongoing psychological difficulties.

A summary of the accident and injury profile of the respondents is outlined in Figure 19 overleaf.
Accident profile

The majority of respondents were drivers at the time of their accident. If not the driver, females were then more likely to be pedestrians and males more likely to be motorcyclists. The majority of respondents reported being in single vehicle accidents (47%), or side-on collisions (30%). No significant relationships were found with any accident profile factors and distress or growth.

Injury profile

Ongoing physical difficulties

86% of respondents (n=78) reported ongoing physical difficulties, with the majority of these reports relating either to changes in movement, activity or lifestyle, or to pain. Ongoing physical difficulties were significantly and positively related to both distress symptoms and to subjective reports of ongoing psychological difficulties. They were not significantly related to high distress scores, nor were they related to experiences of growth.

Injuries

43.5% of respondents indicated they had both soft tissue and fracture injuries, 21% had soft tissue injuries only and 35.5% had fracture injuries only. 87% of respondents reported multiple injury sites.

10.5% reported spinal injuries, 13% reported head injuries and 4% of respondents had both spinal and head injuries. There was a very low incidence of fatalities, with 3 participants reporting fatalities occurring in their accidents. 19.5% of respondents had been assessed as being above the 30% TAC impairment level. 30% of respondents had finished their rehabilitation program in the first 3 months following the accident. By 4-6 months, another 24% of males and 12% of females had finished and by 12 months, 79% of males and 71% of females had finished their rehabilitation. No significant relationships were found with any severity of injury factors and distress or growth, such as the length of time respondents spent in their rehabilitation program.

Figure 19: A summary of the accident and injury profile
In Chapter Four, a range of important personality factors associated with either risk or protective effects were examined. These factors included a sense of blame or responsibility for the trauma, perceptions of the event as traumatic or not, perceptions of recovery and coping, particular turning points in the recovery process and whether people become more socially motivated and involved as a consequence of traumatic life events. The issue as to whether it is possible to get over something like this is also an important cognitive process to take into account. Each of these issues was presented in the survey and the following section overviews the findings. The findings are presented under four major headings:

a) perceptions of trauma and responsibility
b) perceptions of recovery
c) perceptions of recovery resources
d) perceptions of the future

(A) PERCEPTIONS OF TRAUMA AND RESPONSIBILITY

The subjective perception of a traumatic event, irrespective of its objective nature, has been increasingly proposed as a highly influential factor in the recovery response. The perceptions of the accident as the most traumatic event in the respondents’ lives, and perceptions of responsibility for the accident were examined.

PERCEPTIONS OF TRAUMA

For the majority of respondents the accident was reported to be the most traumatic event they had ever experienced (refer to Table 39). While more males than females tended to report that it was the most traumatic event, this sex difference was not statistically significant, $\chi^2=1.689, p>0.05$. It is noteworthy, however, that so many
males did perceive the accident to be the most traumatic event of their lives. The question as to whether this perception led to experiences of distress or growth will be examined in the following pages.

Table 39: The perception of the accident as the most traumatic event ever experienced

<table>
<thead>
<tr>
<th></th>
<th>males N=40</th>
<th>females N=37</th>
<th>total N=77</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>85%</td>
<td>73%</td>
<td>79%</td>
</tr>
<tr>
<td>no</td>
<td>15%</td>
<td>27%</td>
<td>21%</td>
</tr>
</tbody>
</table>

For those who saw it as the most traumatic event, a variety of reasons were given. The majority of respondents (59%) made comments that were existential in their focus. There were three sub-categories of existential concerns: (a) 50% of respondents expressed specific concerns about their confrontation with death or threat to life; (b) 37.5% expressed concerns about major life changes; and (c) 12.5% expressed suicidal ideation.

To illustrate:

(a) confrontation with death:

One dead as result of accident

Almost died from loss of blood. Almost lost right arm

I thought I was going to die - I had no protective clothing on or helmet! Then when I saw my leg I thought I was going to lose my leg. I did not lose consciousness during the whole thing.

Yes, due to injuries received and the realization of how easily one’s life can be taken from them. My divorce was also a traumatic event, but the accident more so.

Lucky to be still alive

I was trapped for about 1hr in the car. I thought I would die.
(b) major life changes:

One life stopped and another life started

ABSOLUTELY HORRIFIC ... it changed my whole lifestyle/personality

In a matter of a couple of seconds your whole life is changed forever

My life will never be the same again. Experiencing being ‘out of control’ is a great hardship - but I did learn from it.

(c) suicidal ideation:

For many months if not years suicide seemed an only option, for painless peace

If I died would be better, my husband is also suffering

Other respondents (37%\textsuperscript{25}) referred to the psychological and physical effects of the accident:

lots of pain, guilt, anxiety

I’ve seen shit that would turn men green but now the smell and darkness of an x-ray room scares the hell out of me

Death of family members equally traumatic but with less long term side effects

I will never see the Dentist as a painful experience again

Physically certainly, and initially mentally

23% of respondents mentioned physical aspects of the accident that were traumatic. All reports, however, of traumatic physical aspects were in conjunction with either an existential or psychological theme.

Of the 19% of respondents who said that it was not the most traumatic, 53% provided reasons as to why this was the case. These reasons were, for two respondents, having

\textsuperscript{25} These responses were not mutually exclusive from the existential categories.
had more serious accidents, and for others were having been through divorce or separation, perceiving the recovery experience to be more traumatic than the accident itself, being unconscious as a result of the accident, dealing with a husband with life-threatening illness and life being ‘a litany of disasters’ for another.

The use of the word ‘traumatic’ emerges as fascinating as neither divorce nor experiencing rehabilitation is typically thought of as traumatic using the DSM IV criteria for the diagnosis. Here they describe these experiences as such. It highlights the implicit notions of loss and grief over the longer term that may be more central to an experience of trauma than the technical word that trauma denotes.

In view of these varying notions of what the traumatogenic factors were, the telephone interviewees were asked to comment on whether the accident itself had been the most traumatic aspect of their experience or whether it had been the recovery process or aftermath.

27% of interviewees stated that undoubtedly it was the accident itself that was the most traumatic experience for them.

To illustrate:

No I felt the accident was the traumatic part not the rehab. I’m very confident that the rehab part for me psychologically was part of a good process. The accident itself and the memories that I still have of that, was the traumatic time for me.

The accident was without a doubt the most traumatic thing that I’ve ever gone through. I’d never been in an accident, I’d never been to hospital. But I found the rehab was probably the most enlightening period in my recovery. Because you’re able to see there the way others were reacting to their problems. You see people whose injuries were a lot worse than mine.

64% of interviewees, however, stated that their recovery or rehabilitation process had been either as traumatic or moreso than the accident itself, with a range of reasons provided. The interviewees commented in many ways on the experience of being out
of control of their own lives, of having to deal with systems, of having to find a new patience, and seeing others in pain and in worse situations than themselves. Given the lack of information within the research about these factors, a number of these comments are presented to illustrate the variety of experiences.

To illustrate:

\textit{the most ghastly thing is that you’re out of control. And you’re having to allow somebody to do everything for you because you can’t do anything.}

Yeah, I think for me I found the accident extremely traumatic in that afterwards when I was asleep at night I would actually ... see the accident happening again and again over after the accident ... I actually found it a bit more traumatic to go through the rehab and having to discuss all those points than just having the accident.

Yes, I’d say it probably was because it goes on for longer. The accident took minutes.

\textit{I think it’s like when you’re in the whole rehab and it’s all, you’re still having formal rehab and stuff like that it’s ... you’re in that situation and you’re just working towards that. You’re not trying to do normal life. You’re not realising so much what you can’t do. You’re just concentrating on getting better but then once you’re back out in the normal life it’s like, oh, OK so this is what this accident means. It’s like it happens but then when you’re in hospital you don’t know what it’s going to mean for your life.}

Yeah, you go out and you try and just do your ... go back to your life and you find you can’t cope. That for me was definitely more traumatic than actually being ... the actual hit and whatever that sort of thing. That thinking that you can’t continue and you can’t cope like you used to. That difference. Then you realise you’ve lost something I think. And the loss ... that’s when it hits you. When you’re in rehab you don’t realise what you’ve lost at that stage, I don’t think.

Yes I think I could agree with that. I mean the accident was over in like a split second. I have very little recollection of the accident itself but certainly the recovery process, I mean, for me it was probably compounded because I’d never been in a hospital before.

Yeah, the accident I knew nothing of it. I mean I didn’t see it or whatever, I just knew nothing about the accident. It’s just the trauma from the realization of what’s actually happened. Probably the effect that it had on the personal life and family life, how you’ve disrupted all that and upset that side of things. It wasn’t just me that’s affected by the accident. It was my family as well.

9% of the interviewees stated that neither the accident nor the recovery process had been traumatic for them.
To illustrate:

*I know you’ll think this is funny, but I liked the hospitals. I felt safe & secure in them.*

Were perceptions of the accident as the most traumatic event related in any way to reports of distress, ongoing psychological difficulties or growth?

As Table 40 illustrates, a significant relationship was found between distress (intrusion, $t=2.882$, df=74) and perceptions of the event as the most traumatic event, leading to a significant relationship between distress overall and perceptions of the event as the most traumatic event, $t=2.356$, df=74. That is, those who reported the event as the most traumatic event were significantly more likely to report intrusion symptoms, and therefore overall higher levels of subjective distress. This was the case for both males ($t$(intrusion)=$4.285$, df=24) and females ($t$(intrusion)=$2.081$, df=35). It is noteworthy that intrusion, not avoidance, symptoms were associated with this perception, an issue returned to in Chapter Twelve.

Table 40: The relationships between IES scores and perceptions of the accident as the most traumatic event

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>most traumatic event</th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>males</td>
<td>IES intrusion</td>
<td>yes</td>
<td>33</td>
<td>13.03</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>6</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES avoidance</td>
<td>yes</td>
<td>33</td>
<td>8.76</td>
<td>0.221</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>6</td>
<td>3.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES total</td>
<td>yes</td>
<td>33</td>
<td>21.79</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>6</td>
<td>5.67</td>
<td></td>
</tr>
<tr>
<td>females</td>
<td>IES intrusion</td>
<td>yes</td>
<td>27</td>
<td>14.89</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>10</td>
<td>8.40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES avoidance</td>
<td>yes</td>
<td>27</td>
<td>13.89</td>
<td>0.116</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>10</td>
<td>8.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES total</td>
<td>yes</td>
<td>27</td>
<td>28.78</td>
<td>0.064</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>10</td>
<td>16.60</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>IES intrusion</td>
<td>yes</td>
<td>60</td>
<td>13.87</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>16</td>
<td>6.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES avoidance</td>
<td>yes</td>
<td>60</td>
<td>11.07</td>
<td>0.096</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>16</td>
<td>6.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IES total</td>
<td>yes</td>
<td>60</td>
<td>24.93</td>
<td>0.021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>16</td>
<td>12.50</td>
<td></td>
</tr>
</tbody>
</table>

As Table 41 indicates, however, no significant relationship was found between those with distress scores $\geq 30$ and reports of the event as the most traumatic event.
Table 41: The relationships between perceptions of the accident as the most traumatic event and high IES scores

<table>
<thead>
<tr>
<th></th>
<th>IEST ≥30</th>
</tr>
</thead>
<tbody>
<tr>
<td>most traumatic event</td>
<td>yes</td>
</tr>
<tr>
<td>yes</td>
<td>24</td>
</tr>
<tr>
<td>no</td>
<td>3</td>
</tr>
</tbody>
</table>

χ² = 2.490, df=1, p>0.05

Thus, overall, high distress scores were not related to perceptions of the event as the most traumatic event.

A significant relationship between perceiving the event as the most traumatic event and ongoing psychological difficulties was found, χ²=11.986, df=1, p<0.01. This relationship was found to be significant for females (χ²=14.954, df=1, p<0.01), but not for males. That is, females who reported ongoing psychological difficulties were significantly more likely to report that the accident had been the most traumatic event in their life. Thus, while males were tending toward being more likely to report that the accident was the most traumatic event in their lives, it was not seeming to be connected with ongoing psychological difficulties in the same way that it was for females.

When examining the relationship between perceptions of the accident as the most traumatic event and growth for all the respondents, a significant relationship was found on two factors: ‘appreciation of life’ (t=2.698, df=75, p<0.01) and total growth scores (t=2.034, df=75). The t value for ‘personal strength’ was also nearing significance (t=1.947, df=75, p=0.055). That is, those who reported the event as the most traumatic event were significantly more likely to report growth in the area of ‘appreciation of life’. This is consistent with the notion that the threat to life can lead to a new appreciation of life once the threat has been survived.

As Table 42 shows, these relationships seemed to be influenced by the male respondents. Significant relationships were found for males who perceived it to be the most traumatic event and ‘relating to others’, ‘new possibilities’ ‘spiritual change’ and ‘appreciation of life’, leading to an overall significant relationship for total growth scores. For females, there were no significant relationships between any of the growth factors and the perception of the event as the most traumatic life event.
There was no significant relationship between the perception of the accident as the most traumatic event, and higher or lower than average growth scores, $\chi^2=2.284$, df=1, p>0.05.

Table 42: The relationships between growth scores and perceptions of the accident as the most traumatic event

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>most traumatic event</th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>males</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>34</td>
<td>15.76</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>8.33</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>34</td>
<td>7.85</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>1.67</td>
<td></td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>34</td>
<td>9.03</td>
<td>0.083</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>34</td>
<td>1.85</td>
<td>0.039</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>34</td>
<td>8.62</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>34</td>
<td>43.12</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>6</td>
<td>18.50</td>
<td></td>
</tr>
<tr>
<td><strong>females</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>27</td>
<td>21.04</td>
<td>0.189</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>10</td>
<td>16.40</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>27</td>
<td>9.00</td>
<td>0.534</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>10</td>
<td>7.30</td>
<td></td>
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<tr>
<td>personal strength</td>
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<td>27</td>
<td>11.70</td>
<td>0.148</td>
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<td></td>
<td>no</td>
<td>10</td>
<td>8.30</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>27</td>
<td>3.38</td>
<td>0.557</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>10</td>
<td>4.40</td>
<td></td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>27</td>
<td>9.70</td>
<td>0.135</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>10</td>
<td>7.20</td>
<td></td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>27</td>
<td>54.70</td>
<td>0.251</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>10</td>
<td>43.60</td>
<td></td>
</tr>
<tr>
<td><strong>total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>61</td>
<td>18.10</td>
<td>0.078</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>16</td>
<td>13.38</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>61</td>
<td>8.36</td>
<td>0.123</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>16</td>
<td>5.19</td>
<td></td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>61</td>
<td>10.21</td>
<td>0.055</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>16</td>
<td>7.06</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>61</td>
<td>2.52</td>
<td>0.683</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>16</td>
<td>2.94</td>
<td></td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>61</td>
<td>9.10</td>
<td>0.009</td>
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<tr>
<td></td>
<td>no</td>
<td>16</td>
<td>5.63</td>
<td></td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>61</td>
<td>48.25</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>16</td>
<td>34.19</td>
<td></td>
</tr>
</tbody>
</table>

Perceiving the event to be the most traumatic life event seems to have had different effects for males and females. Both males and females reported a relationship between intrusion distress symptoms and perceiving the accident to be the most traumatic event. For females, however, perceiving the accident to be the most traumatic life event was associated with ongoing psychological difficulties, while for males, it was associated with growth experiences.
PERCEIVED RESPONSIBILITY

As discussed in Chapter Four, the perception or attribution of blame is considered to be a factor in an individual’s capacity to cope with a traumatic event. Half of all the respondents saw themselves as having no degree of responsibility for the accident (Table 43) while another quarter perceived themselves to have extremely low or low responsibility. In contrast, nearly one quarter of the respondents saw themselves as having a moderate to very high degree of responsibility for their accident.

Table 43: Perceptions of responsibility for the accident

<table>
<thead>
<tr>
<th></th>
<th>males N=41</th>
<th>females N=37</th>
<th>total N=78</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>46.3%</td>
<td>54.1%</td>
<td>50%</td>
</tr>
<tr>
<td>extremely low</td>
<td>9.8%</td>
<td>18.9%</td>
<td>14%</td>
</tr>
<tr>
<td>low</td>
<td>19.5%</td>
<td>8.1%</td>
<td>14%</td>
</tr>
<tr>
<td>moderate</td>
<td>7.3%</td>
<td>2.7%</td>
<td>5%</td>
</tr>
<tr>
<td>high</td>
<td>12.2%</td>
<td>10.8%</td>
<td>12%</td>
</tr>
<tr>
<td>extremely high</td>
<td>4.9%</td>
<td>5.4%</td>
<td>5%</td>
</tr>
</tbody>
</table>

No significant relationship, however, was found between reports of perceived responsibility for the accident and distress in this sample. An examination of the relationship between ongoing psychological difficulties and responsibility scores also yielded a non-significant finding, t=-1.098, df=46, p>0.05. Similarly, there were no significant correlations between perceived responsibility and growth.

Unlike other studies (Delahanty et al 1997, Hickling et al 1999), perceptions of responsibility and blame for these respondents were not associated with ongoing experiences of distress, psychological difficulty or growth.

(B) PERCEPTIONS OF RECOVERY

One of the issues that was able to be examined at greater depth in the telephone interviews was the perceptions or expectations the interviewees had for their own recovery. If subjective perceptions of the nature and severity of the event are influential, then in the same way, perceptions of recovery may be influential. This
perception of recovery connects with the fantasy of the future that the respondents are holding on to - did they regard this as possible or impossible in the aftermath of trauma. Before this question could be answered and understood, respondents’ perceptions of recovery and its possible meanings needed to be established.

THE NOTION OF RECOVERY

The telephone interviewees (N=24) were asked about their view of recovery - what the word ‘recovery’ meant to them. In the majority of responses (74%), recovery was understood to be about a return to a pre-accident state of being - both physically and psychologically. It was about ‘being back to your normal self’, or ‘doing what you could do previous (sic) to the accident’. So dominant was this view that 43% had the exact words ‘get back to’ embedded somewhere within their response. Others made references to this notion using words such as ‘regain’, or ‘return’ or to live a ‘normal life’. Given the significance of these definitions for the purposes of this thesis, a number of them are presented.

To illustrate:

OK, well what I understand of recovery is that you’re back to your normal self, doing what you could do previous to the accident.

I would like to be back the way I was before the accident. I was active and able to do a lot more things than I can do at the moment.

When I returned to the lifestyle, health circumstances, general way of doing things, of what it was before the accident. Of how I assessed my capacity pre the accident

I actually don’t ever think I’ll recover mentally. I won’t ever recover physically.

Yeah, that’s changed because like if you’d first asked me that, I would have said recovery is getting back to exactly the way you were before (laughs) and now it sort of means learning to meet the challenges that you do have and try and do as many things as you want to do and not let the injuries get in the way of that.

I don’t think you ever recover. When it takes years to heal, I don’t think you can really recover. I mean you just learn to accept it and live with it but it’s always eating away in the back of your mind.
well I used to think that recovery would mean a full recovery. I’ve come to realise now that recovery means as long as you’ve got two arms, two legs and a heart beat and you can get out of bed in the morning, you’re not too bad.

What became evident was the degree of conflict that arose for those holding the view that they would return to a level of pre-accident functioning when they realized that this was no longer possible. The notion of recovery as ‘getting back to’, implicit and explicit in the trauma literature, was mirrored in these responses, as was the impossibility for many of ever being able to fulfil this expectation. Many experienced this crisis in their definition of recovery and their lived reality in time periods beyond the rehabilitation process. Many were in their second year, at least, of recovery, and others reported still grappling with the idea of recovery at 3-4 years post-injury.

A further three interviewees commented that they had previously held a goal of returning to a state of pre-accident functioning but since the accident had come to change their opinion of what recovery meant - recovery was now seen in terms of getting on with it or adapting as best as possible. Another three interviewees expressed slightly different views again in that recovery seemed to have been always seen as a process of adaptation from the beginning, and never about returning to a pre-accident state of being.

These definitions provide some critical insights into the adaptation process, discussed in Chapter Twelve.
PARTICULAR TURNING POINTS

The extent to which recovery was marked by key turning points was examined. Less than one third of respondents (27.6%, N=76) reported experiencing a particular turning point in their recovery. While fewer males (24.4%) than females (31.4%) reported this, there was no statistically significant sex difference.

86% of those who had experienced a particular turning point did provide comment as to the nature of this experience. Two dominant themes emerged from these comments referring to particular realizations as turning points and role changes as turning points.

The first theme related to crises or turning points of realization. These seemed to be critical moments of insight into their situation that led to either a change in the way they were perceiving their circumstances or behaving. The fourteen comments reflecting turning points about realizations were then coded further into specific subcategories.

For five respondents, the turning point came in realizing that others were worse off than they were, or that there could have been a fatality. For others it was about an active process of accepting the circumstances they found themselves in, for two it involved being startled by self-destructive or out of character thoughts, and for a further two, it came as a result of help-seeking behaviour. One importantly had a particular turning point when they felt their experience and trauma had been validated by compensation.

The second dominant theme related to particular turning points arising through changes in role, identified by six respondents. These changes of role occurred in relation to study and career options, to pregnancy, and to driving again.

Five responses seemed to relate to what might be termed ‘rockbottom’ experiences, although this conclusion remains tentative. More specific questioning would be required before conclusions about this could be drawn.
One respondent made mention of the fact that they had experienced more than one turning point. This experience may have been the case for others, with the question implying that there was typically ‘one’ turning point, rather than multiple.

35% of those who said they did not experience a particular turning point also provided comment. These comments reflected three major themes - that (a) change had been gradual rather than related to particular turning points, (b) turning points were somehow irrelevant to their experience and (c) recovery was still an ongoing issue for them, perhaps not having experienced turning points yet.

As Table 44 shows, there was a significant difference in means for those who had experienced a particular turning point and were experiencing ongoing distress ($t=2.391$ df=73). That is, higher levels of distress were related to experiencing a particular turning point. This is a difficult finding to interpret in that it seems counterintuitive. Those experiencing key turning points might be presumed to be those experiencing less distress, but the data does not support this.

**Table 44: The relationships between IES scores and reporting a particular turning point**

<table>
<thead>
<tr>
<th></th>
<th>a particular turning point</th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>males</strong></td>
<td>IES intrusion yes</td>
<td>10</td>
<td>15.90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>30</td>
<td>9.00</td>
<td>0.073</td>
</tr>
<tr>
<td></td>
<td>IES avoidance yes</td>
<td>10</td>
<td>12.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>30</td>
<td>6.10</td>
<td>0.157</td>
</tr>
<tr>
<td></td>
<td>IES total yes</td>
<td>10</td>
<td>28.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>30</td>
<td>15.10</td>
<td>0.069</td>
</tr>
<tr>
<td><strong>females</strong></td>
<td>IES intrusion yes</td>
<td>11</td>
<td>15.82</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>11.08</td>
<td>0.138</td>
</tr>
<tr>
<td></td>
<td>IES avoidance yes</td>
<td>11</td>
<td>14.27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>10.46</td>
<td>0.280</td>
</tr>
<tr>
<td></td>
<td>IES total yes</td>
<td>11</td>
<td>30.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>21.54</td>
<td>0.183</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td>IES intrusion yes</td>
<td>21</td>
<td>15.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>54</td>
<td>9.93</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>IES avoidance yes</td>
<td>21</td>
<td>13.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>54</td>
<td>8.04</td>
<td>0.036</td>
</tr>
<tr>
<td></td>
<td>IES total yes</td>
<td>21</td>
<td>29.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>54</td>
<td>17.96</td>
<td>0.019</td>
</tr>
</tbody>
</table>

There was, however, no significant relationship between those who experienced a particular turning point or not, and distress scores $>20$, $\chi^2=2.045$, df=1, $p>0.05$. Nor was there a significant relationship between experiencing a particular turning point and ongoing psychological difficulties, $\chi^2=2.315$, df=1, $p>0.05$.  

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In relation to growth, a number of significant associations were found, indicating a relationship between ‘new possibilities’ ($t=2.633$, $df=29$), ‘spiritual change’ ($t=2.165$, $df=29$) and overall growth scores ($t=2.423$, $df=74$) with a particular turning point. These findings are shown in Table 45.

Table 45: The relationships between growth scores and reporting a particular turning point

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>N</th>
<th>mean</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>10</td>
<td>17.20</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>31</td>
<td>13.55</td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>10</td>
<td>12.20</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>31</td>
<td>4.45</td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>10</td>
<td>10.60</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>31</td>
<td>7.48</td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>10</td>
<td>3.70</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>31</td>
<td>0.87</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>10</td>
<td>10.60</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>31</td>
<td>6.58</td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>10</td>
<td>54.30</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>31</td>
<td>32.94</td>
</tr>
<tr>
<td>females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>11</td>
<td>21.00</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>19.71</td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>11</td>
<td>10.277</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>9.6</td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>11</td>
<td>12.09</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>10.29</td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>11</td>
<td>4.36</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>3.17</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>11</td>
<td>9.27</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>9.13</td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>11</td>
<td>57.00</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>24</td>
<td>50.25</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>21</td>
<td>19.19</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>55</td>
<td>16.24</td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>21</td>
<td>11.19</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>55</td>
<td>5.98</td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>21</td>
<td>11.38</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>55</td>
<td>8.71</td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>21</td>
<td>4.05</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>55</td>
<td>1.87</td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>21</td>
<td>9.90</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>55</td>
<td>7.69</td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>21</td>
<td>55.71</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>55</td>
<td>40.49</td>
</tr>
</tbody>
</table>
TRAUMA AS A SOURCE OF ENCOURAGEMENT TO BE INVOLVED IN OTHER ACTIVITIES

*I was very keen initially to get involved with car laws, driving rules etc but as time has moved on I feel more inclined to move on*

A number of trauma theorists have suggested that a reinvestment or a new commitment to social causes is indicative of recovery - when the energy can be positively invested in outward activity. Only a small percentage of respondents (15.6%, N=77) became involved in other activities as a result of their trauma. While females (22.9%) tended to become more involved than males (9.5%) this sex difference was not statistically significant.

Of the 15.6% of respondents who said they had experienced a particular turning point, 83% provided comment. Four respondents described involvement in a range of community activities, three in individual recreational activities and one in business activities. Three other respondents commented on the efforts made or contemplated in terms of involvement.

Of the 84.4% who reported no involvement in activities as a result of the accident, 20% provided comment. These comments related to a number of very different possibilities. For four respondents, they were ‘interested but ...’. Two others reported that they already are involved in other activities and one questioned why one would. Six respondents provided reasons as to why they would or would not be involved.

Those who were more likely to be involved in activities as a result of their accident were more likely to have higher mean intrusion scores (t=3.135, df=74), avoidance scores (t=3.855, df=74) and overall distress scores (t=3.638, df=74; refer to Table 46). They were also significantly more likely to be reporting ongoing psychological difficulties, $\chi^2= 7.865$, df=1, p<0.01. These associations suggest the opposite to the theories proposed. Those investing in community involvement are less likely to have ‘recovered’. Consistent with the quotation above, perhaps it is a case of ‘as time has moved on, I feel more inclined to move on’. While there is difficulty in generalizing this finding, given the small numbers of respondents involved, it does raise the question about community involvement as an indicator of recovery.
Table 46: The relationships between IES scores and whether involved in other activities

<table>
<thead>
<tr>
<th></th>
<th>involved</th>
<th></th>
<th>not involved</th>
<th></th>
<th>( P ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean</td>
<td>N</td>
<td>mean</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>IES - intrusion</td>
<td>19.92</td>
<td>12</td>
<td>10.55</td>
<td>64</td>
<td>0.002</td>
</tr>
<tr>
<td>IES - avoidance</td>
<td>19.5</td>
<td>12</td>
<td>8.25</td>
<td>64</td>
<td>0.000</td>
</tr>
<tr>
<td>IES - total score</td>
<td>39.42</td>
<td>12</td>
<td>18.80</td>
<td>64</td>
<td>0.001</td>
</tr>
</tbody>
</table>

This re-evaluation is further supported in the finding that there was no significant relationship between involvement in activities as a result of the accident and growth. This is perhaps counter-intuitive in that it might be expected that those who were reporting growth from the experience were more motivated to be involved in other activities, consistent with Herman’s (1992) notion of externalizing. It seemed rather that distress was associated with this behaviour, not growth.

**GETTING OVER SOMETHING LIKE THIS**

It is often said that something as traumatic as a major road accident and injury is something ‘you can never get over’. Just over half of the respondents (51.9\% N=77) thought that it was possible to get over something like this, with more males (59.5\%) than females (43\%) supporting this notion, although this sex difference was not statistically significant. 27.3\% of respondents thought that it was impossible, and a further 20.8\% of respondents thought that it was a case of ‘maybe’.

Of the 51.9\% of respondents who said it was ‘possible’ to get over something like this, 73\%, or 29 respondents, provided comments. Further analysis of the comments suggested a slightly different perspective on this belief. Eleven respondents reflected in their comments an important proviso in each instance, usually by the indication of a ‘but’ in their response.

The responses reflected two dominant themes. The first theme related to a particular attitudinal stance - an approach to change and adaptation, to possibilities and to the future. 18 comments reflected this theme.
To illustrate:

You cannot focus on the past. You have to carry on and take the next step for yourself because only you can do that. You have to be positive.

Anything is possible if you put your mind to it and have true belief in yourself.

It’s what you make it!! Weak people need to overcome greater odds than those who are strong both mentally and physically. I was an elite athlete at the time of this and my training and approach in life is the key to my success. Accept it, deal with it and make the most out of your experience.

The second theme related to the idea that ‘it’s possible but ...’. That is, there was a belief that it was possible to get over something like this but that there were a range of conditions. 11 respondents identified the second theme, the belief that it was possible to get over something like this but that there was a proviso in each case. Some commented on the need to reach a certain level of acceptance, others commented on specific aspects of the accidents circumstances as being influential - for example, whether you could remember it or not, whether there were fatalities or serious injuries. Others commented on it being dependent on the support received. Others commented on it being about particular losses.

To illustrate:

It is probably possible to get over it, but most of us get along with it. Incorporating it into your life and moving on. If you don’t do that you may never get over it.

I lost ‘me’. I can’t get ‘me’ back. It is necessary to find a new self based on the limitations set physically and mentally.

I think it depends on the circumstances of the accident. If you have completely recovered, there were no fatalities or badly injured persons, and you were not responsible for the accident it would have little lasting effect.

Depending on the support you get. Your attitude and how you feel about yourself and the situation you’re in.

Many of the provisos outlined above were reflected in the comments of respondents
who thought that it was impossible to get over something like this. Thus physical issues, acceptance or adaptation rather than recovery, or changes in the self were cited also as reasons as to why it was impossible to get over something like this.

Of the 27.3% of respondents who said it was ‘impossible’ to get over something like this, 81% provided comments. The comments reflected the impact of physical issues (56%), the importance of adaptation rather than recovery (25%), general agreement with the statement (13%) and the changes in self (6%) that made it impossible to recover.

To illustrate:

*Because the physical and psychological problems don’t (sic) allow me to forget an accident of that nature.*

*But very difficult as long as one still has to put up with the physical reminders on a daily basis.*

*my back injuries are permanent, my accident has changed my life forever.*

*I believe you need to move on and remember how lucky you are, and that it could’ve been worse but not to dismiss what has happened.*

Of the 20.8% of those who said ‘maybe’, 56% provided comments. They referred to an overall lingering awareness of the impact of the accident and injuries, both physically and psychologically. The accident was still very much an ‘alive’ issue, reflected in the comments below:

*Hard question to answer. I think at the moment, I will not get over the accident with what injuries I received*

*I think every days different but I’d like to think that eventually its not so all consuming and that even though there’s lots of reminders life does move on and you have to cope with that.*

*even when you are feeling good there is still that little something that’s eating away in the back of your head mainly because of my scarring.*

For one it triggered off memories of an earlier childhood trauma and for two others,
issues of blame/fault remain paramount:

*I think it is the car driver’s fault*

*Physically I will not be right. Mentally I still am angry about the pain and suffering I had and no compensation. The accident was not my fault but I have lost out.*

3% provided no quantitative response, but did make comment:

*You can do repairs and take painkillers but you can’t go backwards, and you can feel angry*

*It’s possible to get back the physical as possible. Its not possible to put back a lot of emotional stuff behind you, because you have to face yourself everyday and deal with it.*

The belief that you can never get over something like this was significantly related to distress (refer to Table 47), with higher distress scores related to the belief that it is impossible or ‘maybe’ possible to get over something like this.

**Table 47: The relationship between high IES scores and believing it is possible to get over something like this**

<table>
<thead>
<tr>
<th>IES≥30</th>
<th>N=76</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>possible</td>
<td>7</td>
</tr>
<tr>
<td>impossible</td>
<td>8</td>
</tr>
<tr>
<td>maybe</td>
<td>12</td>
</tr>
</tbody>
</table>

χ² = 16.206, df=2, p<0.01

This belief, however, was not related to the experience of ongoing psychological difficulties (Table 48).

**Table 48: The relationship between the belief that ‘you can never get over something like this’ and ongoing psychological difficulties**

<table>
<thead>
<tr>
<th>ongoing psychological difficulties</th>
<th>no ongoing psychological difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible N=45</td>
<td>N=28</td>
</tr>
<tr>
<td>Possible</td>
<td>39.3%</td>
</tr>
<tr>
<td>Impossible</td>
<td>71.4%</td>
</tr>
<tr>
<td>Maybe</td>
<td>89.3%</td>
</tr>
</tbody>
</table>

χ²=1.878, df=3, p>0.05
Nor was it related to growth. Yet it is an important belief to tap into as it connects strongly with expectations about the future and future recovery.

**C. PERCEPTIONS OF RECOVERY RESOURCES**

Resilience factors or recovery resources are considered vital in the trauma aftermath - the degree to which the individual is protected or not by a range of intrapsychic, interpersonal or material resources, as discussed in Chapters Three and Four. These issues were examined in a number of ways with the respondents. They were asked about what they perceived to be most helpful to them during their recovery, their experiences of optimism, and spirituality, and the telephone interviewees were asked what they would have liked to see happen earlier in their recovery. Each of these issues is overviewed in this next section.

**RECOVERY RESOURCES**

Respondents identified a wide range of resources (refer to Table 49) that they perceived to be of *most* help to them in their recovery. Six major types of resources were identified in the responses, including social, attitudinal, recreational, professional, spiritual and physical. Within these major types of resources, particular subcategories were coded, giving a more detailed insight into the nature to the major resource. Four less commonly identified resources included vocational, drug and alcohol related, financial and time-related resources.

**Table 49: Types of recovery resources identified by the respondents**

<table>
<thead>
<tr>
<th>resource type</th>
<th>% of respondents N=77</th>
</tr>
</thead>
<tbody>
<tr>
<td>social</td>
<td>64</td>
</tr>
<tr>
<td>attitudinal</td>
<td>47</td>
</tr>
<tr>
<td>recreational</td>
<td>28</td>
</tr>
<tr>
<td>professional</td>
<td>22</td>
</tr>
<tr>
<td>spiritual</td>
<td>13</td>
</tr>
<tr>
<td>physical</td>
<td>10</td>
</tr>
<tr>
<td>vocational</td>
<td>6</td>
</tr>
<tr>
<td>drug &amp; alcohol</td>
<td>3</td>
</tr>
<tr>
<td>financial</td>
<td>1</td>
</tr>
<tr>
<td>time</td>
<td>1</td>
</tr>
</tbody>
</table>

* not mutually exclusive categories
Social support resources were, without question, the most commonly identified recovery resources, with 64% of respondents making mention of some type of social support.

Of all the respondents referring to social support resources, 39% made reference to immediate family members. These comments typically listed the key people (partners, parents, children and others) and some comments referred specifically to the way in which these key people had made a difference for them. Other comments reflected the importance of resuming roles within social networks (10%), such that they were providers rather than receivers of social support themselves. Health professionals were mentioned as key support people (12%) as were structured community groups such as churches, Rotary and sport coaches (8%). Discussing it with others in a similar situation was recognized in 6% of responses. Neighbours (6%) and dogs (4%) were also perceived to be providers of valuable support.

47% of the respondents identified psychological or attitudinal resources in that they referred primarily to specific attitudes that had sustained them. The themes of the responses were about determination (22%), inner strength (22%), a positive focus (19%), a focus on returning to normality (11%), hope (8%) and the importance of a belief in the self (25%). These responses were not mutually exclusive.

29% of the respondents identified recreational resources in their responses. The responses referred to a wide range of recreational activities that were seen to be vital to the person’s sense of recovery. The responses referred to recreational activities such as specific sports (36%), music (36%), books (32%), relaxation and meditation (18%), walks (14%), gardening (9%) and 5% each of dogs, drugs and movies.

22% of respondents identified a variety of professional resources that had been most helpful in their recovery. These were responses that referred to the support from staff at the VRC specifically, as well as others that referred to counsellors or medical practitioners who were part of the professional process of healing and recovery. 35% of respondents mentioned physiotherapists, 24% mentioned rehabilitation generally, 24% mentioned a counsellor, 18% mentioned doctors, 12% mentioned psychologists, 6% mentioned ministers, osteopaths, return to work programs, nurses and social
workers.

13% of respondents identified various spiritual resources. These responses included direct references to a belief in God (40%), religion (30%), religious faith (20%) and spirituality (10%).

10% of respondents identified physical resources. These included responses referring to physical interventions such as activity/exercise (38%), fitness (25%), physiotherapy (12.5%), the healing ability of the body (12.5%) and medication (12.5%).

6% of respondents identified vocational resources. These were responses that expressed a sense of purpose and meaning through commitment to a place of work or study, or the return to work process.

Only two respondents referred to drug and alcohol resources, in quite different ways. For one it was about giving up alcohol and for the other about recreational marijuana use. Only one reference was made to the importance of financial supports in the recovery process, in addition to the family support they had received. And despite the cliche, ‘time heals’, the participants were reporting a far more active involvement in their rehabilitation and recovery rather than allowing time to eventually bring about recovery. Only one respondent referred to the passing of time as one of the most important ingredients in recovery, and, significantly, not as an isolated factor but in the context of treatment, family and friends.

The number of resources each respondent referred to was also analyzed, to assess the breadth of resources they were able to access (refer to Table 50). Overall, 59.5% of respondents identified 2 or more resources as being helpful in their recovery process.

<table>
<thead>
<tr>
<th>number of resources</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=77</td>
</tr>
<tr>
<td>1</td>
<td>40.5%</td>
</tr>
<tr>
<td>2</td>
<td>32%</td>
</tr>
<tr>
<td>3</td>
<td>21%</td>
</tr>
<tr>
<td>4</td>
<td>5.2%</td>
</tr>
<tr>
<td>5</td>
<td>1.3%</td>
</tr>
</tbody>
</table>
OPTIMISM

The Life Orientation Test - Revised was used to measure optimism. Optimism, as discussed in Chapter Four, is often perceived to be a core recovery resource. Scores on the LOT-R (N=77) ranged from 0 to 24 with a mean of 15.14 (SD=5.02). Male scores had a mean of 14.22 (SD=5.12) and female scores had a mean of 16.19 (SD=4.75). There was no significant difference between means of scores for males and females (t=-1.746, df=75, p>0.05). Internal reliability was high (Cronbach’s alpha coefficient = 0.7499).

Compared with Scheier et al’s (1994) scores, this sample showed consistent, if not slightly higher, optimism scores compared to the college students, and slightly lower scores than the bypass patients.

No significant correlation was found between LOT-R scores and the current age of the respondents.

Specific areas of optimism

Three questions measured optimism directly. The most positively endorsed statement was question 10 ‘Overall I expect more good things to happen to me than bad’, with 71% of respondents either agreeing or agreeing strongly with this statement. Only 5.3% of respondents disagreed a lot with this statement.

63.7% of respondents agreed or agreed strongly with the statement ‘I’m always optimistic about my future’ and 50% agreed or strongly agreed with the statement ‘In uncertain times I usually expect the best’.

50% of respondents agreed or strongly agreed with the statement, ‘In uncertain times, I usually expect the best’, with only 6.6% disagreeing a lot.

Three further questions measured optimism indirectly. In contrast to some of the strongly and positively endorsed statements above, 54% also agreed or agreed
strongly with the statement ‘I hardly ever expect things to go my way’. 39.4% agreed or strongly agreed with the statement ‘If something can go wrong for me it will’. 36.9% of respondents either agreed or strongly agreed with the statement, ‘I rarely count on good things happening to me’ although 11.8% of respondents strongly disagreed with this statement.

This pattern of endorsement (Table 51) highlights the complexity of measuring optimism with global statements rather than specific statements. It highlights the fact that there are inevitably contradictions or inconsistencies in the inner narratives that are carried by these participants.

It is interesting to note that the two most strongly and positively endorsed items were in fact filler items on the LOT-R, not used in the scoring. They are consistent with other findings (discussed in the following pages) about the high level of social engagement.

Table 51: The percentage of respondents endorsing each question of the LOT-R (N=77)

<table>
<thead>
<tr>
<th>LOT-R question</th>
<th>disagree</th>
<th>disagree a lot</th>
<th>agree</th>
<th>agree a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. in uncertain times, I usually expect the best</td>
<td>6.6</td>
<td>14.5</td>
<td>19.7</td>
<td>30.3</td>
</tr>
<tr>
<td>2. it’s easy for me to relax*</td>
<td>28.6</td>
<td>16.9</td>
<td>18.2</td>
<td>23.4</td>
</tr>
<tr>
<td>3. if something can go wrong for me, it will</td>
<td>13.2</td>
<td>10.5</td>
<td>10.5</td>
<td>28.9</td>
</tr>
<tr>
<td>4. I’m always optimistic about my future</td>
<td>3.9</td>
<td>10.4</td>
<td>27.3</td>
<td>36.4</td>
</tr>
<tr>
<td>5. I enjoy my friends a lot*</td>
<td>2.6</td>
<td>5.2</td>
<td>27.3</td>
<td>61.0</td>
</tr>
<tr>
<td>6. it’s important for me to keep busy*</td>
<td>1.3</td>
<td>6.6</td>
<td>21.1</td>
<td>57.9</td>
</tr>
<tr>
<td>7. I hardly ever expect things to go my way</td>
<td>7.9</td>
<td>7.9</td>
<td>23.7</td>
<td>30.3</td>
</tr>
<tr>
<td>8. I don’t get upset too easily*</td>
<td>10.4</td>
<td>16.9</td>
<td>27.3</td>
<td>28.6</td>
</tr>
<tr>
<td>9. I rarely count on good things happening to me</td>
<td>11.8</td>
<td>22.4</td>
<td>15.8</td>
<td>21.1</td>
</tr>
<tr>
<td>10. overall, I expect more good things to happen to me than bad</td>
<td>5.3</td>
<td>7.9</td>
<td>31.6</td>
<td>39.5</td>
</tr>
</tbody>
</table>

* denotes a filler question, not used in the final score calculation

No significant relationship was found between optimism (as measured by the LOT-R) and distress (refer to Table 52), although there was a trend towards negative correlations, as would be anticipated. Optimism and ongoing psychological difficulties (t= - 0.392, df=72, p>0.05) were also found to be unrelated.

Table 52: The non-significant correlations between LOT-R and IES scores

<table>
<thead>
<tr>
<th>IESI</th>
<th>IESA</th>
<th>IEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOT-R</td>
<td>-0.123</td>
<td>-0.122</td>
</tr>
</tbody>
</table>
Consistent with Tedeschi and Calhoun’s (1996) study outlined earlier, significant small positive correlations were found between optimism and growth on all factors except ‘spiritual change’ (refer to Table 53).

Table 53: The significant correlations between LOT-R scores and PTGI scores

<table>
<thead>
<tr>
<th></th>
<th>PTGI1</th>
<th>PTGI2</th>
<th>PTGI3</th>
<th>PTGI4</th>
<th>PTGI5</th>
<th>PTGI total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOT-R</td>
<td>0.340**</td>
<td>0.308**</td>
<td>0.350**</td>
<td>0.073</td>
<td>0.241*</td>
<td>0.351**</td>
</tr>
</tbody>
</table>

* p<0.05  ** p<0.01

The presence of significant small positive correlations on four of the five PTGI factors may support the argument raised by some that optimism and growth are not separate constructs, or that optimism is required to facilitate growth.

There was no significant relationship between higher than average reports of growth and optimism, t= - 0.949, df=75, p>0.05, however. That is, those who were reporting higher than average levels of growth were not reporting higher levels of optimism.

ONGOING SPIRITUAL DIFFICULTIES

Spirituality and religion were discussed as possible recovery resources or protective factors in Chapter Four. Only 17% of respondents reported experiencing ongoing spiritual difficulties (Table 54). There was no significant difference on the basis of the sex of the respondent.

Table 54: The percentage of respondents reporting ongoing spiritual difficulties

<table>
<thead>
<tr>
<th></th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=38</td>
<td>N=34</td>
<td>N=72</td>
</tr>
<tr>
<td>yes</td>
<td>10.5%</td>
<td>23.5%</td>
<td>16.7%</td>
</tr>
<tr>
<td>no</td>
<td>89.5%</td>
<td>76.5%</td>
<td>83.3%</td>
</tr>
</tbody>
</table>

In addition to very few people stating that they had ongoing spiritual difficulties (17%), fewer again provided comment. Three of these eight respondents who provided comment were experiencing ongoing spiritual difficulties and reported that they’d become cynical, they’d experienced changes in beliefs or that they were finding a new meaning in what had happened to them. On the other hand, the five
other respondents, who said that they were not experiencing spiritual difficulties, commented either that they were not religious, that their faith had not changed or that their faith had in fact been strengthened. This highlights the problem of framing the question as a ‘difficulty’. 5/8 of the respondents who provided comment was viewing spirituality as an ongoing recovery resource rather than as an ongoing area of difficulty. This issue is examined further in Chapter Twelve.

As Table 55 shows, those who were reporting ongoing spiritual difficulties were significantly more likely to be reporting higher intrusion scores ($t=2.134$, df=22, $p<0.05$), avoidance scores ($t=2.427$, df=70, $p<0.05$) and overall distress ($t=2.800$, df=23, $p<0.01$) than those who were not.

<table>
<thead>
<tr>
<th>IES difficulty</th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>intrusion</td>
<td>yes</td>
<td>12</td>
<td>16.50</td>
</tr>
<tr>
<td>avoidance</td>
<td>no</td>
<td>60</td>
<td>11.25</td>
</tr>
<tr>
<td>total</td>
<td>yes</td>
<td>12</td>
<td>15.92</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>60</td>
<td>8.45</td>
</tr>
<tr>
<td>total</td>
<td>yes</td>
<td>12</td>
<td>32.42</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>60</td>
<td>19.70</td>
</tr>
</tbody>
</table>

For distress scores greater than or equal to 30, no significant relationships were found for either males ($\chi^2=0.004$, df=1, $p>0.05$) or females, $\chi^2=1.434$, df=1, $p>0.05$.

Examining the relationship between ongoing spiritual and ongoing psychological difficulties, a significant relationship was found, $\chi^2=12.821$, df=1, $p<0.01$. That is, those who were experiencing ongoing psychological difficulties were also experiencing ongoing spiritual difficulties. This is consistent with an overall search for new meaning and stable assumptions in the aftermath of trauma.

In the area of growth, a significant relationship was found between ongoing spiritual difficulties and growth in the area of ‘appreciation of life’ ($t=2.061$, df=70) and subsequently growth as a total score ($t=2.033$, df=70). Thus, those who were experiencing ongoing spiritual difficulties were more likely to be reporting growth in the area of ‘appreciation of life’, which again reflects a commonality of a search for meaning in the aftermath of trauma.
REFLECTIONS ON THE EARLY PHASES OF RECOVERY

The telephone interviewees were asked to reflect on the early stages of their recovery and to comment on what they would have liked to happen differently. Two major themes emerged.

The first related to their medical or physical management, primarily in the acute phase following their accident. There were very significant consequences for a number of interviewees in terms of not being listened to early on about physical complaints they were making. For example, ill-fitting plaster casts led to irreversible nerve damage for one interviewee.

The second related to their desire or need for far greater discussion or attention to their situation, be that with members of the medical profession or other health professionals working within the rehabilitation system. Attending to them as individuals, enabling them to tell their stories, enabling them to have a necessary reassurance about their eventual recovery were very clear needs expressed by the interviewees. They clearly stated that this was not in relation to their informal social support networks of family or friends, but to the staff within the acute and rehabilitation settings, as well as the insurance systems of TAC. The importance of talking with someone outside of their familiar support network was emphasized.

Thus, there were the clearly expressed needs to have a support structure in place that acknowledged the known psychological regression that takes place in the initial shock stages of a traumatic event. This was expressed in a variety of ways as the examples below illustrate. Given that social work and psychological support is available as part of the rehabilitation program, these comments are particularly significant.

To illustrate:

I would have liked some body tangible to sort of latch on to at that point. A case worker or like somebody... because I mean you, I’m sure you’ll find doing this, it does have a traumatic effect on people, be it serious injuries be it not serious. Mentally it does affect you so I was feeling very alone, very sad and very vulnerable at day 1 there and I would have liked some sort of person to lean on a
little, apart from my family.

I was just part of a group of people. And I mean to me my injuries were real, even if they weren’t as bad as everybody else’s.

you felt like you were a number and that while they were nice they still weren’t, you were still a number, still just another statistic.

But you very much feel that you want to be looked after.

but I just sort of felt that if they just sat down and said ‘you’ve been involved in a motor vehicle accident’. I was a pedestrian. ‘And this is pretty normal for, I mean I knew in my own mind that this is what you must feel like, when you’ve had something as traumatic as this, but I just wanted someone to sit down and say to me ‘look, you’ll get over this little phase you’re going through now’ and just spend a little bit more time.

(D) PERCEPTIONS OF THE FUTURE

In Chapters One and Three, a focus on the future was emphasized as an important aspect of recovery. A number of survey questions were specifically designed to explore these issues. These questions asked whether respondents imagined they’d say they’d recovered, how they imagined they’d be coping in five years time, and about changes that they’d noticed in their thinking about their future.

IMAGINING RECOVERY

About one third of the respondents could imagine that they would say that they have recovered at some point in the future, with males and females equally endorsing this response (refer to Table 56).

<table>
<thead>
<tr>
<th>imagine recovered?</th>
<th>male</th>
<th>female</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=40</td>
<td>N=36</td>
<td>N=76</td>
</tr>
<tr>
<td>yes</td>
<td>32.5%</td>
<td>36.1%</td>
<td>34.2%</td>
</tr>
<tr>
<td>no</td>
<td>40.0%</td>
<td>41.7%</td>
<td>40.8%</td>
</tr>
<tr>
<td>maybe</td>
<td>27.5%</td>
<td>22.2%</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

Respondents were more likely to report that they could not imagine the possibility of
their own recovery. Another quarter of respondents were ambivalent, responding ‘maybe’.

The range of experience is reflected in the following comments:

*I will always have the scars, the hurt - and memories and pain.*

*I have now; I have put it behind me. Nothing I could do to prevent accident or speed recovery.*

*I don’t think I have really had the time to really start healing mentally. All of my energy has gone into just getting through everyday.*

This is a significant finding. Three to four years after serious road trauma, only one third of the respondents could imagine they would say at some point in the future that they have recovered. While the question was deliberately non-specific in referring to recovery as either physical or psychological, it was unexpected that such a significant number of respondents could not imagine any global sense of recovery in the future.

The telephone interviews were critical in helping to illuminate these findings. Given that the majority of interviewees perceived recovery to be about being back to a pre-accident state, these findings may in fact represent adaptation. These findings need to be interpreted in the context of this definition issue, and in the context of the findings addressed on p. 228.

Of the 34.2% of respondents who could imagine that they would say they had recovered, 50% of them provided comment. Their comments related to the fact that six of them perceived themselves to have recovered already. Four others perceived themselves to have recovered in one sense already but that they were continuing to deal with ongoing issues. Another two respondents indicated that they had clear criteria for what recovery would be like for them, therefore they could anticipate reaching that point.

Of the 40.8% who could not imagine that they would ever say they had recovered, 68% provided comment. Many respondents (43%) could not imagine saying they had recovered because of ongoing physical pain and limitations, and another third of
respondents outlined significant losses. 19% of respondents provided answers that involved combined perceptions of these two issues.

For the 25% who were more uncertain in their imagining of recovery, 58% commented on a range of issues. These uncertainties related to ageing (36%), to a general uncertainty (18%), to physical health (10%), to psychological health (18%) and to a combination of these latter two issues (18%).

There was a significant relationship between high distress scores (IES≥30) and being less likely to imagine that respondents would say they had recovered, $\chi^2=10.677$, df=2, p<0.01. That is, the higher the distress, the less likely it was that recovery could be imagined.

Similarly, a significant relationship was found between reports of ongoing psychological difficulties and perceptions of recovery (Table 57). Those who were experiencing ongoing psychological difficulties were significantly less likely to imagine that they would say they had recovered, compared to those with no ongoing psychological difficulties.

<table>
<thead>
<tr>
<th>imagine recovery</th>
<th>ongoing psychological difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>maybe</td>
<td>maybe</td>
</tr>
</tbody>
</table>

$\chi^2=8.850$, df=2, p<0.05

On the other hand, there was no significant relationship found between imagining that recovery could be achieved and growth.

<table>
<thead>
<tr>
<th>imagine recovered</th>
<th>PTGI&lt;45</th>
<th>PTGI≥45</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>32.5%</td>
<td>36%</td>
</tr>
<tr>
<td>no</td>
<td>45%</td>
<td>36%</td>
</tr>
<tr>
<td>maybe</td>
<td>22.5%</td>
<td>28%</td>
</tr>
</tbody>
</table>

$\chi^2=0.650$, df=2, p>0.05
COPING IN FIVE YEARS - THE FUTURE FANTASY

In contrast to the above findings, where only one third of respondents could imagine they would say they had recovered, nearly two thirds of the respondents (63%) imagined that they would be coping ‘well’ or ‘extremely well’ with this event in five years time. While males seemed more likely than females to imagine this, according to Table 59, there was no statistically significant sex difference ($\chi^2=4.555$, df=5, $p>0.05$).

Table 59: The perceptions of coping in five years time according to the sex of the respondents

<table>
<thead>
<tr>
<th>imagine coping in 5 years time</th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=40</td>
<td>N=36</td>
<td>N=76</td>
</tr>
<tr>
<td>extremely well</td>
<td>37.5%</td>
<td>30.6%</td>
<td>34.2%</td>
</tr>
<tr>
<td>well</td>
<td>30.0%</td>
<td>27.8%</td>
<td>28.9%</td>
</tr>
<tr>
<td>adequately</td>
<td>10.0%</td>
<td>25.0%</td>
<td>17.1%</td>
</tr>
<tr>
<td>poorly</td>
<td>10.0%</td>
<td>2.8%</td>
<td>6.6%</td>
</tr>
<tr>
<td>cannot imagine</td>
<td>12.5%</td>
<td>13.9%</td>
<td>13.2%</td>
</tr>
</tbody>
</table>

Nine respondents who imagined they would be coping ‘extremely well’ with the event in five years provided comment. They referred to the fact that they were hoping to recover, or holding other positive beliefs about recovery (44.5%), that they had recovered already (33.5%), that they had no choice but to (11%) or that the question was irrelevant in some way (11%).

To illustrate:

*I try to have a positive attitude and believe things will improve and I will look back on this and feel that I have gained a lot more than I have lost. I remember every day that I’m a survivor.*

*I felt that I beat my problem in the first month bar the healing physically that takes time. Each year as the day of my accident passes I feel stronger ten fold. Success, happiness, development etc come from within and I don’t intend to ‘not cope’ with it!*

*I will cope in 5 years time, basically because I have to and I have no other choice. I do not get any help or funding from TAC so I have no alternative but to get my own help.*

The fourteen respondents who imagined that they would be coping well with the
event in five years time, and provided comment, referred to having a positive approach (36%) or having certain provisos (36%) or that they were already coping well (28%).

To illustrate:

*I don’t give in to self pity easily. I’m going to fight my disability with everything I have and live.*

*Provided I can find employment and get back on track. I will still have a life.*

The nine respondents who imagined that they would be coping ‘adequately’ with this event in five years time, and provided comment, referred to ongoing physical difficulties (78%), the need for a positive approach (11%), and anxiety about coping (11%).

To illustrate:

*Expect to have another operation this year and further test regarding nerve damage neck/back.*

*Depending on permanent disability I imagine I will still be feeling the frustration I feel now as I can’t improve things.*

*I hope I’ll be coping well, I fear I’ll be coping poorly so I just went for the middle!*

For those imagining that they would be coping ‘poorly’, one respondent referred to the fact that they were still receiving treatment for osteoporosis, another to their sense that life will never be as good and the third, to the fact that they’d been involved in multiple car accidents and were continuing to suffer psychologically and physically as a result.

For the seven respondents who could not imagine how they would be coping in five years time, two responses related to age, another two comments related to health matters and a further three comments expressed the hope that they would be coping better.
Those who did not provide further comment tended to be those who perceived themselves to be coping either extremely well or well with the event in five years time.

Overall, there was a significant, moderate to strong positive relationship between how respondents rated themselves as coping in five years time and their distress scores. Females had a significant strong positive relationship between distress and perceptions of coping in five years time compared to males, whose relationship was significant positive but moderate. That is, those who were more likely to view themselves coping less well in five years time were more likely to have higher distress scores. This initial finding, while perhaps not surprising, is noteworthy. It supports the theory that current expectations shape future expectations, and more importantly, future realities.

There were, however, no significant relationships between perceptions of coping in five years time and ongoing psychological difficulties, \( t=0.420 \) df=74 \( p>0.05 \). Nor were there any significant correlations between perceptions of coping in five years time and experiences of growth.

Table 60: The correlations* between IES scores and perceptions of coping in 5 years time

<table>
<thead>
<tr>
<th></th>
<th>males (N=41)</th>
<th>females (N=37)</th>
<th>total (N=78)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IES intrusion</td>
<td>0.439</td>
<td>0.753</td>
<td>0.561</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>0.477</td>
<td>0.665</td>
<td>0.545</td>
</tr>
<tr>
<td>IES total</td>
<td>0.444</td>
<td>0.718</td>
<td>0.560</td>
</tr>
</tbody>
</table>

* all were significant at \( p<0.01 \)

CHANGES IN THINKING ABOUT THE FUTURE

The extent to which changes in thinking about the future were significantly associated with either distress or growth was examined also. Had there been positive or negative changes to the way in which respondents viewed their own future pathway?

Respondents (N=69) reported a number of themes as they considered the ways in which their thoughts about the future had changed. More than one third of
respondents (36%) perceived negative changes to their future thinking. Many others perceived neutral\textsuperscript{26} changes (32%) while less than a quarter reported positive change (23%). A small number of respondents reported no change in their thinking about their future (9%).

Twelve zones of change emerged from the data (Table 61). These twelve zones, in order of frequency, reflected attitudinal, physical, time-focus, vocational, relational, recreational, meaning-oriented, age-related, driving behaviour, mental status, financial and accommodation changes.

Table 61: The zones of changes in thinking about the future

<table>
<thead>
<tr>
<th>zones of change</th>
<th>% of respondents N=62</th>
</tr>
</thead>
<tbody>
<tr>
<td>attitudinal</td>
<td>37%</td>
</tr>
<tr>
<td>physical</td>
<td>34%</td>
</tr>
<tr>
<td>time</td>
<td>34%</td>
</tr>
<tr>
<td>vocational</td>
<td>24%</td>
</tr>
<tr>
<td>relational</td>
<td>15%</td>
</tr>
<tr>
<td>recreational</td>
<td>11%</td>
</tr>
<tr>
<td>meaning</td>
<td>10%</td>
</tr>
<tr>
<td>ageing</td>
<td>10%</td>
</tr>
<tr>
<td>driving behaviour</td>
<td>6%</td>
</tr>
<tr>
<td>mental</td>
<td>5%</td>
</tr>
<tr>
<td>financial</td>
<td>5%</td>
</tr>
<tr>
<td>accommodation</td>
<td>2%</td>
</tr>
</tbody>
</table>

There were three zones where change was noted by more than one third of all respondents - these were attitudinal, physical and time changes. Each of the zones is outlined below with selected comments to illustrate the key themes.

As shown in Table 61, more than one third of all respondents reported changes in their attitudes to their future. Attitudinal change reflected changes in worldview and in self-perception. Through the recovery experience there had been a shift in the way in which the individual viewed their own life and their participation in their world.

35% of the attitudinal responses were positive in that they identified gains in attitude to life and self. Responses reflected changes in worldviews, in priorities, in focus, and along with that, a reviewing of self and self-understanding, responsibility, and

\textsuperscript{26} The neutral category was established for instances where both positive and negative changes were referred to, or no judgment could be made as to whether they were necessarily negative or positive.
strengthening in self. There was in some the expression of a growing sense of
determination, an active participation and engagement with life.

To illustrate:

*Taken changes in my life and dealt with them in most positive way that I know
how. My future is what I decide to make it and I decided once this happened that
it was just another hurdle in life to jump ... I am still the same person bar some
physical scars, metal plates, screws etc but my mental strength is growing
everyday since this accident!*

*You never know what will happen good or bad but I believe I’m a stronger
person because if I can get through the last 51/2 years I can get through
anything.*

*It has made me more determined to live longer, be more tolerant, even tempered
and more forgiving.*

In contrast, 30% of the attitudinal responses were negative, reflecting a shrinkage or
diminishing of worldview, and a sense of future. There was a sense in which the
strength of the self and the personal capacity to change circumstances, or to affect
change, had been limited or diminished.

To illustrate:

*My future plans have been totally ‘fucked’ by this accident and don’t expect
much in the future that could be considered positive.*

*No future so far I am like a shadow, my husband always says to me one day you
will be back to life.*

*I feel that I no longer have total control over my future due to both my
permanent disabilities as well as what life dishes out next.*

The neutral comments (35%) reflected the juggling or balancing act between the two
possibilities. On the one hand, there was the recognition of changes and limitations,
on the other, there was an ability to manage a new perspective. There was a reflected
ability to hold a sense of complexity, about what had occurred.

To illustrate:
I know I’m a great deal stronger in many ways emotionally - I won’t give in if it matters to me. I endured such a lot of pain etc that I’d cope with other things - eg talking in public. **BUT** I’m also not so good physically and mentally because of my injuries - but I’m OK and that’s really really good and as I often joke “I ain’t dead” and that is even better. I have a heap to live for and I think that helped me a great deal.

I don’t rely on things too much, I probably plan more for the ”what if’s”. Yet I live now and enjoy each day as well. I’m probably an optimist.

10% of responses relating to physical changes related to respondents feeling either stronger or having a new awareness of health issues:

*I am more aware of my health and have a new respect for treating my body with respect.*

In contrast to the positive changes noted, 62% of those noting physical changes commented on the extensive negative restrictions they were experiencing, due to limited physical mobility, pain, and other physical concerns.

To illustrate:

*long term injury means my future plans have changed and are more uncertain*

*I think about whether I will be able to have children*

The neutral responses (28%) either reflected positive and negative physical issues, often reflected with the use of the word ‘but’.

To illustrate:

*I was always fit and active but I must take things easier now but I enjoy life to the best I can.*

*I’m not physically as well as I was, nor as fit and active, and this is likely to get worse; having always been involved in sports, such as hockey, this appears no longer possible nor is playing actively with young children (I have two). The other side of this coin is I’ll do more with my family than might otherwise have been the case.*

Another theme to emerge was the theme of a changed ‘time focus’, that is, a changed
awareness of the lived experience of each day. For most people who reported this change (35%), it was a positive change, whereby they found themselves focusing more on ‘today’ or the short term rather than becoming entangled in the concerns and anxieties of the future. For others, this change in time focus was negative (19%), resulting in them thinking more about future concerns such as aging, having children, being able to support themselves financially, employment prospects than prior to the accident.

Thus, the positive responses made mention of taking control or making new priorities in life.

To illustrate:

I’ve prioritised my life and try not to waste time with unnecessary things and incidents.

While still having a need to plan for the future, my emphasis and thoughts are with taking one day at a time. I try to enjoy each day knowing that there may not have been a tomorrow. Accidents can either change or take your life, for which I have no control over.

I worry a lot less about life. Although it wasn’t a conscious change, I believe I try to enjoy life a lot more and I worry less about events turning sour. I have learnt to enjoy life a lot more, as life is far too short to worry. This may also be because I am now 33 years old.

In contrast, the negative comments reflected a sense of loss about the future:

long term injury means my future plans have changed and are more uncertain

43% of responses were considered to be neutral in that they talked more about a focus on the present rather than a focus on the future.

To illustrate:

I guess I’m more cautious in the present to ensure I have a future.

When your healing and recovering you learn to take each day as it comes a long and try not to put too much emphasis on the future and focus on the here and now!
For 19% of respondents who reported vocational changes, new career opportunities were open to them which changed their perspective on their future. For the majority of respondents, 50%, vocational changes were noted as significant negative changes and losses.

To illustrate:

my career opportunities diminished

It has made me realise that I will never be employed again because nobody will retrain me at my age (I turn 50 in June) and that is not a good thing but it is the times at this stage. I am always thinking of things to keep me occupied but most of these things cost money.

31% of responses were neutral comments that reflected both positive and negative possibilities in vocational areas.

To illustrate:

Precipitated professional change earlier than anticipated. BUT has allowed other things/issues to be addressed.

I have had to totally re-think the future. I can no longer follow my chosen career and have had to start my own business. The rest is one day at a time.

For one third of respondents noting relational changes, positive changes were mentioned in that they had reviewed their relational situation as a result of the accident.

To illustrate:

I was in a very stressful family court battle at the time of the accident. So before the accident my outlook was fairly glum, the accident actually had a therapeutic effect on me because I was removed from being responsible for hearing decisions for 5 months.

I have been a ‘helper’ during my life to now have to learn I am of value in just ‘being’. There are other ways of helping rather than actively. Will continue to learn to receive and ask for help when needed.
There were also perceived negative changes for another third of the respondents, where they noted increased selfishness or diminished usefulness within family and friendship networks. The final third made neutral statements about changes in relationships, commenting on the strengths and weaknesses of increased dependence and yet increased appreciation of those around them.

57% of those noting recreational changes commented on the losses they perceived themselves to have experienced in not being able to do things as before.

To illustrate:

Unable to travel any length of time as I have problem back that does not let me sit and relax for any time over 2 hours eg movie, car travel, air travel.

I had been intending to resume cricket and indoor cricket and martial arts and was training for that at the time of the accident. This will not happen now. Also, due to constant pain outdoor activities (ie bushwalking) are no longer an option.

43% of responses were considered to be neutral in that the changes may not have been inherently positive or negative.

50% of those referring in some way to changes in meaning or worldview as a result of the accident were considered to be positive responses, referring to a new found self-respect, or appreciation for where they are at.

To illustrate:

I was 25 years old. when I had the accident and I had been married only 6 months previously. At 25 one doesn’t think about dying, it’s a taboo subject. I am no longer worried about dying and I have more empathy for those in a similar situation. Some people have a mid-life crisis in their 40-50’s. I had mine in my mid 20’s - in this sense I have a head start of 15-25 years. I’ve had the chance to have a hard look at myself and change the things I didn’t like. I value my life more now or maybe I am just aware now.

The other 50% of responses were considered to be neutral, in that there was a change in meaning but not inherently positive or negative:
14% of respondents who referred in some way to the process of ageing in their thinking about the future made positive comments, in terms of being aware and presumably proactive about their aging process. 50% of respondents made negative comments in that they were referring to concerns about health and ageing as a result of the accident.

To illustrate:

*I feel accident aged me 10 years.*

*I sometimes worry what I will be like physically in years to come as a result of the car accidents.*

29% of responses were considered neutral in that they demonstrated an awareness of ageing issues but not an over-concern about the process.

50% of those noting changes in their driving behaviour were positive in nature in that the respondents considered themselves to be better or more alert drivers. The other 50% were considered neutral in that they referred to changes such as never going on a motor bike again that could be perceived to be either a healthy protective behaviour or a loss.

All respondents who referred to changes in their cognitive functioning or mental health that will impact on their future functioning were noting negative changes such as experiencing nightmares and depression.

To illustrate:

*Over the last three years is you. Are the only one that truly feels the pain and sees the dreams, no amount of explaining can tell another what you truly see and feel. They can never understand fully, though some will try. The most important thing is if it hurts, body or mind say something to the pain boys and don’t let them tell you it’s not as bad as it seems. Remember its your pain not theirs and you see the nightmares not them.*

Three respondents referred to negative changes in their financial circumstances, referring to the loss of career options and therefore financial independence.
To illustrate:

I’m concerned about my future as I’m divorced and have only my income to live on. If in the future I’m unable to continue with working, there is no money coming in and I would have to go on to a disability pension or something like that. This worries me as to how I would survive. Also, if for any reason I left or had to leave my job that I’m in at present it worries me as to what I’d do because of my impairment. I would be restricted in my choices of employment ... So my accident has affected my future in that it will prevent full time employment.

One negative comment was made in relation to changes in accommodation.

We have booked into a retirement village - would not have done this for years if accident had not happened.

Multiple zones of change

For the majority of respondents, two zones of change (45%) rather than one (31%) could be identified within their responses, and either three or four zones of change could be identified for a further 24% (Table 62). That is, there was an impact on a number of zones of thinking about the future for these respondents, demonstrating very clearly the interconnectedness of the trauma impact. Given the multiplicity of zones of change, and in many instances, both positive and negative direction of this change, no statistical analysis was conducted of this data and the relationship with other variables.

Table 62: The number of zones and directions of change in thinking about the future

<table>
<thead>
<tr>
<th>no. of zones</th>
<th>positive N=16</th>
<th>negative N=25</th>
<th>neutral N=21</th>
<th>total N=62</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31%</td>
<td>36%</td>
<td>24%</td>
<td>31%</td>
</tr>
<tr>
<td>2</td>
<td>50%</td>
<td>36%</td>
<td>52%</td>
<td>45%</td>
</tr>
<tr>
<td>3</td>
<td>19%</td>
<td>24%</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>4</td>
<td>0%</td>
<td>4%</td>
<td>0%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Another observation was the frequent use of ‘before and after’ language, whereby the events of the accident and rehabilitation stand as important markers between two time periods – an old world and the beginning of a new.

A summary of the individual risk and protective factors examined in this chapter is outlined in Figure 20 overleaf.
Most traumatic event

Most of the respondents (79%) perceived the accident to be the most traumatic event they had experienced in their life. Those who perceived the accident to be the most traumatic event were significantly more likely:

a. to report intrusion symptoms and therefore higher levels of distress overall according to the IES but not according to moderate or high levels of distress.

b. to be reporting ongoing psychological difficulties, as a result of the significant difference found for females.

c. to report growth in the area of appreciation of life, and reports of growth in personal strength were also nearing significance. Males were more likely to report a significant relationship between growth in three areas (new possibilities, spiritual change and appreciation of life) and perceptions of the accident as the most traumatic event.

Perceptions of responsibility

49% of respondents saw themselves as having no responsibility at all for their accident, while 16.3% rated themselves as high or extremely high in terms of responsibility. Perceptions of self-blame and responsibility for the accident were not related to ongoing experiences of distress, psychological difficulty or growth.

Optimism

They were comparably an optimistic group overall. No significant relationship was found between optimism and distress, or optimism and ongoing psychological difficulties. Significant small positive correlations were found between optimism and growth in all areas, except spiritual change. However, those who were reporting higher than average growth experiences were not reporting higher levels of optimism.

Ongoing spiritual difficulties

A small percentage (17%) reported ongoing spiritual difficulties.Those who were experiencing ongoing spiritual difficulties were more likely to be experiencing distress symptoms and ongoing psychological difficulties. They were also more likely to be reporting growth in the area of ‘appreciation of life’.

Most helpful recovery resources

The most helpful recovery resources were seen to be social support resources, followed by attitudinal resources.

A particular turning point

Less than one third of respondents experienced a particular turning point in their recovery. There was a significant relationship between experiencing a particular turning point and distress but not with ongoing psychological difficulties. Particular turning points were significantly related to two growth areas, new possibilities and spiritual change.

Involved in other activities

Only 15.6% of respondents became involved in activities as a result of their accident. Higher distress scores were significantly related to becoming involved in activities as a result of the accident, however there was no relationship between involvement in other activities and growth.

Possible to get over?

Respondents had varying opinions as to whether it was possible to get over something like this - 27.3% thought it was impossible, 20.8% thought that maybe you could and while 52% said it was possible, many of them stated that it depended on a number of key factors.

Imagine you’re recovered?

Only one third of respondents could imagine that they would ever say that they had recovered. There was a significant relationship between both high distress scores and ongoing psychological difficulties and being less likely to imagine that recovery could be achieved. There was no relationship between imagining recovery could be achieved and growth.

Coping in 5 years time?

In contrast, 63% imagine that they will be coping well in 5 years time. Those who imagine they will be coping less well in 5 years time were significantly more likely to be experiencing distress symptoms but not reporting ongoing psychological difficulties. There was no significant relationship with growth.

Thinking about your future?

A number of attitudinal, physical and time factors were identified as having changed how people think about their futures - both positive and negative.

Figure 20: A summary of individual risk and protective factors
CHAPTER TEN

THE RECOVERY ENVIRONMENT

In the previous chapter, social support resources were identified as the most helpful recovery resource. The types and providers of support varied enormously. The first part of this chapter reports on some of the more specific questions about that social support - whether ongoing social difficulties were being experienced, what a quantitative scale such as the SSS revealed, whether changes in relationships were experienced. The second part of the chapter examines the formal systems and sources of social support.

INFORMAL SOCIAL SUPPORT

ONGOING SOCIAL DIFFICULTIES

As Table 63 shows, more than half of the respondents (55%) indicated that they were experiencing ongoing difficulties in their social functioning. Females were more likely to report ongoing social difficulties than males, although this difference was not statistically significant.

Table 63: The percentage of respondents experiencing ongoing social difficulties according to sex

<table>
<thead>
<tr>
<th>ongoing social difficulties</th>
<th>males N=40</th>
<th>females N=36</th>
<th>total N=76</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>47.5%</td>
<td>64%</td>
<td>55.3%</td>
</tr>
<tr>
<td>no</td>
<td>52.5%</td>
<td>36%</td>
<td>44.7%</td>
</tr>
</tbody>
</table>

51% of those who reported they were experiencing ongoing social difficulties provided comment as to the nature of these difficulties. These responses were coded as relating to (a) the interference of physical problems (36.5%), (b) a loss of confidence and the development of social phobias (32%), and (c) a general tendency towards social reclusiveness or isolation.
To illustrate:

(a) the interference of physical problems

*because I can’t sit for long periods of time I get uncomfortable very easily.*

*Due to my injuries there are certain things I can’t do e.g. tennis, aerobics.*

*can’t dance, golf or bowl.*

*I can’t dance, walk distances, so social activities have to be chosen carefully.*

*I would like to be able to dance when I go out to a ball or dinner dance. I do not feel confident of doing this in case I fall or am knocked over.*

(b) loss of confidence - social phobia

*withdrawal, increased hypersensitivity, increased aggression*

*Difficulty facing people. Unable to face local shopkeepers for quite a long while. Sometimes find large groups of people overwhelming.*

*Developed ‘social phobia’. Difficult at beginning to get out amongst people.*

(c) becoming socially reclusive or isolated

*A bit reclusive now, don’t like crowds. Stick very much to myself.*

*isolation from long time friends due to changed circumstances*

*found I’ve become semi cave dwelling*

*almost a hermit*

Three other respondents identified specific concerns they had in relation to heavy alcohol use, ongoing unemployment and minor social issues.

Those who were experiencing ongoing social difficulties were significantly more likely to be experiencing distress symptoms (refer to Table 64) - on intrusion
(t=5.752, df=73), avoidance (t=6.193, df=72) and overall distress scores (t=6.284, df=72) - and ongoing psychological difficulties, χ²=23.261, df=1 p<0.01. The causal direction of this relationship remains unclear in that the experience of ongoing distress may lead to a social withdrawal or, conversely, social anxieties may lead to ongoing distress. There was, however, a relationship between the social support and negative psychological consequences.

This finding was reflected in the significant relationship found between those who reported ongoing social difficulties and those scores were greater than or equal to 30 on the IES (Table 65).

| Table 64: The relationships between IES scores and ongoing social difficulties |
|---------------------------------------------|-------------------|------------------|------------------|
| males                                      | ongoing social difficulty | N | mean | P value |
| IES intrusion yes                         | 19                | 18.215           | 0.000            |
| IES intrusion no                          | 21                | .33              |                  |
| IES avoidance yes                         | 19                | 14.42            | 0.000            |
| IES avoidance no                          | 21                | 2.62             |                  |
| IES total yes                             | 19                | 32.63            | 0.000            |
| IES total no                              | 21                | 7.95             |                  |

| females                                   | ongoing social difficulty | N | mean | P value |
| IES intrusion yes                         | 23                | 16.17            | 0.004            |
| IES intrusion no                          | 13                | 7.54             |                  |
| IES avoidance yes                         | 23                | 15.745           | 0.001            |
| IES avoidance no                          | 13                | .54              |                  |
| IES total yes                             | 23                | 31.91            | 0.001            |
| IES total no                              | 13                | 13.08            |                  |

<table>
<thead>
<tr>
<th>total</th>
<th>ongoing social difficulty</th>
<th>IES≥30¹</th>
<th>N=76</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>23</td>
<td>34</td>
<td>6.18</td>
</tr>
<tr>
<td>no</td>
<td>19</td>
<td>34</td>
<td>3.74</td>
</tr>
</tbody>
</table>

¹ χ²=15.166, df=1, p<0.01

In contrast, there were no significant relationships between ongoing social difficulties and growth experiences.

Thus, experiencing ongoing social difficulties was significantly related to distress and ongoing psychological difficulties but not to growth. Social support, for this sample,
seemed to be functioning as many models propose - if it is problematic, it leads to the ongoing risk of negative consequences, and not to the promotion of growth.

**THE SOCIAL SUPPORT SCALE**

The SSS was used as the quantitative measure of social support. Scores on the SSS (N=79) ranged from 1 to 13 with a mean of 9.11 (SD=2.45). For males, the mean was 8.93 (SD=2.79) and for females, the mean was 9.32 (SD=2.03). No significant correlation was found between SSS scores and the current age of the respondents.

*Specific areas of social support*

As Table 66 shows, more than three quarters of the respondents (77%) indicated that they had three or more friends to whom they felt close or that they could depend on living within one hour’s drive from their home, and a further 20% had one to two people who met this criteria.

More than half of the respondents (54%) attended no form of religious meetings, club meetings or other organized groups, that is, no form of structured social group, throughout their average week. A further 39% did attend one to two times per week and only 6% more than three times per week.

72.2% perceived their frequency of contact with family and friends to be about right, and 25% perceived it to be not enough. Only a small number, 2.5%, perceived their frequency of contact to be too much.

The majority of the sample was either very satisfied (49%) or satisfied (39.5%) with the kinds of relationships they have with their family and friends, leaving only 11.5% who were dissatisfied.

80% of the sample indicated that they could count on at least some of their family and friends in times of trouble. A further 15% reported being able to rely on their network
46% of respondents indicated that ‘most of the time’ they would talk with the person closest to them (in the past year) when they had problems or troubles. 44% indicated ‘some of the time’ and 10% hardly ever or never. This is interesting in view of the finding above, that 80% felt that they could count on at least some of their family and friends in times of trouble.

70% of the sample perceived the person closest to them (in the past year) to be available most of the time, with a further 25% noting this availability some of the time.

Thus, the most strongly endorsed aspects of social support for the participants, related to being able to count on at least some of their family and friends in times of trouble (80%) and having close friends and family living within one hour’s drive (77%). The former aspect is consistent with the most strongly endorsed aspect of the PTGI.

There were a number of problems noted with the framing and scoring of some of these questions and these matters are raised in the Chapter Twelve.

Table 66: The percentage of respondents endorsing each of the SSS questions (N=79)

<table>
<thead>
<tr>
<th>SSS Question</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How many of your friends that you feel close to or that you can depend on live within one hour's drive from your home?</td>
<td>2.5</td>
<td>20.3</td>
<td>77.2</td>
</tr>
<tr>
<td>2. On the average, how many times a week do you go to religious meetings, club meetings or other organized groups?</td>
<td>54.4</td>
<td>39.2</td>
<td>6.3</td>
</tr>
<tr>
<td>3. How often do you see your friends and relatives?</td>
<td>25</td>
<td>72.2</td>
<td>2.5</td>
</tr>
<tr>
<td>4. How satisfied are you with the kinds of relationships you have with your family and friends?</td>
<td>11.5</td>
<td>39.5</td>
<td>49</td>
</tr>
<tr>
<td>5. In times of trouble, can you count on at least some of your family and friends?</td>
<td>5</td>
<td>15</td>
<td>80</td>
</tr>
<tr>
<td>6. When you have problems or troubles, how often do you talk them over with the person closest to you (in the past year)?</td>
<td>10</td>
<td>44</td>
<td>46</td>
</tr>
<tr>
<td>7. How often is the person closest to you (in the past year) there when you need them?</td>
<td>5</td>
<td>25</td>
<td>70</td>
</tr>
</tbody>
</table>

Consistent with the subjective reports of ongoing social difficulties, there were significant relationships found between SSS scores and distress scores (Table 67). Avoidance symptom scores were more strongly negatively correlated with SSS scores than intrusion symptom scores, yielding a significant moderate, negative correlation between social support and distress overall. That is, those less well supported were
significantly more likely to report higher levels of distress.

Table 67: The correlations between SSS scores and IES scores

<table>
<thead>
<tr>
<th></th>
<th>males N=41</th>
<th>females N=37</th>
<th>total N=78</th>
</tr>
</thead>
<tbody>
<tr>
<td>IES intrusion</td>
<td>-0.289</td>
<td>-0.430**</td>
<td>-0.289**</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>-0.327*</td>
<td>-0.493**</td>
<td>-0.328**</td>
</tr>
<tr>
<td>IES total</td>
<td>-0.295</td>
<td>-0.483**</td>
<td>-0.328**</td>
</tr>
</tbody>
</table>

* p<0.05 ** p<0.01

This relationship was confirmed by comparing the SSS means for distress scores higher than or equal to 30, t=-2.670, df=76, p<0.01. Analysis of this relationship on the basis of the sex of the respondents showed that females had significant negative moderate relationships between social support and distress, on both intrusion and avoidance scores, whereas males only had a significant small negative relationship between social support and distress on avoidance scores (Table 67). These findings provide evidence of a significant small to moderate negative relationship between distress symptoms, and social support, consistent with the findings of other research studies.

This relationship was also found for those reporting ongoing psychological difficulties. Comparing means on the SSS according to whether respondents were experiencing ongoing psychological difficulties or not, a significant relationship was found (t=-2.356, df=74) suggesting that those who were experiencing ongoing psychological difficulties were significantly more likely to report experiencing less social support.

One relationship between growth and social support was noted - on the factor ‘relating to others’, r(79)=0.275. This significant small positive relationship may indicate consistency in reporting, where those reporting growth in the area of relating to others were simultaneously experiencing higher levels of social support.

**Changes in Relationships**

While the SSS provided a quantitative measure of a number of areas and functions of social support, the respondents were also asked about perceived changes in
relationships generally as a result of the accident. The majority of respondents (76.9%, N=78) reported experiencing changes in their relationships, varying from some change for some, to massive change for others.

Less than one quarter of the respondents (23.1%) reported that they had experienced no change in their relationships. This was slightly more so for males (26%) than for females (19.4%). Of these respondents reporting no change in their relationships, five provided comment. Three of these comments referred to either the continuation of positive, strong, supportive social environments, or recognizing that this was there for them if they needed it. Two of the comments were neutral in that little effect of the accident on relationships was noted.

To illustrate:

wonderful support from family and friends

I live in a perfectly happy environment

28.2% of respondents reported some change in their relationships, with females (30.6%) slightly more likely to report this degree of change than males (26%). Fifteen of these respondents provided comment about their experiences. Five of these comments were considered to be positive in that four respondents referred to ‘closer’, ‘stronger’ or ‘better’ relationships and one referred to positive changes in self, in terms of becoming a calmer person. On the other hand, three respondents referred to changes in behaviour (of self or others), one to loss of contact and one to increased stress, thus indicating negative changes. The four positive and negative comments reflected both gains and losses in relationships, while the one neutral comment referred to the occasional need for a hug but otherwise very little change.

To illustrate:

(a) some positive change

Became a calmer person. Less aggression in my voice.
I felt closer to the people that showed how much they cared for me. When I was in hospital and the rehabilitation centre, I felt very lucky to have my family and friends.

I have become a lot closer with my family and found out who my true friends really are and they all mean the world to me since the accident.

(b) some negative change

My sister was involved in my car accident. Therefore there was a level of closeness at the time which is now the complete opposite.

I am probably less confiding, spontaneously.

Less tolerant and more impatient especially with partner and family.

(c) some negative and positive change

See less of my friends - due to job change. More of family

Take more care on road and become annoyed at others who blatantly take unnecessary risks for little gain

28.2% reported a lot of change, again with females (30.6%) slightly more likely to do so than males (26%). Eleven of these respondents provided comment. Of the negative comments, two referred to a loss of contact with people, two referred to changes in self or behaviour, and one referring to increased stress. Two comments were positive, referring to more open relationships and to new opportunities. Four were reporting both negative and positive changes, again referring to losses and gains in relationships.

To illustrate:

(a) a lot of negative change

Retirement from teaching therefore losing daily contact with friends.

I don’t associate with my folk, brother and sister at all. Also my best friend has disappeared.
(b) a lot of positive change

*new job. Undertake further education. Different outlook on life.*

*I feel I’m more inclined to discuss things and feelings with family and friends more regularly and openly.*

(c) a lot of both negative and positive change

*I can no longer do what I used to so now I have to take a more thoughtful deliberate approach to everything I do.*

20.5% of the respondents reported *massive changes*, with males (21%) slightly more likely to do so than females (19%). Twelve of these respondents provided comments, which were predominantly negative. These negative comments referred, in three instances, to loss of contact, in five instances to changes in self or behaviour and in two instances to increased stress. The one positive comment referred to being a lot closer to family and to gaining respect.

To illustrate:

massive negative change

*Drinking to excess. Mood swings. Depression/personality changes*

*The change does vary with the people. On a surface level it is only small - the closer the relationship - the greater the change.*

*My now husband and I do not have sexual experience hardly any more because I don’t want to.*

*Have not seen any family members for over 12 months and friends and wife have left.*

*I don’t like visit friends and family and I don’t like them to come to me my husband told them the reason: I can’t serve them according to our tradition, talking I have nothing to say. I don’t go out unless very necessary as going to doctor. I saw nothing and there is no topic.*

*I feel my own relationships have changed dramatically over the almost 3 yr*
To gain an understanding of the direction of the changes, all the comments made (N=42) were coded. 48% were coded as negative, 26% as positive, 7% as neutral, and 19% as being both negative and positive (Table 68). What is important to note is that 26% of the comments were about positive changes in relationships, as well as the perhaps more predictable 48% of comments highlighting negative changes. That is, not all the change that takes place in relationships as a result of trauma is negative. The potential for perceiving benefits is evident in these findings for a small percentage of the overall sample.

<table>
<thead>
<tr>
<th>perceived degree of change</th>
<th>negative</th>
<th>positive</th>
<th>negative and positive</th>
<th>neutral</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>no change</td>
<td>0%</td>
<td>7%</td>
<td>0%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>some change</td>
<td>12%</td>
<td>12%</td>
<td>9.5%</td>
<td>2%</td>
<td>36%</td>
</tr>
<tr>
<td>a lot of change</td>
<td>12%</td>
<td>5%</td>
<td>9.5%</td>
<td>0%</td>
<td>26%</td>
</tr>
<tr>
<td>massive change</td>
<td>24%</td>
<td>2%</td>
<td>0%</td>
<td>0%</td>
<td>26%</td>
</tr>
<tr>
<td>total</td>
<td>48%</td>
<td>26%</td>
<td>19%</td>
<td>7%</td>
<td>100%</td>
</tr>
</tbody>
</table>

As Table 69 (overleaf) illustrates, the strongest significant relationship between variables was found in the relationship between reports of changes in relationships and distress (r(77)=0.681).

For males, correlations were higher on changes in relationships and intrusion scores than for avoidance scores leading to a significant positive strong correlation between total distress scores and perceived changes in relationships (r(41)=0.720).

For females, significant strong positive correlations were found between distress scores and perceived changes in relationships, with the correlation between avoidance scores and changes being higher than the correlation between intrusion scores. Overall, there was a strong positive significant correlation between changes in relationships and subjective distress symptoms (r(36)=0.647).

This relationship, between changes in relationships and distress, needs much greater analysis. Given that not all of the ‘massive’ changes in relationships were perceived to be negative, this finding may suggest that it is the experience of change per se, rather
than necessarily positive or negative experiences of change, that leads to distress. The disruptive influence of change may perpetuate the disruptive influence of traumatic life events.

Table 69: The significant* correlations between IES scores & ratings of changes in relationships

<table>
<thead>
<tr>
<th></th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>IES intrusion</td>
<td>0.762</td>
<td>0.644</td>
<td>0.709</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>0.589</td>
<td>0.647</td>
<td>0.611</td>
</tr>
<tr>
<td>IES total</td>
<td>0.720</td>
<td>0.647</td>
<td>0.681</td>
</tr>
</tbody>
</table>

*all at p<0.01

Consistent with the above finding, there was a significant relationship between reports of ongoing psychological difficulties and perceived changes in relationships (t=4.524, df=73, p<0.01).

In addition to a significant relationship existing between perceived changes in relationships and distress, a significant small positive relationship was found between changes in relationships and reports on one growth factor, ‘new possibilities’ (r(78)=0.335, p<0.01). On closer examination, this was found to arise from a significant moderate positive correlation for males’ scores (r(42)=0.487, p<0.01). Thus, males who were more likely to report changes in relationships were significantly more likely to report change in the area of ‘new possibilities’.

**EXTERNALISING THE PERCEPTION OF COPING**

The vast majority of respondents (81%, N=79) thought that others would perceive them to be coping either *well* or *extremely well*. This perception was qualified in a number of significant ways by the comments.

More than half of the respondents (57%) thought that others would perceive them to be coping *extremely well*, with males (62%) more likely to report this than females (51%). This difference was not statistically significant ($\chi^2=2.699$ df=3 $p>0.05$). Twenty two respondents provided further comment as to the basis for their perception. Half of these respondents thought that others would perceive them to be coping extremely well because, in fact, they saw themselves as coping extremely
well. Therefore there was a consistent internal and external perception of coping.

To illustrate:

*I don’t really have any hang ups over it, more so I have new resolves and goal, which have stemmed from it.*

*They haven’t been there, they haven’t earned the t-shirt and they have NO idea how demeaning and depersonalising as well as disempowering this type of incident can render a person.*

*My friends and family have seen me in and out of hospital in the last 41/2 years. Have seen the highs and lows and believed that my strength is remarkable.*

*I was a very independent person - I have had to learn to be interdependent. My family are all very busy. I have had to ‘befriend’ myself - when others are not available. I had done pain management so that helped (I have had chronic pain for many years before hand).*

*The accident really hasn’t scarred me at all mentally. I have got over the accident and just got on with living life. However, the physical side of it is a long haul, and I still work on injured areas.*

Just under one quarter (24.1%) of the respondents thought others would perceive them to be coping well, with females (32.4%) more likely than males (16.7%) to report this. Of the ten respondents who provided comment, three reported that it was context-dependent. Three other respondents referred to the perception that they were coping well being a facade as to how they really were. Two reported issues related to living with ongoing pain, one reported that they perceived themselves to have already recovered and another reported that those around them were consumed by their own problems, and therefore oblivious to theirs.

To illustrate:

*They do say how well I look even though they do know of the back pain*

*Very dependent on differentiation between work and home environments*

*I have learned to live with back pain*
It really for me depends upon which ‘others’ are being referred to. At present I feel relatively comfortable ‘being myself’ around about 3 people, who I imagine would see me as coping not as well as others that I interact with

My family and friends have got their own problems to deal with

I feel I am well and truly over the accident. I would like to think people think I am coping well

12.7% of respondents thought others would perceive them to be coping adequately, with slightly more males (14.3%) than females (10.8%) reporting this. Of the five responses provided, two reported that it was context-dependent. That is, it depended on who they were with as to how they would be perceived to be coping. Another two reported that due to ongoing pain, they were perceived to only be coping adequately. One reported that they were perceived to be coping adequately, with age issues rather than accident issues being of concern to others.

To illustrate:

some people say I am managing OK

24 hour pain is a constant reminder. How would you deal with it?

It all depends on who you are with. Family they would know by your mood. Others would just guess?

At the other end of the spectrum, 6.3% of the respondents thought that others would perceive them to be coping poorly. The four comments provided by those who were in this category reflected the fact that they had had direct feedback from people around them to this effect.

To illustrate:

family have told me

Seen to be affected by head injury concerning memory. Family won’t let me have my guns to shoot (a lifetime sport). Considered unstable, ‘imagination of conspiratorial’27 nature’ against me.

27 It is assumed that this respondent was referring to ‘conspiratorial’ but their original word is retained.
“It’s easier to say I’m fine”

An important factor to emerge from these comments was a ‘facade’ factor. 22% of respondents overall expressed the fact that in some way they were maintaining a facade or experiencing their recovery privately from others, such that others would not know what they were dealing with in their daily lives. The privacy of the pain, both emotional and physical, that was being experienced was powerfully evident in these respondents’ stories.

To illustrate:

- Others may see me appear to cope well, but they do not know the physical and psychological effects which prevent me leading a normal life

- I appear to be coping better than I really am

- This is because I project this image as I still feel guilt and don’t want people to worry too much. I do cope well most of the time but not ALL the time.

- People say I’ve coped pretty well but I don’t let much on as I don’t want sympathy - that’s not what I need

- Because I get around quite normally (like everybody else) people often tell me how well I’m going, however, they don’t know (or can’t see) the constant pain that I get in my shoulder. When people ask how I am, I find it’s easier to say I’m fine, than to tell them of the constant pain and the frustration I feel due to the disability in my left arm

- People make judgements on what they can physically see happening. They do not have any understanding of what lies underneath the physical appearance unless they are told, and then unless they have had the experience themselves understanding is lacking at times.

A significant positive moderate relationship was found between how others would perceive respondents to be coping and IES scores, r(78)=0.484 p<0.01. That is, those less likely to report others as seeing them cope well were more likely to report higher distress levels. No significant relationship, however, was found between reports of how others would perceive respondents to be coping and ongoing psychological difficulties, t=1.740, df=74, p>0.05 (see Table 70).
Table 70: The relationships between perceptions of coping and distress scores

<table>
<thead>
<tr>
<th></th>
<th>males N=41</th>
<th>females N=37</th>
<th>total N=78</th>
</tr>
</thead>
<tbody>
<tr>
<td>IES intrusion</td>
<td>0.362*</td>
<td>0.508**</td>
<td>0.442**</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>0.458**</td>
<td>0.541**</td>
<td>0.490**</td>
</tr>
<tr>
<td>IES total</td>
<td>0.406**</td>
<td>0.537**</td>
<td>0.484**</td>
</tr>
</tbody>
</table>

*p<0.05  ** p<0.01

As with ongoing social difficulties, there were no significant relationships found between reports of how others would perceive respondents to be coping and perceptions of growth. Those who were more likely to report growth were no more likely to report that others would see them as coping extremely well..
FORMAL SOURCES OF SUPPORT

This section addresses the formal systems and sources of support mediating the recovery experience - whether counselling was available, and the legal and financial implications of the accident.

COUNSELLING ISSUES

Chapter Four highlighted the many complex issues associated with posttrauma counselling. As Table 71 shows, more than half of the 56% of respondents had attended counselling at some point in time in relation to their accident. Females were slightly more likely to report attending counselling than males. This difference was not statistically significant ($\chi^2=0.399$, df=1, p>0.05). This is noteworthy, given the female bias that typically exists amongst those who present for counselling.

The overall rate of participation in counselling is low in that all the respondents should have had contact with at least the Unit’s psychologist, if not the social worker, at some point in the rehabilitation process. This was the Unit’s practice at the time.

<table>
<thead>
<tr>
<th>counselling re the accident?</th>
<th>males N=42</th>
<th>females N=37</th>
<th>total N=79</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>52.4%</td>
<td>59.5%</td>
<td>56%</td>
</tr>
<tr>
<td>no</td>
<td>47.6%</td>
<td>40.5%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Of those who indicated how many sessions they had attended (N=42), 17% had attended one session only, 36% had attended 2-6 sessions, 40% had attended 6+ sessions and 7% were continuing to be involved in counselling.

Of the 24 comments that were provided, four were made by respondents who had not had counselling. In two instances, it had been an assessment only, in one, the respondent didn’t remember if they’d had counselling, and one other reported that they had not been advised about counselling.
For the 20 respondents who provided comment, and who had had counselling, three of the comments related to the time frame in which they took place and another three commented that they had had an assessment only. Two respondents reported negative experiences, four reported mixed positive and negative experiences, and eight respondents reported positive experiences and specific benefits from counselling.

To illustrate:

(a) negative counselling experiences

*Psychologists are there simply to ask stupid questions. It was better to talk to other rehab clients*

(b) positive and negative experiences

*Psychologist not so good but current psychiatrist helpful*

*I spoke to a psychiatrist for 1 hr but I feel if I had seen them more often it would have been more beneficial to me.*

(c) positive experiences

*Help to let some anger/frustration out at the time. Accept my situation*

*At first I didn’t believe I had a problem, till my physio talked me into giving it a shot*

*It helped me to understand why I was feeling the way I was about certain issues*

*Couldn’t have coped without these sessions*

*Gave me strategies to use to deal with difficult times I was going through Allowed me to cry a lot and it didn’t matter*

Those who attended counselling were significantly more likely to report distress symptoms (refer to Table 72) - for intrusion ($t=2.608 \text{ df}=76$), avoidance ($t=2.659, \text{ df}=76$) and total IES scores ($t=2.738, \text{ df}=76$). This relationship between the negative consequences of the accident and the experience of counselling was also reflected in the significant relationship between those reporting attending counselling and
reporting ongoing psychological difficulties, $\chi^2=11.135$ df=1, p<0.01. This finding is seemingly counterintuitive given that the intended outcome of counselling would presumably be less distress rather than more. Chapter Twelve addresses these issues.

<table>
<thead>
<tr>
<th>Table 72: The relationships between having counselling and IES scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>had counselling</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td><strong>males</strong></td>
</tr>
<tr>
<td>IES intrusion</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>IES avoidance</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>IES total</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td><strong>females</strong></td>
</tr>
<tr>
<td>IES intrusion</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>IES avoidance</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>IES total</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td><strong>total</strong></td>
</tr>
<tr>
<td>IES intrusion</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>IES avoidance</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>IES total</td>
</tr>
<tr>
<td>no</td>
</tr>
</tbody>
</table>

Those who had counselling were also significantly more likely to report growth on two PTGI factors - ‘new possibilities’ and ‘spiritual change’, thus growth overall (see Table 73). This was found to be a result of significant differences for females. All of the factors for females, with the exception of ‘relating to others’, were found to have significantly higher means when examined for the experience of counselling - ‘new possibilities’ ($t=2.931$, df=32), ‘personal strength’ ($t=2.285$, df=35), ‘spiritual change’ ($t=2.341$, df=34), ‘appreciation of life’ ($t=2.050$, df=35) and therefore overall growth ($t=2.841$, df=35).
Table 73: The relationship between having counselling and PTGI scores

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>had counselling</th>
<th>N</th>
<th>mean</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
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<td>22</td>
<td>14.86</td>
<td>0.719</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>13.85</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>22</td>
<td>7.59</td>
<td>0.446</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>5.85</td>
<td></td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>22</td>
<td>7.95</td>
<td>0.600</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>8.80</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>22</td>
<td>2.23</td>
<td>0.178</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>22</td>
<td>7.23</td>
<td>0.553</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>8.15</td>
<td></td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>22</td>
<td>39.86</td>
<td>0.765</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>37.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>22</td>
<td>22.18</td>
<td>0.061</td>
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<tr>
<td></td>
<td>no</td>
<td>15</td>
<td>16.27</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>22</td>
<td>10.91</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>15</td>
<td>5.07</td>
<td></td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>22</td>
<td>12.64</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>15</td>
<td>8.07</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>22</td>
<td>4.86</td>
<td>0.017</td>
</tr>
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<td>no</td>
<td>15</td>
<td>1.79</td>
<td></td>
</tr>
<tr>
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<td>yes</td>
<td>22</td>
<td>10.23</td>
<td>0.048</td>
</tr>
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<td>no</td>
<td>15</td>
<td>7.27</td>
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<td>22</td>
<td>60.82</td>
<td>0.007</td>
</tr>
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<td></td>
<td>no</td>
<td>15</td>
<td>38.33</td>
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</tr>
<tr>
<td></td>
<td>total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>yes</td>
<td>44</td>
<td>18.52</td>
<td>0.092</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>35</td>
<td>14.89</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>44</td>
<td>9.25</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>35</td>
<td>5.51</td>
<td></td>
</tr>
<tr>
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<td>yes</td>
<td>44</td>
<td>10.30</td>
<td>0.170</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>35</td>
<td>8.49</td>
<td></td>
</tr>
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<td>yes</td>
<td>44</td>
<td>3.55</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>35</td>
<td>1.35</td>
<td></td>
</tr>
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<td>appreciation of life</td>
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<td>44</td>
<td>8.73</td>
<td>0.379</td>
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<td>35</td>
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<td>yes</td>
<td>44</td>
<td>50.34</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>35</td>
<td>37.97</td>
<td></td>
</tr>
</tbody>
</table>

For those who attended counselling, they were asked to indicate whether this counselling support had been helpful or not. Of this sub-sample (n=41) who had participated in counselling, 76% reported that it had been helpful (Table 74).

Table 74: The percentage of respondents who found counselling helpful

<table>
<thead>
<tr>
<th></th>
<th>males N=20</th>
<th>females N=21</th>
<th>total N=41</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>75%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>no</td>
<td>25%</td>
<td>24%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Those who had found counselling helpful were no more likely to report distress than those who had found it unhelpful, t=1.512, df=38, p>0.05\(^{28}\). That is, there may be no

\(^{28}\) Although intrusion scores were nearing significance, t=1.936, df=38, p=0.06.
bias in terms of ongoing distress and the capacity for counselling to be effective or not.

For those who reported that counselling had been helpful, a number of significant relationships were found between growth experiences. Significant relationships between finding counselling helpful were found for ‘relating to others’ (t=2.200, df=39), ‘new possibilities’ (t=3.209, df=30, p<0.01) and ‘spiritual change’ (t=3.090, df=31). This led to a significant relationship overall between growth and finding counselling helpful (t=2.382, df=39).

Table 75: The relationships between finding counselling helpful and PTGI scores

<table>
<thead>
<tr>
<th>PTGI factor</th>
<th>counselling helpful</th>
<th>N</th>
<th>mean</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>15</td>
<td>16.60</td>
<td>0.114</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>9.20</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>15</td>
<td>9.53</td>
<td>0.011</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>15</td>
<td>8.93</td>
<td>0.044</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>15</td>
<td>2.67</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>appreciation of life</td>
<td>yes</td>
<td>15</td>
<td>7.67</td>
<td>0.322</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>5.20</td>
<td></td>
</tr>
<tr>
<td>total growth score</td>
<td>yes</td>
<td>15</td>
<td>45.40</td>
<td>0.051</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>21.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relating to others</td>
<td>yes</td>
<td>16</td>
<td>23.63</td>
<td>0.131</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>16.40</td>
<td></td>
</tr>
<tr>
<td>new possibilities</td>
<td>yes</td>
<td>16</td>
<td>11.88</td>
<td>0.141</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>5.80</td>
<td></td>
</tr>
<tr>
<td>personal strength</td>
<td>yes</td>
<td>16</td>
<td>12.75</td>
<td>0.553</td>
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<tr>
<td></td>
<td>no</td>
<td>5</td>
<td>10.80</td>
<td></td>
</tr>
<tr>
<td>spiritual change</td>
<td>yes</td>
<td>16</td>
<td>5.50</td>
<td>0.056</td>
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<td></td>
<td>no</td>
<td>5</td>
<td>2.00</td>
<td></td>
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<td>16</td>
<td>10.13</td>
<td>0.924</td>
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<td>no</td>
<td>5</td>
<td>9.80</td>
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<td>16</td>
<td>63.88</td>
<td>0.155</td>
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<td>5</td>
<td>44.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>yes</td>
<td>31</td>
<td>20.23</td>
<td>0.034</td>
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<td>no</td>
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<td>12.80</td>
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<td>0.107</td>
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<td>no</td>
<td>10</td>
<td>7.40</td>
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<td>4.13</td>
<td>0.004</td>
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<td></td>
<td>no</td>
<td>10</td>
<td>1.10</td>
<td></td>
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<td>yes</td>
<td>31</td>
<td>8.94</td>
<td>0.419</td>
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<td>10</td>
<td>7.50</td>
<td></td>
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<tr>
<td>total growth score</td>
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<td>31</td>
<td>54.94</td>
<td>0.022</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>10</td>
<td>32.90</td>
<td></td>
</tr>
</tbody>
</table>

That is, those who perceived counselling to be helpful were those who reported experiencing significantly more posttraumatic growth, specifically in the areas of
‘relating to others’, ‘new possibilities’ and ‘spiritual change’. Whether this growth is an outcome of finding counselling helpful, or whether those who were able to perceive more growth were more likely to find such an insight-oriented process such as counselling more helpful remain unanswered, but important, questions.

For more than half of the respondents (56%) counselling began in the first or second week after the accident. In the following 2-8 weeks, a further 23% received counselling, such that 79% of those who were to receive counselling had done so by the end of two months after their accident. A small percentage, 5% of respondents, began counselling up to a year after their accident.

Table 76: The time frames in which counselling commenced

<table>
<thead>
<tr>
<th>Time Frames</th>
<th>Males (N=22)</th>
<th>Females (N=21)</th>
<th>Total (N=43)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 weeks</td>
<td>54.5%</td>
<td>57%</td>
<td>56%</td>
</tr>
<tr>
<td>2-8 weeks</td>
<td>23%</td>
<td>23.8%</td>
<td>23%</td>
</tr>
<tr>
<td>9-24 weeks</td>
<td>9%</td>
<td>9.5%</td>
<td>9%</td>
</tr>
<tr>
<td>6-12 months</td>
<td>9%</td>
<td>4.7%</td>
<td>7%</td>
</tr>
<tr>
<td>12+ months</td>
<td>4.5%</td>
<td>4.7%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Who provided the counselling?

Respondents (N=45) identified a range of professionals who provided counselling throughout their rehabilitation, with many identifying more than one counsellor (refer to Table 77). The most frequently endorsed professional groups providing counselling were psychologists (73%) and rehabilitation counsellors (38%). Social workers (29%), psychiatrists (27%) and general practitioners (24%) were then endorsed, with only a few seeing either clergy (9%) or ‘other’ (4%), identified as family and friends in one instance.

Table 77: The number of individuals identified as providing counselling

<table>
<thead>
<tr>
<th>Number of Professionals seen</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>44.5%</td>
</tr>
<tr>
<td>2</td>
<td>22.2%</td>
</tr>
<tr>
<td>3</td>
<td>17.8%</td>
</tr>
<tr>
<td>4</td>
<td>6.7%</td>
</tr>
<tr>
<td>5</td>
<td>0%</td>
</tr>
<tr>
<td>6</td>
<td>2%</td>
</tr>
<tr>
<td>7</td>
<td>6.7%</td>
</tr>
</tbody>
</table>
Under half the respondents were seeing one health professional for counselling, and the other 55% of respondents were seeing two or more in this counselling role. The nature of the counselling that takes place is an important issue to be addressed in trauma work, and this sample reflects a diversity of perceived counsellors, and a diversity of perceived outcomes.

**ONGOING LEGAL DIFFICULTIES**

More than one third (36.5% N=74) of respondents reported ongoing legal difficulties (refer to Table 78). While more females (43%) than males (31%) reported ongoing difficulties, this difference was not statistically significant.

As discussed previously, there is a need to understand the responses to this question in view of the TAC system. This system reduces access to common law procedures unless someone has acquired more than a 30% permanent impairment after 18 months have elapsed or their injuries are considered to have stabilized. Given that 20% of this sample reported that their impairment assessment levels were >30%, the number reporting ongoing legal difficulties is 16.5% more than those who are eligible to, at this point in time, take legal action. Many may still be in the process of finalizing an impairment assessment and whether or not there are subsequent legal proceedings. It may be that not all legal difficulties were related specifically to the accident.

| Table 78: The percentage of males and females experiencing ongoing legal difficulties |
|----------------------------------|------------------|-----------------|------------------|
|                                  | males N=39       | females N=35    | total N=74       |
| yes                              | 31%              | 43%             | 36.5%            |
| no                               | 69%              | 57%             | 63.5%            |

In addition to indicating whether or not they were experiencing ongoing legal difficulties, fourteen respondents also provided comment. Of the twelve who were experiencing ongoing legal difficulties, three made direct reference to issues with TAC, five made reference to issues with ongoing compensation or impairment assessment processes, two made reference to court processes and two made reference to legal issues relating to family or driving.
To illustrate:

*Me v’s TAC*

*I have a pending court case*

*bloody wife and Hatchet man*

*Under the law I cannot sue the other driver unless given permission by the TAC*

As with the other zones of ongoing difficulty, there was a significant relationship between reports of ongoing legal difficulties and higher distress levels (Table 79). Significant (at $p<0.01$) differences in means were found for those with ongoing legal difficulties on intrusion ($t=2.810$, df=72), avoidance ($t=2.693$, df=72) and total IES scores ($t=2.858$, df=72). This was not replicated in a relationship between reports of ongoing legal difficulties and ongoing psychological difficulties, $\chi^2=2.800$, df=1, $p>0.05$.

Table 79: The relationships between ongoing legal difficulties and IES scores

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>males</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion</td>
<td>yes</td>
<td>12</td>
<td>16.50</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>27</td>
<td>9.11</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>yes</td>
<td>12</td>
<td>11.42</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>27</td>
<td>6.37</td>
</tr>
<tr>
<td>IES total</td>
<td>yes</td>
<td>12</td>
<td>27.92</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>27</td>
<td>15.48</td>
</tr>
<tr>
<td><strong>females</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion</td>
<td>yes</td>
<td>15</td>
<td>15.87</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>10.35</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>yes</td>
<td>15</td>
<td>15.13</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>8.80</td>
</tr>
<tr>
<td>IES total</td>
<td>yes</td>
<td>15</td>
<td>31.00</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>20</td>
<td>19.15</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion</td>
<td>yes</td>
<td>27</td>
<td>16.15</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>47</td>
<td>9.64</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>yes</td>
<td>27</td>
<td>13.48</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>47</td>
<td>7.40</td>
</tr>
<tr>
<td>IES total</td>
<td>yes</td>
<td>27</td>
<td>29.63</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>47</td>
<td>17.04</td>
</tr>
</tbody>
</table>

When comparing reports of ongoing legal difficulties with distress scores greater than 20, a significant relationship was found for females ($\chi^2=5.042$, df=1) but not for males ($\chi^2=2.892$, df=1, $p>0.05$). However, when distress scores greater than or equal to 30 were examined, no significant relationship was found for either males
(χ²=0.538, df=1, p>0.05) or females (χ²=3.850, df=2, p>0.05). That is, ongoing legal difficulties were associated with moderate distress for females only but not with higher levels of distress.

No significant relationship was found between those experiencing ongoing legal difficulties and reports of growth.

Thus, ongoing legal difficulties were associated with experiences of distress but not with either experiences of ongoing psychological difficulties or growth.

**ONGOING FINANCIAL DIFFICULTIES**

More than half of the respondents (53% N=77) were experiencing ongoing financial difficulties as a result of the accident (refer to Table 80). More females (58.3%) than males (48.8%) were experiencing difficulties, although this sex difference was not statistically significant.

There was a significant difference in age (t=-2.334, df =53) for those experiencing ongoing financial difficulties, showing that younger respondents were significantly more likely to report ongoing financial difficulties than older participants. This is consistent with the financial vulnerability of those without life savings and/or without a partner who may be able to carry the burden of financial difficulties.

<table>
<thead>
<tr>
<th></th>
<th>males N=41</th>
<th>females N=36</th>
<th>total N=77</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>yes</strong></td>
<td>48.8%</td>
<td>58.3%</td>
<td>53.2%</td>
</tr>
<tr>
<td><strong>no</strong></td>
<td>51.2%</td>
<td>41.7%</td>
<td>46.8%</td>
</tr>
</tbody>
</table>

Table 80: The percentage of respondents experiencing ongoing financial difficulties

Of the sixteen respondents who provided comment, fifteen were experiencing ongoing financial difficulties and one was not. The latter respondent reported that money was not a problem, given their personal wealth. 73% of respondents who were experiencing ongoing financial difficulties commented on loss of income due to the accident and ongoing injuries, 13% commented on the associated costs incurred through having to go to the gym, purchase specialist equipment and 13% commented
on either there being no change, or ongoing unemployment causing financial hardship, especially in the instance where the person at fault had no insurance.

To illustrate:

*I have to go to the gym to maintain flexibility in my back*

*missed out on a lot of money during my rehab - as I was working two jobs. Also I had to put my education back a year - ?TAC payment.*

*I have only been compensated by TAC for only half of my pressure garments I must wear and my orthopaedic shoes that have to be built up.*

A significant relationship (p<0.01) was found between reports of ongoing financial difficulties and distress (refer to Table 81) - for intrusion scores (t=4.338, df=75), avoidance scores (t=5.704, df=75) and total IES scores (t=5.221, df=75). There was also a significant relationship between ongoing financial difficulties and ongoing psychological difficulties, $\chi^2=12.594, df=1, p<0.01$.

Table 81: The relationships between IES scores and ongoing financial difficulties

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>males</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion</td>
<td>yes</td>
<td>20</td>
<td>17.05</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>21</td>
<td>5.76</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>yes</td>
<td>20</td>
<td>13.55</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>21</td>
<td>2.90</td>
</tr>
<tr>
<td>IES total</td>
<td>yes</td>
<td>20</td>
<td>30.60</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>21</td>
<td>8.67</td>
</tr>
<tr>
<td><strong>females</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion</td>
<td>yes</td>
<td>21</td>
<td>15.57</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>15</td>
<td>9.53</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>yes</td>
<td>21</td>
<td>16.52</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>15</td>
<td>5.80</td>
</tr>
<tr>
<td>IES total</td>
<td>yes</td>
<td>21</td>
<td>32.10</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>15</td>
<td>15.33</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES intrusion</td>
<td>yes</td>
<td>41</td>
<td>16.29</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>36</td>
<td>7.33</td>
</tr>
<tr>
<td>IES avoidance</td>
<td>yes</td>
<td>41</td>
<td>15.07</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>36</td>
<td>4.11</td>
</tr>
<tr>
<td>IES total</td>
<td>yes</td>
<td>41</td>
<td>31.37</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>36</td>
<td>11.44</td>
</tr>
</tbody>
</table>

A significant relationship was found for both males and females (refer to table 82) between moderate and high IES scores, and ongoing financial difficulties.

This finding is consistent with other studies that have found financial issues are
associated with poorer mental health outcomes. This issue will be examined in Chapter Twelve, given its implications for negative consequences following trauma.

Table 82: The relationships between high IES scores and experiencing ongoing financial difficulties

<table>
<thead>
<tr>
<th>ongoing financial difficulties</th>
<th>IES≥30¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>males</td>
</tr>
<tr>
<td>yes</td>
<td>9</td>
</tr>
<tr>
<td>no</td>
<td>2</td>
</tr>
</tbody>
</table>

¹ For males, $\chi^2$=6.567, df=1, $p<0.01$ and for females, $\chi^2$=6.223, df=1

In one area of growth, ‘new possibilities’, a significant relationship was noted with reports of ongoing financial difficulties, $t$=2.7232, df=75, $p<0.01$.

Financial difficulties, therefore, were associated with experiences of distress and ongoing psychological difficulties, as well as with growth in the area of ‘new possibilities’.

A summary of the risk and protective factors in the recovery environment that have been examined in this chapter is outlined in Figure 21 overleaf.
Ongoing social difficulties

55% of respondents reported experiencing ongoing social difficulties with comments most frequently relating to the interference of physical problems or a loss of confidence. Those experiencing ongoing social difficulties were more likely to be experiencing distress symptoms and ongoing psychological difficulties, but not growth.

Social Support

High or low level of social support according to the SSS?

There was a significant relationship between both experiencing distress and ongoing psychological difficulties and social support. There was also a small significant relationship between social support and growth in the area of relating to others.

Changes in relationships

Changes in relationships were experienced by 75% of the respondents, with 28% reporting a lot of change and 20.5% reporting massive change, totalling 49.5% of respondents. Those reporting changes in relationships (both positive and negative) were more likely to be experiencing high levels of distress and ongoing psychological difficulties. A significant relationship was also found between changes in relationships and growth in the area of new possibilities.

Perceptions of coping

81% of respondents thought others would perceive them to be coping “extremely well” or “well”. 22% of respondents indicating that others would perceive them to be coping “extremely well” or “well” felt that they were masking how they really were coping. Those who think others would perceive them to be coping less well were significantly more likely to experience distress symptoms but neither ongoing psychological difficulties nor growth.

Counselling

56% of respondents had attended counselling with 76% of these respondents reporting that counselling had been helpful. By 8 weeks, 79% of those who were going to receive counselling had done so. Psychologists were reported as the most frequent providers of this counselling. Those who attended counselling were significantly more likely to report distress symptoms and ongoing psychological difficulties. They were also more likely to report growth in the area of new possibilities and spiritual change. Those who found counselling helpful were no more likely to report distress but were more likely to report growth in the areas of ‘relating to others’, ‘new possibilities’ and ‘spiritual change’

Ongoing legal and financial difficulties

36.5% of respondents reported ongoing legal difficulties and 53% reported ongoing financial difficulties. Those experiencing ongoing legal difficulties were significantly more likely to be experiencing distress, but not more likely to be experiencing growth or ongoing psychological difficulties. Those experiencing ongoing financial difficulties were significantly more likely to be reporting distress symptoms, ongoing psychological difficulties and growth in the area of new possibilities.

Figure 21: A summary of the risk and protective factors in the recovery environment
CHAPTER ELEVEN

RELATIONSHIPS BETWEEN THE FACTORS

Chapters Six to Ten examined the relationships between growth, distress and a range of other risk and protective factors. The analyses within these chapters were conceptually driven, exploring the relationships as they have been hypothesized within the literature.

The first part of this brief chapter takes this conceptualization further, to begin to examine some of the relationships existing between the risk and protective variables, not directly linked with distress and growth, to assess whether there are associations amongst the risk and protective factors themselves. This inter-relatedness of all factors within the individual and the environment is a critical aspect of the ecological understanding of trauma.

The second part of this chapter approaches the data from another perspective. Having established an overview of some of the key findings of the experience of survivors, another stage of analysis is undertaken, to establish the predictive links between the risk and protective factors, and both growth and distress.

RELATIONSHIPS BETWEEN
THE RISK AND PROTECTIVE FACTORS

Throughout the earlier data analysis, a number of variables emerged as strongly associated with distress and growth. In particular, these were the reports of changes in relationships, the reports of the event as the most traumatic life event, and the reports of ongoing difficulties in a range of zones.

---

29 This analysis was extensive and thus only the significant findings, both conceptually and statistically are reported in this chapter.
Changes in Relationships

Confirming the anticipated relationship between reports of social support and reports of changes in relationships, a significant moderate negative correlation was found, \((r(78)=-0.400, p<0.01)\). That is, those who were experiencing changes in relationships were likely to be less well supported, or perceive themselves to be receiving less social support. Again, the issue of causation or direction is important in understanding this relationship – whether changes in relationships led to the perception of less social support, or the lower social support in the first instance led to the perception of major changes in relationships. The role of social support as a protective factor is highlighted.

This interconnectedness was highlighted further in the finding that there were significant differences in means for those reporting the accident to be the most traumatic event or not, according to whether they perceived that there had been changes in relationships \((t=3.433, df=74, p<0.01)\). That is, those more likely to view the accident as the most traumatic event were also more likely to be experiencing changes in relationships, confirming the disruptive ongoing effects of trauma.

A significant moderate positive correlation was found also between reports of changes in relationships and length of time in rehabilitation, \((r(78)=0.362, p<0.01)\). The question of causation is important here, as the longer time spent in rehabilitation is presumably related to the severity of the injury sustained. Thus, inadvertently the severity of injury has an impact on relationships, and, in turn, is associated with distress.

Finally, there was a significant moderate positive correlation between how imagine coping in 5 years time and changes in relationships for both males \((r(42)=0.363, p<0.05)\) and females \((r(37)=0.467, p<0.01)\). The current perception of social support influences the projected expectations of coping in the future.
PERCEPTIONS OF TRAUMA

There were no significant findings when examining the relationship between perceiving the event as the most traumatic event, perceptions of responsibility for the accident and gender. This suggests that guilt factors were not maintaining a sense of the accident as traumatic. This may be a result of the high frequency of single vehicle accidents, or that more than half of the sample saw themselves as having very little responsibility for the accident in the first place.

There was only one significant relationship, for both males and females, between the reports of the event as the most traumatic event, and ongoing difficulties in any of the five zones of functioning (physical, social, spiritual, legal and financial). This was with reports of ongoing ongoing physical difficulties (Table 83). This is consistent with the notion that the trauma experience is kept alive by the ongoing physical difficulties encountered daily, discussed further in Chapter Twelve.

| Table 83: The relationship between physical difficulties and perceptions of trauma |
|---------------------------------|---------------------------------|-----------------|-----------------|
|                                  | most traumatic event            | ongoing physical difficulties |
|                                  | males                           | females          |
| yes                             | 31                              | 3                | 25              | 1               |
| no                              | 3                               | 3                | 6               | 4               |

For males, $\chi^2=6.782$ (df=1, $p<0.05$) and for females, $\chi^2=7.893$ (df=1, $p<0.05$).

FUTURE FANTASY

A significant relationship was found between how respondents imagine they will be coping in 5 years and the belief that they could ever get over something like this ($\chi^2=20.300$ df=10). That is, those who imagined they would be coping well or extremely well were more likely to believe that it was possible to get over something like this. Similarly, a significant relationship was found between how respondents imagine they will be coping in 5 years time and imagining they would say that they had recovered ($\chi^2=28.313$, df=10 $p<0.01$). Thus, those on a positive recovery pathway in the present, by believing they could get over something like this, were able to project themselves into a positive future fantasy.
ONGOING DIFFICULTIES

Both legal ($t=-2.427$, $df=72$) and financial ($t=-4.097$, $df=75$) difficulties were significantly related to lower social support scores (Table 84). Those who were experiencing ongoing social difficulties were also significantly more likely to be experiencing lower levels of social support, $t=-4.915$, $df=64$. These findings highlight the fact that for those experiencing difficulty, there was a complex interconnectedness or chain of risk factors, in contrast to Werner’s (1995) notion of a chain of protective factors.

Table 84: The relationships between areas of ongoing difficulty and SSS scores

<table>
<thead>
<tr>
<th>zone of difficulty</th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>social difficulty</td>
<td>yes</td>
<td>42</td>
<td>8.05</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>34</td>
<td>10.41</td>
</tr>
<tr>
<td>legal difficulty</td>
<td>yes</td>
<td>27</td>
<td>8.15</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>47</td>
<td>9.77</td>
</tr>
<tr>
<td>financial difficulty</td>
<td>yes</td>
<td>41</td>
<td>8.15</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>36</td>
<td>10.19</td>
</tr>
</tbody>
</table>

Legal ($t=2.778$, $df=71$) and financial ($t=4.480$, $df=74$) difficulties were also both significantly related to changes in relationships, as Table 85 shows.

Table 85: the relationship between changes in relationships and zones of difficulty

<table>
<thead>
<tr>
<th>zone of difficulty</th>
<th>N</th>
<th>mean</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>legal difficulty</td>
<td>yes</td>
<td>26</td>
<td>5.73</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>47</td>
<td>3.68</td>
</tr>
<tr>
<td>financial difficulty</td>
<td>yes</td>
<td>40</td>
<td>5.80</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>36</td>
<td>2.89</td>
</tr>
</tbody>
</table>

For females, there was a significant relationship between perceiving the event to be the most traumatic event and ongoing financial difficulties, $\chi^2=4.573$ $df=1$. Given the female gender bias in some of the earlier findings relating to distress, this socioeconomic loss as a result of the accident may be an underestimated one.

Reports of ongoing physical difficulties were also significantly related to reports of how the respondents perceived themselves to be coping in five years time, as Table 86 illustrates. Once again, the future fantasy is influenced by the present functioning.
Table 86: The relationship between physical difficulties and perceptions of future coping

<table>
<thead>
<tr>
<th></th>
<th>ongoing physical difficulties</th>
<th>no ongoing physical difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=65</td>
<td>N=10</td>
</tr>
<tr>
<td>extremely well</td>
<td>29.2%</td>
<td>70.0%</td>
</tr>
<tr>
<td>well</td>
<td>29.2%</td>
<td>20.0%</td>
</tr>
<tr>
<td>adequately</td>
<td>20.0%</td>
<td>0</td>
</tr>
<tr>
<td>poorly</td>
<td>7.7%</td>
<td>0</td>
</tr>
<tr>
<td>cannot imagine</td>
<td>13.8%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

These findings begin to fill some of the gaps within the previous chapters of data analysis, as they highlight the interactive nature of risk and protective factors. Various conclusions about these findings will be drawn in Chapter Twelve.

**REGRESSION ANALYSES**

Stepwise regression analyses were conducted for both distress and growth dependent scores. A further analysis was conducted to determine the predictors of low distress scores, where the IES total score was less than 9.

**Predictors of distress**

A linear (stepwise) regression analysis was conducted on all the conceptually appropriate numeric variables and distress. In the regression model, three variables were found to be significantly associated with distress - changes in relationships, social support and growth (Table 87). These three factors accounted for 47% of the variance ($R^2 = 0.474$).

Table 87: The predictors of distress

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model</td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Constant</td>
<td>26.270</td>
<td>8.836</td>
<td>0.004</td>
</tr>
<tr>
<td>changes in relationships</td>
<td>2.590</td>
<td>0.648</td>
<td>0.000</td>
</tr>
<tr>
<td>Social Support Scale</td>
<td>-2.655</td>
<td>0.830</td>
<td>0.002</td>
</tr>
<tr>
<td>total PTGI score</td>
<td>0.188</td>
<td>0.071</td>
<td>0.011</td>
</tr>
</tbody>
</table>

These findings suggest that the experience of distress in the aftermath of road trauma was associated with changes in relationships, with lower social support and to a lesser
extent, with reports of posttraumatic growth. This finding was consistent with the associations found in previous chapters, highlighting the way in which lower social support or changes in social support are risk factors for distress. The finding that reports of growth were predictive of distress will be examined more closely in Chapter Twelve.

By way of contrast, a logistic regression was conducted on all relevant variables and low IES scores (Table 88). In this regression model, two variables were significantly and negatively associated with low distress - ongoing psychological difficulties and ongoing social difficulties. Again, social support factors were playing an important function – with ongoing social difficulties predictive of higher distress scores.

Table 88: Predictors of low distress scores

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>Std. Error</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.067</td>
<td>0.450</td>
<td>0.018</td>
</tr>
<tr>
<td>Ongoing psychological difficulties</td>
<td>-1.968</td>
<td>0.677</td>
<td>0.004</td>
</tr>
<tr>
<td>Ongoing social difficulties</td>
<td>-1.845</td>
<td>0.706</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Predictors of growth

In the linear (stepwise) regression model for growth, four variables were significantly associated with growth - optimism, distress, social support and the degree to which respondents felt responsible for the accident (Table 89). These four variables accounted for 40% of the variance ($R^2 = 0.399$).

Table 89: Predictors of growth

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>Std. Error</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>-29.944</td>
<td>13.602</td>
<td>0.031</td>
</tr>
<tr>
<td>LOT-R (total)</td>
<td>1.758</td>
<td>0.500</td>
<td>0.001</td>
</tr>
<tr>
<td>IES - intrusion</td>
<td>1.069</td>
<td>0.270</td>
<td>0.000</td>
</tr>
<tr>
<td>SSS</td>
<td>3.453</td>
<td>1.139</td>
<td>0.003</td>
</tr>
<tr>
<td>responsible for accident</td>
<td>3.726</td>
<td>1.551</td>
<td>0.019</td>
</tr>
</tbody>
</table>

These findings suggest that the experience of growth in the aftermath of road trauma was associated with optimism, distress, social support and the degree to which respondents felt responsible for the accident. To some extent, optimism is a logical
determinant of growth, although the difficulties with this association were noted in Chapter Two. Social support again has a protective effect in promoting growth. The two other predictor variables, reports of distress and responsibility for the accident are perhaps less easily interpreted, and are both discussed further in Chapter Twelve.
CHAPTER TWELVE

EXPERIENCES OF PSYCHOSOCIAL RECOVERY

This final chapter begins with a discussion of some of the methodological strengths and weaknesses. Within this methodological context, it then draws together the major findings of the research into a number of core themes of the recovery experience. The chapter concludes with a discussion of the implications for social work practice.

METHOD ISSUES

There were a number of significant strengths and limitations relating both to the sample itself, and the method adopted for this research, which have inevitably influenced the findings. Each of these areas will be briefly considered.

(A) THE STRENGTHS OF THE SAMPLE

Nearly one third of an accessible cohort from 3-4 years ago, all of whom were potentially traumatized by the experience, chose to participate. Many of them had not had contact with the VRC for at least three and a half years. Many road trauma survivors are known to have a difficult relationship with the TAC, in particular, and also the VRC, an issue raised in the pilot phase of the research. None of them knew the researcher. Given these strong deterrents to participation, as well as the time that had elapsed since the experience, there were concerns as to whether it would be possible to engage many in the research.

Those who chose to participate were prepared to disclose a vast amount of information about their circumstances and their personal experiences. There was a consistently high response rate to all the questions, with the exception of questions relating to spirituality (both within the PTGI and with the open-ended questions). There was also a very high level of interest shown in participating further in the interview phases. Thus, those who responded, shared extensively of their time and
their experiences.

From a statistical point of view, a low response rate was attained. There was, however, an adequate sample size for many of the statistical tests that were conducted, and for the assumptions of the central tendency theorem to apply (Bachman & Paternoster 1997; de Vaus 1995). Thus, compared to some of the studies that have involved far fewer participants (Green et al 1993; Feinstein & Dolan 1991 and others discussed in Chapter One), these findings are drawn from a more robust statistical base.

Within the sample, there was evidence of a wide range of experience. While there was the commonality of a high level of ongoing physical difficulty, both the specific nature of these difficulties and the psychosocial consequences varied extensively. The involvement of those who were not experiencing ongoing distress, and those who were experiencing growth was necessary to the development of the central thesis. This heterogeneity of experience was an extremely important aspect of the research. Thus, there were many different pathways and many different themes reported.

In terms of the demographic heterogeneity, the respondents were diverse in terms of age, covering the life-span from 22 to 85 years of age. There was also a male sex bias. These two aspects were particularly relevant to the PTGI findings, enabling different insights to be developed about growth. The research on growth to date has tended to be based on age-biased (college students) and sex-biased (female) samples.

Finally, the sample was neither a clinical nor help-seeking sample. The participants were not recruited throughout an acute hospital experience (for example, Green et al 1993; Gordon et al 1995; Atchison and McFarlane 1997; Bryant & Harvey 1995, 1997; Mayou et al 1993 and others) or from therapeutic settings (Horne 1997). Very few respondents were receiving any form of ongoing formal support in relation to the accident. They were discharged from the rehabilitation centre on the grounds that they were perceived to no longer be experiencing difficulties sufficient to receive ongoing help and support. Given that the focus of this thesis was on expectations of recovery, this was an important consideration.
On the other hand, there were limitations of the sample that must also be acknowledged.

**B) THE LIMITATIONS OF THE SAMPLE**

The overall sample limitation was its size, and the subsequent capacity to generalize across the road trauma population. Consistent with other road trauma studies (Jeavons et al 1996), and trauma studies generally (Weisaerth 1989; Lindy et al 1981), it seems many survivors are reluctant to participate in research, for a multitude of reasons. All the findings, therefore, must be understood in the context of a small sample compared to the population, and thus as possibly biased by those who did choose to participate.

While it is impossible to identify all the biases that influenced participation, there were a number of biases in the sample that were evident. The mean age of the sample was higher than the VRC’s population age mean, and the mean age of others in a range of road trauma studies. Thus, the experience of recovery for younger people may not be adequately reflected in these findings, and perhaps most importantly, the experience of recovery for younger males, more at risk of road trauma than females. This bias is not surprising given a wide range of factors - for example, compliance and motivation to participate in a study, the transient nature of young people's lives, being more resilient in their recovery process, or finding the time to complete a survey. It is noted as a limitation.

There were some features of the accident and injury factors that may have been particular biases of this sample. Nearly half of all the respondents had been drivers at the time of their accident and in single vehicle accidents (47%). These factors may mean that those who are involved in accidents where multiple cars are involved or where someone else was driving have different concerns or distress experiences, for example, with issues of blame and responsibility. The difficulty in accessing the relevant road trauma data made it impossible to ascertain the degree of bias around these issues.

Those who saw themselves as responsible may not have wished to participate in any
way and disclose their circumstances. Similarly, those continuing to be involved in legal processes may have been suspicious of the research agenda. On the other hand, those who saw themselves as innocent victims may have wanted or needed to tell their story, similar to the experienced need to have a trauma witnessed, or a testimony developed. It is difficult to determine whether there were biases around this issue, given that 50% of respondents considered they were not responsible.

Another possible bias is the very low incidence of fatalities, with only three participants reporting fatalities occurring in their accidents. Of the three who reported fatalities, these did not seemingly involve their own family or friends, but rather the other parties in the accident. There may be very different grief and guilt factors involved in the recovery process if there had been other occupants in the car who have died, consistent with Lehman et al’s (1987) findings.

While it is tempting to hypothesize about those who did not participate in the research, it is also an impossible task. There may have been self-selection into this research on the basis of experiencing ongoing difficulties, both physical and psychological.

**(C) THE STRENGTHS OF THE METHOD**

The research method was successful in that it enabled the achievement of its primary aim - to gain an understanding of the subjective themes of survivors, in the comparative context of objective data. The use of multi-method data gathering techniques was found to be a useful, although challenging, approach. It enabled the gathering of relevant objective road trauma and ABS data, of new subjective information from the survivors through the survey and interview data, and multiple levels of analysis, using statistical and qualitative techniques. Thus, it enabled the comparison or the locating of this sample within the current research literature by using the quantitative measures, and simultaneously the freedom to explore new themes.
The survey method elicited a vast amount of data. The respondents wrote extensively about their experiences, making it possible to hear their stories. Many wrote all over their surveys and would have written more had there been the space to do so. The interviews functioned as an important feedback mechanism that also gave the opportunity for further verification and exploration of the issues. Listening to the subjective accounts affirmed different aspects of the experience - the words of the survivors themselves brought to life the despair and sadness, as well as their optimism and resilience.

Once the participants had decided to participate, there seemed to be no hesitation in the depth and breadth of information that they had provided. The questions seemed to have good validity given the high response rate. The questions were relevant to the experiences of recovery that they had encountered.

The anonymity of the researcher was important, at the very least in terms of having no association with the TAC. While the non-verbal information, and the encounter itself, would have been useful, it is important to reflect on how much this comes to influence research in the final analysis anyway. Perhaps writing to or talking with an unknown but interested party was an important aspect of ‘witnessing’ the trauma, or assisting in the development of a ‘testimony’ (Laub in Caruth 1995). Many of the telephone interviewees expressed their appreciation that someone was interested in their plight and was taking the matter of longer-term adaptation seriously. This relates to one of the themes discussed later in the chapter.

In contrast to many other road trauma samples, this sample was unique in that it did not involve participants in prospective, longitudinal research, and therefore from very early in the process of recovery. While some may regard this as a design weakness, this was considered to be a design strength in that no model or language of trauma had been established for these participants through the research process itself. There was no bias in the thinking or a sense of being educated into an understanding and

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30 Although the possibility that the questions were already perceived to be too traumatizing or complex may have been a deterrent to the other 70% of the population who chose not to participate, highlighting the complexities of framing the questions.
awareness of PTSD, or other outcome issues. The commonality of themes across the sample is all the more striking for this methodological issue.

The other difficulty with the trauma research is that in an effort to distinguish the consequences of an incident, many factors are often minimized, standardized or sanitized. This thesis has aimed to keep all elements within its focus - not removing someone for an extreme score, not removing someone for the reported experience of ABI but using these ‘anomalies’ as important identifiers of difference or similarity. Fraser et al (1999) suggest that these ‘variants to the norm’ are often excluded from samples on the basis that they are misrepresentative. Thus, while the purity of the statistical analysis may have been compromised, the accuracy of reflecting the experiences of this group of survivors was preserved as much as possible, and appropriate statistical methods were used to minimize these biases.

(D) THE LIMITATIONS OF THE METHOD

With the advantages of hindsight, a number of methodological issues could have been dealt with differently, both at a general level and at the specific level of the survey and interview.

At a general level, the responses and therefore the findings are time limited. If the model proposed is adequate, then very different responses may be elicited today from the same respondents than early in 2000. No conclusions can be drawn about the reliability over time of these perceptions. They are a glimpse of recovery experiences at a particular point in time. Future research therefore needs to be longitudinal to counteract this possibility which would establish the reliability of these themes over time and over different trauma experiences.

After the initial mail-out of the survey, there was no follow-up to attempt to increase the sample size. While it was known that a reminder letter increases the chances of higher response rates (de Vaus 1995), this was compromised in order to protect the risks of re-traumatization.
In Chapter Five, the limitations of the survey and interview methods were overviewed. Undoubtedly, a number of these limitations impacted on the participation and the findings. For example, the survey method demands a high level of ability in written English. Those with severe spinal injuries may not have been able to participate given the assumptions around the physical capacity to complete the survey. Those more comfortable with a written form of communication, or who are more articulate and insightful, may have been more likely to choose to participate. Likewise, with the interviews, those more willing to disclose information to someone they did not know were more perhaps more likely to participate. Interestingly, there was a bias in the interview sample of those who had been to counselling, and of females, providing some evidence for this possibility.

There were difficulties with the recruitment method of third party recruitment and loss of control over this process. This highlights the dilemmas inherent in a third party recruitment process whereby, in the interests of maintaining high levels of confidentiality, the researcher loses considerable control over the mail-out process. Given the researcher’s intimate knowledge of the research design, it may have been more ‘ethical’ to compromise around the access to the database under conditions of close supervision, and prevent the sending of surveys to those who were not affected by road trauma. There may have been more negative psychological consequence for the non-road trauma clients in receiving a letter from the Medical Director incorrectly identifying them as road trauma survivors. A couple of these clients returned their surveys with notes to the effect that they were unhappy in being incorrectly identified as such.

There were a number of areas of the experience that were not examined, given both the limitations of the scope of the research and indeed the methodological approach. These areas include the pre-morbid and co-morbid factors that may be influential aspects of the experience, as well as more clinical measures of injury levels and psychiatric effects. Given the biases towards these factors in the research already, these were considered minor problems.

At the specific level of the design of the survey and telephone interview questions, there were a number of issues raised by respondents and the researcher.
The four quantitative scales presented a number of specific issues, and some of these have been addressed in Chapter Five. These were particularly in relation to the London Handicap Scale and its exclusion from the data analysis.

As discussed in Chapter Five, limitations with the PTGI were noted, particularly in relation to the scoring. This lack of clarity in the scoring had a detrimental effect on the PTGI scores overall and needs rectifying.

While some attempt to address the issues of scoring was made by distinguishing between growth attributed to the accident and growth not experienced as a result of the accident, there were difficulties that emerged as a consequence. The overall scoring difficulty was addressed in Chapter Five. Three respondents, however, while differentiating degrees of growth on the first page of the scale, reverted to indicating ‘yes’ or ‘no’ only on the second page. While they had been indicating growth experiences at the high end of the scale on page one, their second page scores were 1 at maximum. There is, therefore, likely to be an underreporting of growth.

There is also the issue of the cross-cultural bias of the instrument and the possibility that the question areas are not adequately tapping into the lived experiences of survivors. There may be areas in which the PTGI could be usefully developed to capture more of the growth experience in the Australian context. These issues are expanded in the following thematic discussion.

As with any quantitative scale, its capacity to capture the complexity of responses is limited. For example, one respondent noted ‘not ‘yet’ to a growth experience, indicating awareness of the issue but not having the means to reflect this in the response set provided. Thus, such a response becomes a missing variable. Another indicated with a question mark that they were not sure about the question, and this difficulty of interpretation remains unclear.

Similarly, on the IES, there were some difficulties in understanding what was being asked of them. A number of respondents wrote comments beside the questions, indicating that they were unsure as to the nature of the question. This is an issue that is never acknowledged in other methodology discussions and yet may be the source of
considerable bias in the findings. Related to this is the fact that the IES, like the PTGI, needs to be more clearly worded in terms of the direction of change that is being evaluated. Thus, IES questions need to have ‘distress’ or ‘stress’ written into their wording, so that, for example, dreams that are about accident-related matters are only viewed as traumatic symptoms if they contain an element of distress.

In completing the SSS, the issue was raised by one respondent in the pilot phase and one in the survey phase that it was limited in that it did not allow for a distinction to be made between family and friends. These two groups are often vastly different resources in relation to social support. Given the strong correlation between changes in relationships and distress that was found for this sample, it may be more important in future studies to use a scale that reflected changes within specific relationships. While at the time, it was chosen for its global and subjective approach to social support, a more specific approach to the levels of social support may have elicited more useful information. More comparable data across other samples could have been useful, and thus a more frequently used scale such as Sarason et al’s (1983) could have been used to enable this level of comparison. Given the SSS is a sub-scale of the DIS, it was extremely difficult to locate comparable data within research studies, as total scores rather than sub-scale scores were reported.

There was another specific concern with the SSS in that there was a skewed response set for one question. ‘Most of the time’ still left room for a more positive response set of ‘all of the time’. The other problem with this kind of response set is that ‘too much’ social support could be as problematic as ‘not enough’, yet it was scored as a positive social support factor. This links with Martin’s (1997) suggestion that there can be toxic effects of social support. Therefore the distribution of scores is inaccurate if high scores on the scale are supposed to indicate high levels of satisfaction, access to and support from social networks. ‘Not enough’ may also indicate a high level of satisfaction and perceived support, at the same time as reflecting a wish to have more contact.

These concerns about the quantitative scales leave a healthy suspicion of the ability of quantitative measures to solely capture the depth of the experience, the despair and the distress, and indeed the growth and satisfaction, that came through so vividly in
the qualitative data. Overall statements about the reliability and validity of the data are
difficult to make. While it would have been ideal to confirm all the findings and their
representation with the participants, this was not possible given the financial
constraints of the research. The four scales provided, however, a useful comparative
base with other trauma samples.

The objective and subjective measures of distress and ongoing psychological
difficulty had some degree of overlap. This answered in some respects one of the
questions of this thesis, in relation to objective and subjective reports of ongoing
negative psychological consequences. That is, there was some consistency between
objective and subjective reports. It is interesting to note, however, that only one third
of the sample, using the objective measure, was found to be experiencing severe
trauma symptoms, compared to two thirds who were reporting difficulty of some sort,
but without any severity rating. Given the importance of the subjective perception in
recovery (Harvey 1996; Green et al 1993; Holtz 1998; McFarlane in Kleber 1995) this
difference may mean that many research studies that are only taking into account the
objective aspects of the experience are underestimating the suffering and distress that
survivors are experiencing in the longer-term. The finding also highlights the way in
which the qualitative data illuminated a wider range of difficulty.

There were different negative consequences that the IES and other questions
addressed. The IES was eliciting information about a range of cognitions and
behaviours in the previous seven days. When respondents were talking about ongoing
psychological difficulties, different material was elicited. Respondents were talking
about specific behavioural issues, specific impediments or experiences over time
rather than about specific thoughts or emotions. The language of the difficulties was
much more strongly related to how the distress was manifested rather than how it was
thought about. That is, the difficulties seemed connected with the lived experience
rather than the cognitive experience.

This finding has important implications for further research, as it raises critical issues
as to the kinds of conclusions that can be drawn from such findings. In particular, it
raises questions as to whether a high IES score, in reflecting a high frequency of
intrusion and avoidance symptoms accurately reflects a high degree of impairment, or
even distress, as discussed earlier in the chapter. Which of these ‘measures’, if any, reflects adaptation or not? Dreams and thoughts may not in themselves cause distress, which is the underlying assumption of the IES. In fact, it might be quite therapeutic to increase dreaming states as part of the process of integrating the experiences. Yet the perception of reduced physical, social and psychological functioning may be considerably more debilitating and demoralizing.

Given the capacity for people to provide rich qualitative data in the surveys and in the telephone interviews, there were many other questions in hindsight that could have been usefully incorporated into the survey. While it is recognized that many do not wish to participate in research in the aftermath of trauma given concerns of re-traumatization, it seemed people were able and willing to respond fully to both the written and telephone administered questions. While the advice had been to not ask a number of questions about understandings of recovery, when these questions and others were asked (for example, what people would have liked to see happen earlier in their recovery, what enhanced and what inhibited recovery, the meaning of the word recovery), answers were given with insight and relative ease. Most participants had an articulate, insightful way of expressing their experience and any expressed caution was a gross underestimate of the prolonged and profound nature of their experience, and their willingness to share it. Conversely, this deeper level of questioning may have deterred others further from participating, given that the reasons for non-participation were not clear.

With the exploration of spirituality and religion, it is possible that the wording of the question influenced the lower response rate, with the emphasis being on the experience of ongoing spiritual difficulties. That is, spirituality was problematized as an issue rather than framed as a possible recovery resource. It may not have adequately tapped into the experience of relying on ongoing spiritual resources. Spirituality may well have been a major protective factor in an individual’s recovery experience, but because the question was about ongoing difficulties, this protective function was not captured.

The major limitation with the interview phase was in not being able to include all those who were interested in participating further and was therefore a matter of
resources. There was obviously a significant group of survivors that was wishing to tell its story. With the vast amount of telephone interview data that was gathered, the challenge was then in reducing it to a manageable form, when indeed it could have formed a thesis in itself.

With these strengths and limitations of both the sample and the method in mind, the major findings and themes of the research are discussed.
THE CORE THEMES OF THE EXPERIENCES OF RECOVERY

From the analysis of the findings, six core themes of the experiences of recovery emerged. The first two themes, the themes of distress, and growth, have been consistently tracked throughout, and are discussed again in this section. Associated with these two core themes were a number of other overarching themes that emerged as important aspects of the recovery experience. These four themes were (a) finding a new fit, (b) the privacy of suffering, (c) anticipatory coping and (d) survivor pride.

EXPERIENCES OF DISTRESS

According to the objective measure of distress, the IES, 87% of the sample was reporting some degree of distress. More than one third of the sample was found to be experiencing high levels of distress, indicative of PTSD. From a subjective point of view, nearly two thirds of the sample were reporting ongoing psychological difficulties, in the form of general anxiety or stress responses, driving anxiety or a damaged sense of self-confidence. The findings suggest that the negative consequences of road trauma are lasting and, for many, severe. In understanding these high levels of ongoing psychological distress, two key features of the sample become important.

Nearly all of the respondents (86%) were continuing to deal in some way with the ongoing physical difficulties of chronic pain and limited mobility. While no objective analysis of injury was undertaken, it seems reasonable to conclude that this sample reflects a more severely physically injured sample than many other road trauma samples (Horne 1993; Green et al 1993; Gordon et al 1995; Mayou et al 1997). Generalizing those with ongoing physical difficulties to the cohort from which the sample was drawn, some 22%\(^{31}\) of the cohort, at least, was dealing with significant physical adaptation. 20% of this sample was above the TAC 30% impairment level, indicating significant life-long injury. This finding highlights the complexity of the recovery process from orthopaedic trauma, both psychologically and physically, as

\(^{31}\) 86% of 78/305 (where 78 is the sample size and 305 is the 1996/7 VRC Orthopaedic Unit population).
initially suggested by Mayou et al (1993) in the Introduction and Chapter One, and confirmed in other studies such as those by Blanchard et al (1993).

Survivors were therefore talking about their recovery from both physical and psychological trauma. This is an important distinction to make. When a dual trauma injury is sustained such as this, it demands a very different understanding of the trauma recovery process than if the recovery is from psychological injury only. The presence of physical difficulties may serve as a daily reminder of the trauma, and therefore continually activate the distress. Conversely, the physical difficulty in the present may be the source of the distress and difficulty, rather than the original traumatic event, an issue discussed in the following pages.

The other feature of the respondents was that nearly all described the accident and its aftermath as the most traumatic event of their lives, even though this was importantly qualified. As a result, it is likely that the accident was a key defining moment - a turning point in itself. The existential threat experienced by many was considerable, and was consistent with other studies that have found the threat to life one of the key risk factors for later psychological difficulty (Green et al 1993).

The subjective perceptions of the traumatogenic factors were varied and gave a valuable insight into the types of memories or experiences with which the respondents were contending. They also gave a valuable insight into whether it was a matter of a traumatic adaptation or one more associated with grief and loss. For some, the accident itself undoubtedly remained the source of traumatic memories and reactions, with its horrific, expected nature, its purposelessness and the stupidity in many instances of human behaviour.

For others, the traumatogenic factor was the continuing experiences of loss - the loss of physical mobility, of strength and independence. For many it was the experience of daily or regular chronic pain. For many, the trauma came from the experiences within both the acute and the rehabilitation hospitals or in the encounters with the TAC and other bureaucratic systems. For others, it was the loss of employment, of relationships with friends and family, and the loss of a good fantasy about the future. The biopsychosocial impact of the experience was apparent, whereby the current
experiences of distress were shaped by past, present and future factors, and both intra-psychic and interpersonal ones.

These two features of the sample, the subjective perceptions of physical injury and psychological injury, were no doubt influential in shaping the recovery experiences.

Consistent with many other trauma studies (Koopman et al 1996; Norris 1992; Green 1994; Biernat & Herkov 1994), more females reported ongoing psychological difficulties and also showed a trend towards reporting higher IES scores. The reasons for this remain unclear, particularly given males were more likely than females to perceive the accident as the most traumatic event of their life. The higher rates of ongoing financial difficulties may be one underestimated aspect of previous research, as may be the impact of physical injury, and the way in which body image is arguably more of a female concern (Wolf 1991).

In examining associations between distress and the risk or protective factors, three factors were found to be predictive of distress. According to the regression analysis, these factors were changes in relationships, social support and growth. The relationship between growth and distress will be discussed in the following section.

The findings in relation to social support and changes in relationships provide strong evidence for the importance of ‘enabling niches’ (Rapp 1998) being available within the environment. All three measures of social factors - reports of ongoing social difficulties, the SSS and reports of changes in relationships - were associated with distress experiences. Where there was more change occurring in relationships, and less social support available, more distress was experienced. These findings are highly consistent with other research that speaks of the protective impact of the social environment (Mayou et al 1993; Cagnetta & Cicognani 1999), although they perhaps go further in being identified as the predictive factors of distress, not just the associated factors.

While social support factors, as well as growth, were found to be the predictive of distress for this sample, there were many other factors that were associated with the negative consequences. These were ongoing physical, spiritual and financial
difficulties, perceiving the event to be the most traumatic event ever experienced, attending counselling, and perceiving that others would view them as coping poorly. Thus, another feature of the sample was the multiplicity of zones that were affected. Physical, social and to a lesser extent, legal and financial difficulties, were all linked with the negative psychological consequences.

Legal difficulties reported by more than one third of the sample were not surprisingly associated with distress (McFarlane 1995). While this still represents more than one third of the sample, the TAC system may in fact be either protecting or preventing many more from experiencing this area of difficulty. Given that the impairment assessment process is usually initiated around 18 months, many peoples’ legal issues may have been resolved, particularly in view of the 51.4% who were able to report an impairment assessment level, or that their impairment assessment was pending. The impact of long-term legal processes on recovery experiences needs further examination.

These findings also highlighted the association between financial issues and trauma responses, again consistent with a number of other studies (Mayou et al 1993), but not all (Jeavons et al 19996; Oxley & Fildes 1993). More than half of the respondents reported ongoing financial difficulties, and there were also high levels of employment change. Again, this finding may be connected with the more complex nature of physical injury, often preventing a return to previous places of employment or work opportunity. Womens’ and younger peoples’ experiences, in particular, need to be more closely examined, given their greater vulnerability within the socioeconomic order. Attending to some of these concerns and ongoing stressors may do a great deal in reducing the higher levels of ongoing distress for females that is consistently seen in the road trauma literature. If rumination is seen to be the cause of ongoing psychological distress, then physical factors and financial factors may well be the ongoing causes of rumination in everyday life.

A gap remains in the findings of this research as to the role of spirituality and religion in recovery experiences. A small percentage (17%) reported ongoing spiritual difficulties, and a small number identified independently that religion had been an important recovery resource for them, but this does not necessarily capture the full
picture. What seemed to be occurring was that for those for whom religion and/or spirituality were important prior to the accident, there was a strengthening of belief and use of this as a coping resource, and for those for whom religion and spirituality were unimportant, there was a further distancing from this as a resource. Given the framing of the questions, discussed earlier in this chapter, there was not a great deal of evidence for the importance of the spiritual dimension across the sample. Further examination of the role of spirituality is required.

One of the other interesting associations to arise was between experiences of distress and counselling. There was evidence of higher IES scores for those who had received counselling, a seemingly counterintuitive finding although other studies have similarly found such an association (Hobbs et al and Stevens & Adshead, both in Mitchell 1997). There may be, however, many reasons for this phenomenon, not the least being the fact that participants in a counselling process may become more aware of specific symptom areas through the process of gaining insight into their reactions. Conversely, counselling may not have been provided competently or at an appropriate time in the recovery process (Watts 1994).

Other factors did not seem to be associated with distress, such as accident and injury factors (such as the length of time respondents spent in their rehabilitation program), or blame. Initially, this finding was surprising given the findings of other research (Delahanty et al 1997; Mayou et al 1993; Blanchard et al 1993). In part, this may be methodological in that no standardized measure of injury was used. If the longer-term biopsychosocial difficulties, however, are emphasized, these earlier aspects of the trauma experience may logically have less influence on the present. While the initial cause of the difficulties, this finding highlights that it is the consequence not the cause that is the continuing source of distress. Many of the studies highlighting the impact of these other aspects are highlighting much earlier phases of recovery and with less severely injured road trauma survivors.

The relationship with the TAC and with the treating hospital was referred to informally throughout, and these organizations present the survivor with an interesting challenge. On the one hand they are perceived to be the vital support system, and in many cases, providing essential rehabilitation. In the case of the TAC,
they also provide financial support. On the other hand, they are viewed with suspicion and negativity, perceived as organizations that fail to address the survivors as individuals with needs. The relationship with the TAC was undoubtedly a source of distress, and is discussed later in the chapter.

Having examined the high distress profile of the sample, it is important to also consider the other distress profiles in the sample. In contrast to the above discussion, 13% of respondents were reporting no experience at all of ongoing distress symptoms, as measured by the IES. Or, put another way, 54% were experiencing very little distress, with a total score less than 20, and 64% overall were below a score of 30. Therefore, high distress, as measured by the IES, is in fact not common to the experience. Similarly, 38% were experiencing no ongoing psychological difficulty by subjective report. The factors associated with low distress were consistent with, but converse to, those associated with high distress. Ongoing psychological and social difficulties were found to be predictive of low distress. This was again confirmation of the relationship between the subjective and objective methods of measuring distress, and of the perceived protective effect of social support networks.

*The language of distress*

Throughout all the questions relating to the negative consequences of road trauma, a different language of distress emerged from the respondents’ accounts. There was an implicit language of acquired disability yet ‘not’ disability. The word itself was referred to explicitly on only two isolated occasions throughout all the survey and telephone interview responses. There was also a language of existential distress and threat. There is no doubt that PTSD, as measured by the IES, was a useful construct in capturing some components of the survivors experiences, but it essentially missed the cause and the language of the distress. For many of the survivors, it seemed to no longer be the accident as such but its aftermath - the systems and the need to negotiate, changed relationships - all giving rise to being constantly reminded of the accident and therefore evoking predominantly intrusive thoughts. The importance of present stressors in maintaining the distress was highlighted, consistent with Holman and Silver’s (1996) finding for survivors of sexual assault.
What became evident was that for some, a trauma framework, as outlined in Chapter One, was not appropriate in understanding their recovery. This was either because it had not left people with a traumatic response in the first place, or that it had shifted into a more complex biopsychosocial series of adaptations or transitions. It seemed that the reaction from which survivors were recovering was more than a traumatic one. A trauma model alone fails to capture the inherent nature of the experience for many, which as well as involving trauma reactions, involved stress and loss and grief.

In the analysis of the data, there was evidence of each of the seven areas of trauma disturbance, outlined in Chapter One. Each of these disturbances was evident throughout many of the recovery processes described by the survivors. An ecological model of trauma, however, enabled the illumination of a range of disturbances or distress experiences, and the examination of a range of associated factors.

The question that remains unanswered and beyond the scope of this thesis, is the extent to which high distress scores in fact lead to dysfunction, maladaptation or lack of recovery. The conclusions drawn to date by researchers to date are that this is what distress scores signify. Or is it that, with any major event in a person’s life, let alone one where there is a daily reminder of it, there will be thoughts about it? What becomes more important is where these thoughts and experiences ‘sit’ and how much influence they exert on present functioning and well-being.

For many, the experience of recovery was shaped by experiences of ongoing distress and psychological difficulty. To focus solely on these reports, however, as other research has done, would be to overlook the strengths and positive changes the respondents also reported.

**EXPERIENCES OF GROWTH**

On the basis of frequency alone, growth was a more common recovery experience than distress. According to the PTGI findings, 99% of the respondents reported some experience of positive change and growth. 75% of the sample were reporting from very small to moderate degrees of growth. One quarter of the sample was reporting
great to very great levels of growth. There was only one respondent who reported no experience of growth, and they simultaneously reported no experience of distress, thus providing some evidence of a neutral effect of trauma.

One of the salient findings was that, in addition to a range of protective factors being predictive of growth, such as optimism, and social support, a number of so-called risk factors were also predictive of it - distress and perceived responsibility for the accident. Similarly, while receiving counselling was a factor associated with growth, so too were the risk factors of ongoing spiritual and financial difficulties and perceiving the accident to be the most traumatic event. These findings do seem to support the notion that some degree of ongoing difficulty is necessary to promote growth.

Perhaps more predictably, those experiencing higher levels of social support were more likely to report growth in the area of ‘relating to others’. Given the way in which the experience seemed to have forced a new dependence on social support networks, it is not surprising that there was a sense of having experienced growth in this area of relating to others. An important issue to emerge from the PTGI was that growth was reported by 80% of all respondents in the area of ‘knowing that I can count on people in times of trouble’. It may be that the perception of support is enough to operate as a protective mechanism rather than whether or not it is activated.

Consistent with Tedeschi and Calhoun’s earlier finding (1996), there was a small level of correlation between optimism and growth, except in the area of spiritual change. This was an expectable association, with those feeling more positively about the present and the future being able to identify areas of positive change. Any concerns that optimism and growth are measuring the same construct were allayed by the finding that those who were reporting higher than average growth experiences were not reporting higher levels of optimism. What is perhaps more remarkable about the optimism finding is the fact that they tended to be an optimistic group overall. Given the reported level of ongoing difficulty, and particularly in relation to chronic pain and limited mobility, this perhaps indicates an inner strength and resilience to maintain a positive focus on the future.
The finding that blame was predictive of growth is an interesting one. Blame has typically been associated with distress outcomes, not growth, as discussed earlier. The perception of blame and responsibility may have led respondents to reflect on their own behaviour and as a consequence identify areas of growth and change. This hypothesis would be consistent with the rumination hypothesis of posttraumatic growth, that the more one is searching to understand a traumatic event, the more growth one is likely to report. Blame may well remain an unresolvable aspect of the psychological consequences of an accident, leading those with higher self-blame to be engaged in more rumination about the event.

Other associations were found between the perception of the event as the most traumatic event, ongoing spiritual and financial difficulties, and counselling. The perception of the event as the most traumatic event led to a reporting of growth in the area of appreciation of life, and reports of growth in personal strength were also nearing significance. The threat to life, particularly for males, seemed to be an important trigger for reflection on mortality issues, and gave a sense of having a second chance. Subjective reports of ongoing spiritual difficulties were also associated with growth in the area of ‘appreciation of life’, reflecting perhaps an ongoing search for new meaning and understanding. Similarly, the link between financial difficulties and ‘new possibilities’ may highlight the process of adaptation that many reported in relation to employment circumstances, and having to rethink lifestyle matters.

Those who attended counselling were also more likely to report growth in the area of ‘new possibilities’ and ‘spiritual change’. To counteract the suggestion that could be made from the findings in relation to distress, those who found counselling helpful were no more likely to report distress, but were more likely to report growth in the areas of ‘relating to others’, ‘new possibilities’ and ‘spiritual change’. That is, the quality of the counselling may be the variable of most influence, not the experience of counselling per se leading to more or less distress or growth.

The factors unrelated to growth were physical difficulties, other accident and injury factors and future fantasy issues such as imagining recovery or imagining coping in five years time. The lack of association with future fantasy issues is important, and
may be a result of growth being about an orientation to the present and the past, not to the future. In this sense, reports of growth may be as much about a fixation on the traumatic event as distress is perceived to be, rather than a marker of recovery, if recovery is understood to be about moving on from the event and about reinvesting with everyday life.

Consistent with other growth studies (Weiss 2001; Cordova et al 2001; Tedeschi & Calhoun 1996), females showed significantly more growth in the areas of relating to others and spiritual change. These findings are interesting to consider. These findings may not reflect growth but predispositions, if Gilligan’s (1993), and others, ideas about nurturant socialization are accepted. Similarly, they may reflect social expectations of growth. This is further supported in the finding that growth for females was not associated with distress, whereas for males growth was in the area of new possibilities and appreciation of life.

The growth or strengths that were being reported by the respondents do not seem to reflect a ‘better off afterward’ experience (McMillen 1999). While the respondents recognized growth experiences, these were still overshadowed in the most part by the distress or by the loss that had been experienced. Using such value-laden terms, such as ‘better off afterward’, seems inappropriate and missing the relationship between growth and distress. The language of growth is complex, as the discussion of Chapter Two highlighted.

The finding of this thesis, that reports of growth were lower than other samples, is difficult to interpret. There are a number of possible explanations. The first is that the initial trauma was a single incident trauma and therefore, once survived, is no longer a threat in the way that a chronic illness experiences might be. There seems little evidence of this, however, given the high rates of ongoing difficulty. Although, if the threat to life is the key determinant then, arguably, this has been survived.

The second is that the argument that more trauma should lead to higher growth scores (Tedeschi & Calhoun 1996; Tedeschi et al 1998) does not hold. Given the growth scores were lower when compared to university students, whose experiences included exam stress and relationship difficulties (arguably incomparable to the scale of trauma
experienced by this group of survivors), the model may not hold. That, in fact, the more traumatized someone is, the less likely they are to notice positive changes. There is a vital distinction, perhaps, to be made between research on growth in trauma populations and in grieving populations.

The third is that the passage of time and the assimilation of the traumatic event has led to an integration of growth perceptions and therefore lower levels of reported current experience of growth. While Tedeschi et al (1998) suggest that the passage of time may see the diminishing of growth, as the traumatic event becomes more integrated into daily life, the ongoing distress experiences and physical pain would seem to contradict this for this sample Conversely, it may be too early in the recovery experience.

The fourth is the possibility that the type of trauma does impact on the areas of growth that are more likely to be experienced. Road trauma, for this sample, had devastating physical consequences, and in many instances, these will be life-long. For many, there were devastating social, financial, legal and psychological consequences as well. Damage to these areas of functioning may well explain why growth in the area of ‘new possibilities’ was less likely to occur than growth in the area of ‘appreciation of life’, for example. Trauma survivors not faced with as many of these adaptive tasks may well be able to focus on perceiving new possibilities. Further research in this area is required.

The final factor that may have influenced the lower PTGI scores in comparison to the US studies is a cross-cultural factor. The notion of personal growth is much more a part of American culture than Australian culture, through its talkback shows and high involvement in therapy (Little 1999). While there were undoubtedly elements of the PTGI themes that were relevant to this sample, their language seemed to relate more to perceptions of current strengths rather than reflections on growth processes, and thus the PTGI did not necessarily pick up on these aspects. For example, issues of existential awareness and inner determination might be more appropriate areas of growth to be asking about - a ‘rising above’ or a fighting spirit, a far more active and current engagement with the process of recovery.
The relationship between growth and distress remains an elusive one, and in its quantifiable arguments, beyond the scope of this thesis. While there were significant, moderate positive relationships between distress and growth scores for males, in the areas of new possibilities and appreciation of life, and for females, in the area of new possibilities, leading to an overall significant, small to moderate, positive relationship between the two variables, it is difficult to know how to interpret this association. The fact that each factor was predictive of the other also raises many questions, and begins to suggest that the pathways outlined in Chapter Four have some relevance for most of the road trauma survivors in this sample (with only one exception as noted earlier). That is, both growth and distress are common aspects of recovery experiences.

From a survivor perspective it was a difficult relationship to articulate, and the majority of interviewees described their understanding of either distress or growth. The processes of any causation between the two are complex. While it seems that rumination processes may keep both the distress and the growth alive, it has been unclear to date what keeps the rumination alive. These findings seems to support the idea that it is there are many continual reminders of the accident and the recovery experience that could keep the rumination process alive - the daily, practical realities of the accident including the physical, financial, legal, social and emotional realities.

There is also the implicit assumption in the theorizing about rumination that it is negative when in fact it may not have a qualitative aspect. Again, the need to normalize the extent to which all humans, traumatized or non-traumatized, consistently ruminate as part of their daily living, is highlighted by a strengths perspective. Rather than pathologize the experience, it may need to be understood in its everyday context.

The other difficulty with the models of distress and some of the models of growth is that they assume that there should not be a relationship. The ecological perspective, and the strengths perspectives both emphasize the possibility of human growth in the midst of the most adverse of circumstances. It is important that further research addresses both the experience of growth per se and the interconnectedness between experiences of distress and growth. Without this understanding, experiences of growth may be falsely assumed to be areas to promote, when in fact they may be indicative of
unresolved distress. Or they may be neglected once again within the predominantly psychiatric, problematized approach to road trauma research. Distinguishing between strengths and skills acquired as a result of trauma experiences and insights that remain linked with distress may be critical.

Throughout the findings, there was evidence of many other growth experiences, as outlined in Chapter Two. There was evidence of changes in relationships, recognizing the enabling nature of family, friendships, workplaces, peers in rehabilitation and support from professional health care providers. There was evidence of positive changes in self-confidence, particularly in the recognition of the inner determination. There was evidence of changes in worldview and philosophy, most evident in the change in time focus, coming to appreciate each day more than thinking into the longer term, and reviewing purpose in life. These areas of growth are examined more closely in the following thematic discussion.

Most importantly, these findings, and particularly the finding that 99% of the sample reported some form of posttraumatic growth, highlight the need for ongoing research and therapeutic acknowledgment of these experiences. In the midst of the most horrific of physical and psychological traumas, the possibility of growth and the resilience of the human spirit were evident.
THE EMERGING THEMES OF RECOVERY

In addition to the themes of distress and growth outlined to date, a number of other overarching themes emerged as important aspects of the recovery experience. These four themes were (a) finding a new fit, (b) the privacy of suffering, (c) anticipatory coping and (d) survivor pride.

(A) FINDING A NEW FIT

*I lost me, I can’t get me back*

*You go under or you come through it*

The task of ‘finding a new fit’ was a major theme of the recovery experiences, expressed both explicitly and implicitly by the respondents. In many ways, this is not a new theme to the trauma experience, given models such as the shattered assumptions model of Janoff-Bulman (1979). There is an important differentiation, however, to be made between the understandings discussed in Chapter One, which remained cognitive models of fit, and the ecological understandings, which are inclusive of the biopsychosocial and spiritual aspects of the person. The ecological understanding provides a much broader conceptualization, in that it is talking about shattered functioning at many levels, not just the cognitive, and about the need for adaptation. It is referring to the task the individual faces in forging a new fit between their pre-accident status and the new biopsychosocial demands of these environments and functions.

As the discussion of distress highlighted, for some, there continued to be a great deal of difficulty in completing this adaptation, given the lack of resolution of a number of key issues - psychological, physical, legal, financial, and even surgical. Some respondents were still in what might be understood as a ‘crisis’ or ‘survival’ mode. This was typified in the first quotation above. A number of people spoke of the decisions they had made very early after their accident to do this work of fitting back in or recovering, typified in the second quotation above.
Others, who saw themselves as recovered, spoke of how they had been able to return to prior environments and had managed to either find a new fit or return to a former one. This experience often emerged at the point of stepping out of the world of rehabilitation back into the world in which they were part of prior to the accident. This was frequently talked about as a critical time, when there was a new awareness of the impact of the accident. The focus of recovery seemed to shift from a focus on ‘survival’, both physical and psychological, to a focus on ‘quality of life’ issues, recognizing, often for the first time, what was now different.

Using a slightly different language, it was as if the trauma led to a sense of having a second chance at life. Unlike other traumas that are either single incident traumas or experiences of chronic illness, however, this second chance is double edged because it requires so many continual adaptations for many. It seemed to be a case of ‘survival but’. Unlike other single incident traumas, for many the trauma led to continual adaptations at all levels. This stands in stark contrast to the expectations of recovery many of the respondents were holding on to, whereby recovery was seen primarily as a returning to or being the same as prior to the accident. Thus the task of finding a new fit was not initially a task that they were expecting to have to fulfil, expecting instead that there would be a return to normal.

This awareness of having to find a new fit often arose specifically in relation to:

(a) relationships and roles

There was an awareness of the enormous dependence on social support systems, with social support being identified as the most important recovery resource. Yet on the other hand, there was an awareness of the changes in relationships, many of them ‘massive’ and negative.

The changes in worldview or appreciation of each new day were evidently impacting on relationships and roles. The valuing of different experiences, for example, or of taking each day at a time, or not getting hassled by minor issues, often led to difficulties fitting back with others who had not been through similar reappraisals.
The importance of being able to negotiate this change process successfully was perhaps reinforced in the finding that there was a strong correlation between changes in relationships and ongoing distress. One of the difficulties in interpreting this finding is the fact that some of those who reported high levels of change in their relationships were not reporting negative but positive change. Thus, change per se, irrespective of its quality as negative or positive, seemed to be associated with distress. As the data for this finding was drawn from the comments of a smaller number of respondents, closer examination of this issue in the future is required.

Three quarters of the sample were reporting some degree of change in their relationships, and more than half was reporting ongoing social difficulties. The turmoil within relationships was again associated with the physical and employment changes, as well as relationship changes, where roles were redefined or renegotiated or lost.

Some of the dilemmas of reaching out to support networks were highlighted, the dance between being independent and coping, and needing to be supported and cared for by others. This notion was eloquently expressed by one respondent: ‘Because I ‘coped’ I got little sympathy all round’. This was highlighted also in the issue of maintaining a facade, of conforming to the social expectations around recovery and health.

The process of social readjustment was not only a negative experience. A significant relationship was also found between changes in relationships and growth in the area of new possibilities. Many commented on the new appreciation they had for those who were their key supporters – be that an intimate partner, a work colleague or boss, or their physiotherapist.

(b) their bodies

In highlighting the experiences of chronic pain, loss of mobility, and in some instances, physical scarring, many were talking about new and unfamiliar experiences of their physical sense of self. Not only did this require a psychological adaptation, many of these changes meant adaptations had to be made in the areas of employment, social and recreational experiences, based on new physical capacities or limitations.
Others were reporting that they had found a new and positive fit between their body and their health and fitness, coming to value it more or see it as essential to their ongoing well-being, a finding consistent with other physical illness studies (Affleck et al 1997; Curbow et al 1993; McMillen et al 1997).

Ageing processes and their impact were also apparent, with a number of the older respondents raising concerns about their capabilities in view of their increasing years and their newly acquired accident-related incapacities. There was a considerable review of the developmental phase in view of these new complications. While there were no statistically significant relationships between age and areas of difficulty, the qualitative data helped to illuminate the importance of developmental age and stage in the adaptation processes for a small number of respondents.

(c) the future fantasy
Not only was the present demanding a range of adaptations, but many had thought about the ways in which their future had changed as a result of their experiences. Many had radical shifts in their future expectations, both positively and negatively, working out new possibilities in view of their frequently reduced circumstances. Concerns about employment and future financial security became evident in these discussions, as did concerns about the capacity to have children.

For others, there was a retraction of time focus, which may be a significant protective factor. Many reported on their sense of the future being less important now than it had been. They were more intent on appreciating each day and not worrying about future events.

These questions provided some valuable insights into the future fantasy issues, eliciting a number of areas that remain impediments to a positive fantasy about the future, and positive experiences of self, and other areas that may lead to more adaptive behaviour.

What emerged most powerfully was the difference in perceptions. Perceptions of future coping were markedly different from perceptions of future recovery, highlighting the importance of language in asking about experiences in the aftermath.
of trauma. While perceptions of coping in the future were still associated with distress, that is those more distressed were less likely to perceive themselves as coping well, many more respondents were able to envisage a better fit between themselves and their environment in the future, if asked about coping rather than recovery.

The finding that these future fantasy issues were linked with distress but not growth is also important.

(d) the broader social context
Both implicitly and explicitly, many were speaking about their adaptation to the world as a person with a disability or restriction and about living in a culture that values physical beauty and perfection, and individualism and independence (Wolf 1991). The physical consequences of road trauma often cause the individual to be confronted with the new reality of non-conformity to these social norms and expectations.

Many of these issues, particularly this last one, related to the privacy of suffering, discussed as the next theme.

(B) THE PRIVACY OF SUFFERING

no amount of explaining can tell another what you truly see and feel

In the process of finding a new fit for themselves within their own experience of self and within their particular social context, many respondents commented on the privacy of their suffering. This seemed to be experienced in three different ways - in relation to the event itself, their subsequent physical and psychological suffering.

The first area of suffering was in relation to the nature of the event, the accident itself. For half of the respondents, given they were in single vehicle accidents, their accident was not witnessed. Others typically involved only a small number of people. For some survivors, the experience remained even private to them in that they had no conscious memory of the event. In Chapter One, the importance of witnessing an event (Laub in Caruth 1995), of developing a narrative about it that may even be a
shared narrative, was highlighted. The descriptions of the accidents provided in the surveys were one way of telling someone independently about what had happened. One respondent even included a newspaper excerpt of his accident with his returned survey.

The second area of suffering was in relation to the accidents’ physical aftermath. Many spoke of the invisibility of much of the physical pain that they were experiencing. This privacy issue relates to the peculiar and insidious nature of chronic pain, in that being ‘invisible’ to those around, is therefore rendered invisible as an experience. Many begin with obviously horrific injuries, and some continue to show the external signs of their trauma, however, for many others, the ongoing trauma was invisible. This seemed to be a grossly underestimated area within the road trauma literature, and therefore was minimized in the approach to this research, again, rendered invisible. The emergence of these experiences of the privacy of physical suffering may in part be due to the severity of injury and long-term consequence for this sample, or it may be part of the social process of invalidating another’s experience in the longer-term.

The privacy of physical suffering also relates to the lack of presence of physical symptoms that participants have been advised they will develop as they age - the rheumatism and arthritis, in particular, that will limit future mobility and independence. These physical pains indeed remain invisible in the present to the survivor as well, but are anticipated in the future. Rather than being able to put the event behind them, for many it was about moving forward into new pains and difficulties.

The third experience of the privacy of suffering was the strong sense in which the psychological suffering of survivors in the present was minimized, hidden or rendered private. This was particularly in relation to the health care systems of the TAC, where ‘feeling like a number’ was a common experience. Or in the hospital and rehabilitation systems, where many felt that nobody listened to them throughout their recovery, particularly in the early stages. It was noted as the absence of systems later in the recovery process, when contact with rehabilitation facilities has ended and contact or recognition by TAC has also ended. The validation of the wider social
system was gone, leaving the survivor to cope alone. It was evident in both the survey responses and perhaps more so in the telephone interviews that even those coping well talked about the wish to be recognized as an individual who had survived an horrific experience.

The relationship with the TAC is a complex one, and was often seen as unhelpful, in many ways because of the double bind of the relationship. They reported feeling forced into not being able to show how they really were, and curiously, about not being able to show growth:

*because if you start coming across all positive and happy, well then there’s nothing wrong with you and they don’t want to talk to you. And it doesn’t take away the problems, it’s just that you’re not focussing on them. The problems are still there.*

Others expressed immense appreciation for the support and assistance from the TAC.

The privacy of suffering psychologically was not only occurring in this wider context of the rehabilitation and insurance systems. It was also reported to be occurring within the context of intimate relationships. In one sense it was governed by the survivors, who spoke of not letting on how they were really feeling. This was evident in the reports of maintaining a facade as to how they really were feeling. The significant levels of distress continuing to be reported by this sample perhaps also highlights the way in which it remains a private experience of suffering.

Thus, a paradox emerged. On the one hand, the strongest endorsement of questions on both the optimism and growth scales related to ‘knowing that I can count on others in times of trouble’. That is, there was an awareness of being part of a socially supportive context. Yet when asked how others would perceive them to be coping, many reported that they maintained a facade for others as to how they really were feeling. The significant levels of distress continuing to be reported by this sample perhaps also highlights the way in which it remains a private experience of suffering. Many were therefore learning the skills of inner reliance, and of managing the privacy of their pain. There was the challenge of being authentic in relationships about how they were feeling, but the very enduring burden or cost of chronic physical and psychological pain. There was a dance between relying on the relationships but protecting them from the full reality of the suffering.
What was important to note was that they were not viewing social workers, or others, as necessarily providing the support or counselling to alleviate this experience in the early phases of recovery. There is evidence to suggest that review, followup and management may be important at an appropriate time after discharge, consistent with Jeavons et al’s (1996) and Watts’ (1994) finding.

(C) ANTICIPATORY COPING

*I will still have a life*

This theme relates to two seemingly contradictory experiences of the expectations of the future that became powerfully evident.

The first experience may be unique to this sample, being a severely physically injured sample. It relates to the anticipation of later disability. This experience is an unrecognized issue in the road trauma literature. Many respondents were told that with the ageing process, new pains, limitations and disabilities would emerge that they were not currently aware of or having to address. This is of critical importance in shaping any theoretical model of road trauma recovery, as vastly different adaptive tasks are being required of the individual in these circumstances. The anticipation and active care regarding *later* health problems means that the trauma will continue to reverberate throughout their lives. Unlike other traumatic events, it was not suddenly over, and therefore able to be resolved according to the models of Chapter One. In a sense, it is therefore about an adaptation to the new reality that physical recovery is not possible. Thus, it leads to a series of adaptations across the lifespan.

The other experience of anticipatory coping is related. While most did not anticipate their recovery, they certainly anticipated that in five years time they would be coping well or extremely well. That is, they were able to tap into an optimism and hopefulness, indicated in their comparably high levels of optimism, and their expectations of future coping. They were able to anticipate, not recovery, but coping. This process of adaptation, within the trauma framework, needs far greater attention. There may be many phases of adaptation that are currently not being heard as part of the adaptation to road trauma experiences. The disturbances outlined in Chapter One
only account for the reaction to the initial stressors or event, and not to these ongoing adaptations.

In looking at a trauma experience that requires continual or future adaptations, the integration of other grief and growth models, perhaps particularly notions of disenfranchised grief, is critical.

(D) Survivor Pride

*I remember every day that I am a survivor*

*pride: ‘a consciousness of what befits, is due to or is worthy of one’s self or one’s position; self-respect’*

Brown (1993 2351)

An often underestimated theme of the recovery experience as represented in the research literature, and perhaps also in the everyday context of rehabilitation, was the sense of survivor pride or survivor strength that emerged from the accounts. Alongside the stories of distress and loss, were stories of immense pride in the way in which these survivors had managed to deal with their experience. Individuals came to recognize and value their own survival, and appreciate the skill and energy that they had invested in the process of that survival. This positive focus on the self was, on the one hand, seemingly driven by a refusal to succumb to either what someone else has done to them, or to injuries, pain and despair generally. On the other hand, it seemed to be about a sense of satisfaction, of determination, of achievement.

It was borne out most strongly in the attitudinal resources that individuals highlighted as the second most important resource for recovery - where the sense of determination, inner strength, belief in the self, energy and focus became very apparent. It was also reflected in the statements about anticipatory coping - how they imagined they would be coping in five years time. It was reflected also in the positive attitudes towards the future, where 35% of responses were about positive changes, whereby individuals had come to appreciate new aspects of themselves, their capabilities or of others. The notion of survivor pride has connections with what Herman (1992 202) suggested could stand as the marker of recovery, the belief or
recognition that ‘at least I have myself’.

Underlying this sense of survivor pride was the sense of having a second chance, even if a double-edged one, as discussed. Having survived a significant threat to life was seen to change life priorities and self-perceptions for many. Importantly, the accounts of surviving this threat to life did not read with the optimism of the thriving language. Rather it was like a persistent determination to recover and move on, a resilience, a protection of the self.

It is a somewhat different notion from the notion of ‘personal strength’ that was tapped into with the PTGI, in that it seemed not so much to be about feelings of self reliance and feeling stronger than previously, but about issues of determination. It raises the question as to whether a threat to life is necessary to stimulate the process or not. More importantly it raises the question as to whether it is currently being encouraged or acknowledged throughout rehabilitation experiences.

AN ECOLOGICAL UNDERSTANDING OF RECOVERY

Before conclusions about an ecological understanding of recovery can be drawn, discussion of the respondents’ perceptions of recovery is required.

As well as global notions of recovery, some of the aspects of recovery that were examined in earlier chapters included notions of key turning points, and whether trauma led to new involvements and interests. Very few respondents identified key turning points in their experiences, rather referring to gradual transitions throughout their recovery. Again, this is possibly related to the severity of their injury and the complex interaction that was taking place between body and mind. The notion of key turning points may have more relevance for those recovering from psychological trauma alone. It is important to note, however, that there were key realization points for a small number of people, and these served as moments of insight, to motivate them into a different state of mind.

Similarly, very few people became engaged in other activities. On the one hand,
perhaps the respondents did not have enough energy or external focus to become involved in the way that Herman (1992) and Blankenship (1998) suggest. That is, their recovery was not at that point yet. On the other hand, it may be that as one respondent suggested, recovery was about no longer needing to deal with any associated issues. Moving on from the accident was about moving on from all personal and political connections. This could explain the fact that there was no association between growth experiences and involvement in other activities.

This finding raises important issues about self-help groups and their role in either perpetuating a particular position or enabling people to move on and recover. It also raises important issues about the idealizing of recovery experiences from trauma, based on limited clinical experience, and the realities of recovery experiences, whereby survivors do not in fact have the time, energy or resources to invest in external causes. It may be that participation in this research was an important part of this process. Others spoke of involvement in other unrelated activities, whereby they had been able to invest new energy. These areas of particular turning points and involvement in other activities may need further investigation before the models proposed by Herman (1992) and others are accepted as the lived experience of trauma survivors.

Some important barriers to recovery were identified by the survivors when asked about whether it was possible or not to get over something like this, and they were broader conceptualizations of ‘non-recovery’ than those proposed by Weiss (1988) in Chapter One. These barriers were identified as ongoing physical pain and limitation, psychological difficulties, significant losses and ageing processes. This was confirmed in the fact that only one third of respondents could imagine that they would ever say that they had recovered. That is, the barriers were the realities that they were adapting to on a daily basis and finding difficult to overcome.

The other valuable insight into recovery experiences came from the notions of recovery that the survivors were holding to, and the crisis in lived experience. Most, in thinking about their recovery, were wanting that to be about a return to the pre-accident way of being, a return to the self and to roles with which they were familiar. Recovery was an absolute notion or experience, quite different from notions of coping
that were more about an adaptive experience. The crisis of this impossibility of recovery became evident for most in leaving the rehabilitation experience, and in attempting to resume old roles and routines. In one sense, this crisis involved a reevaluation from ‘getting over’ the accident to ‘living with’ the new reality.

It raises questions about the idealized state of trauma recovery, particularly in view of the discussions of Chapter One. The assumptions around the resolution of cognitive trauma, for example, are that intrusive and avoidant thoughts are integrated. These models fail to assume that there might always be intrusive and avoidant thoughts and these might be something quite different from ‘recovery’. It may be an unrealistic expectation that there will be no experience of intrusive or avoidant thoughts or ongoing psychological difficulties when survivors are exposed to the stressor environment every day when they travel in cars or on the roads. It may be that different markers of distress and disturbance are required, and these survivors began to speak of these. Like all human experience, there is no predictable pathway of response. There is a range of possibilities, heavily dependent upon the perceptions and the resources with which the survivor can respond.

This thesis has examined the nature of the experiences for survivors of road trauma, building a profile of the relationships between distress and growth and a range of risk and protective factors. The task is now to review the usefulness and limitations of such an understanding.

These findings highlight the different adaptation processes. Similar to the distinction that Raphael and Meldrum (1994) make between traumatic bereavement and bereavement, there needs to be a distinction between traumatic disability and trauma that does not involve the adaptation to life long physical impairment. This was particularly highlighted in the finding that those with no ongoing physical difficulty were not experiencing avoidance symptoms.

There is a need for a discourse of longer-term loss and grief to be interwoven with the understanding of trauma recovery experiences. Not all people going through other traumas may experience such losses, but the overwhelming theme for this sample of survivors was their multiple experiences of loss. If there is recognition of a traumatic
disability, approaches to understanding the experience would include both a ‘survival’ or traumatic aspect and a longer term ‘quality of life’ aspect once the survival phase is passed. In doing so, a road trauma recovery model needs to usefully include a variety of pathways: of trauma, of adaptation to disability and chronic pain, of loss, of growth and therefore notions of the ecological impact of risk and protective factors, which are not yet fully understood. Thus, in revisiting the model proposed on page 111, the continuity of the process would be more strongly emphasized, moving through repeated cycles of negative consequences, positive consequences and varying phases of psychological ‘recovery’ or, perhaps more accurately, adaptation.

The pathways approach, set out in Chapter Four, while a somewhat artificial division of the experience, enabled an appreciation of the wide variety of experience that survivors encountered. There was evidence of all of these pathways in the experiences reported by the respondents. A small number, some of whom were apologetic and minimizing of their experience, spoke of no lasting consequences of their road trauma. More research is required to understand more fully this group of survivors. Others spoke of how they continued to experience a great deal of distress. Interconnected for some were experiences of growth, to varying degrees.

In being descriptive of the recovery experience, it is not possible to begin to understand the prescriptive elements. Thus, no prescription for therapeutic intervention emerges, for example, from these findings. What does emerge, however, is a rich understanding of how so many factors, at all the levels of the survivor’s environment, influence their experiences of recovery. The ecological model, in maintaining this wider social lens, has enabled the valuing of all levels of experience, and prescribed a multi-method approach to listening to these levels. The ecological model has enabled, as well as an understanding of some core vulnerabilities, an understanding of the strengths of both the individual and their environment in the aftermath of road trauma experiences.
IMPLICATIONS

A number of implications can be drawn from these findings for social work research and practice.

(1) This research highlights the importance of an ecological model in understanding trauma recovery. The dominance of the psychiatric model in working with survivors of road trauma is challenged by these findings and reinforces the need for further social work research in these areas. An ecological model, in describing the important factors and consequences, allows for recognition of a range of adaptive processes and highlights the importance of the integration of a range of models - models of chronic pain, grief, disenfranchised grief as well as trauma that may be relevant to understanding the experience.

(2) The multi-method approach to trauma research needs to continue - using qualitative and quantitative data to inform each other. While the conceptualizations of both distress and growth continue to be expanded, this mutually informing method of data collection and analysis should be continued to ensure that the conceptualizations match the experiences as much as possible, rather than being solely based on quantitative methods of inquiry.

(3) Social work needs to continue to think beyond mental health outcomes to other consequences of trauma, such as the financial and physical outcomes, that are themselves significant consequences of trauma. Advocacy and structural change around the management of and compensation for these issues may be more important interventions for mental health, let alone general, outcomes for clients.

(4) At an intervention level, a number of issues arise around respondents needing to move on from the system but at the same time, be utterly dependent upon it. This was most vividly highlighted in the interviews where the interviewees spoke of their need to be supported by someone who was part of the system in the management of the loss of control and the psychological regression they were experiencing. The social work role, while not examined specifically, needs some analysis in the context of these
What emerged from the discussion is a need for psychosocial intervention throughout recovery experiences, yet there was very little perception that it had been provided. The question of how much follow-up or ongoing support is a difficult one to answer. It is tempting to conclude from these findings in relation to distress that some of these survivors require further intervention, or required intervention for longer periods of time. This question would need to be asked both retrospectively and concurrently to be able to begin to address it. Further consideration may also be required in relation to the timing and explanation of social work interventions. Unlike physiotherapists, whose contact is daily and tangible, and therefore understandable, a clearer statement or explanation of the social work role seemed evident from the findings.

(5) Some of the themes that were identified, particularly the privacy of suffering, need to be more fully understood and incorporated into interventions and assessments. In doing so, the systems will become more responsive to a number of possible recovery pathways and therefore provide greater flexibility and better follow-up. The generalizability of these themes across other trauma experiences also requires consideration and research.

(6) Finally, the strengths approach, emphasizing the possibilities for resilience and growth in the aftermath of trauma, implicit in the ecological model, needs further application and inquiry. Further research into survivors’ experiences of other trauma issues, such as war and refugee experiences, domestic violence and health crises, needs to be conducted along these lines. Strategies for promoting resilience may then be more appropriately developed and encouraged.
CONCLUSION

This research is the first Australian examination of the subjectively and objectively defined aspects of recovery from road trauma, from an ecological perspective. It has identified a wide variation in recovery experiences, in relation to both negative and positive consequences.

There was evidence of the continued experience of posttraumatic stress symptoms for one third of the sample, and evidence of little ongoing psychological consequence at all for another third. Three to four years after serious road trauma, the most common experiences for this group of survivors were growth, distress, ongoing physical difficulties, and viewing the accident and its aftermath as the most traumatic event of their lives. Social environment factors, particularly changes in relationships, were powerful mediators in the recovery experience, and were perceived to be the most protective resource in recovery. A range of other risk and protective factors, however, were also associated with both distress and growth experiences.

Adopting a multi-method approach to the data collection was a useful way of eliciting both the depth and breadth of the recovery experiences, with the quantitative and qualitative findings building a rich and predominantly complimentary picture. Most importantly, listening to the subjective experiences of survivors highlighted that in addition to themes of distress and growth, there were four other themes of the recovery experience - finding a new fit, the privacy of suffering, anticipatory coping and survivor pride.

An ecological understanding of trauma enabled a moving away from prescribed zones of psychological functioning only, to explore other significant areas of functioning. The exploration of physical, social, financial and legal issues, as well as expectations about future functioning, highlighted the many layers of adaptation that survivors had either made or were continuing to make in the aftermath of their trauma experience.

Thus, rather than there being one framework for understanding the recovery
experiences, the findings of this thesis suggest a need for social workers to be listening to the varieties of the trauma experience. This involves listening to the nature of the experience - whether one of trauma, loss, or no consequence. It involves listening to the themes of the experience - distress, growth, isolation, pride. Finally, it involves listening to the domains of the experience – the complex biopsychosocial interactions and to a lesser extent, spiritual. Most importantly, an ecological understanding enables the experiences of the resilience and strength of the survivors to be heard.

This thesis has identified the themes of the recovery experience as they have been lived over these past three to four years. It has only begun the important task of widening the parameters of the understandings of recovery experiences. Further research that examines the many pathways of recovery, particularly the growth pathways, is required.
**BIBLIOGRAPHY**


APPENDICES