HOW INDIVIDUALS WITH TRAUMATIC INJURIES MANAGE THEIR EVERYDAY LIVES FOLLOWING A MOTOR VEHICLE CRASH

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Getting My Life Back ......................................................................................................................... 41
The purpose of this study was to develop a theoretical framework that describes how individuals with traumatic injuries from a motor vehicle crash manage their everyday lives. Traumatic injury is a major health problem that may lead to impaired functional ability and psychosocial distress.

Grounded theory methodology guided the study. Fifteen participants recruited from a Midwestern Level I trauma center were interviewed using open-ended questions that explored their experiences following the motor vehicle crash. Constant comparison analysis was used to analyze the interview data and to develop the framework.

A common psychosocial problem shared by participants was labeled “Having My Life Taken Away” as the crash was life-threatening, changed their lives in an instant, and robbed them of all sense of control. The psychosocial process by which they responded to this problem was labeled “Getting My Life Back” as the participants described a number of actions to re-gain command of their lives. The psychosocial process included four stages: (a) staying alive, (b) getting fixed up, (c) getting by, and (d) getting on with it. Each stage of the process had a component related to (a) how participants viewed the accident and its impact, and (b) how they interacted with others.
The study provides a new conceptual understanding of how crash survivors manage their lives following a motor vehicle crash. The theoretical framework can be used by clinicians to guide discussions with crash survivors about their primary concerns and to facilitate a plan of care that addresses these concerns.
CHAPTER I

INTRODUCTION

The purpose of this grounded theory study was to develop a theoretical framework that describes how individuals with traumatic injuries manage their everyday lives following a motor vehicle crash. In grounded theory, a theoretical framework links concepts derived from the data together in explanatory relationships and explains how individuals respond to a life challenge (Schreiber, 2001). Managing one’s life is a psychosocial process, influenced by decisions and adjustments that an individual makes in response to a variety of complex, interrelated factors. I have chosen the term “manage” which is defined by Merriam Webster as “to handle or direct with a degree of skill, to succeed in something and to achieve one’s purpose” (http://www.m-w.com, February 8, 2005) to tentatively label the psychosocial process I wish to describe. This term most closely resonates with the process that I believe individuals engage in as they respond to the challenges of having sustained a traumatic injury following a motor vehicle crash.

The knowledge gained from this research will have conceptual application as it will provide nurses and other healthcare providers a deeper understanding and richer appreciation of the experiences of those who have suffered traumatic injuries. The findings will also have a practical application as the theory may provide the foundation for the development of innovative interventions that support healing and recovery.
Factors that influence recovery and the psychological adjustment following a traumatic injury have been identified by researchers, but little research has been done to provide an in-depth description of processes used by individuals with traumatic injuries following a motor vehicle crash as they manage their everyday lives.

Traumatic Injuries

Traumatic injury is a major health problem in the United States that affects millions of individuals and creates a staggering demand for health care resources. Traumatic injuries are defined as disruptions of soft tissue, organs and bony skeleton resulting from energy forces greater that the body can withstand. These forces can be in the form of mechanical, electrical, chemical or thermal energy (National Safety Council, 1999). In 1998, unintentional injuries in the United States ranked as the fifth leading cause of death. An estimated 25% of the population is injured annually, and about 5% of those with traumatic injuries require hospitalization (Melnick & Rouse, 2001). According to the Centers for Disease Control and Prevention (CDC), each year in the United States millions of individuals experience a traumatic injury that causes significant alterations in lifestyle, chronic pain and disability (U. S. Department of Health and Human Services, 2003). Individuals with traumatic injuries frequently experience numerous invasive procedures, surgical interventions and lengthy hospitalizations, often in critical care units. According to the Centers for Disease Control (1999), most persons in the United States (U.S.) will sustain a significant injury at some point in their lifetime.

The U. S. Department of Health and Human Services (2003) reports that more than 80,000 persons will experience a long-term disability related to a traumatic injury every year in the United States. The U. S. Department of Labor (1990) in the Americans
with Disability Act defines disability as having a “physical or mental impairment that substantially limits one or more of the major life activities of such individual, a record of such an impairment; or being regarded as having such an impairment” (p. 3). Though survival rates from traumatic injury have improved due to advances in treatment modalities, individuals who sustain traumatic injuries may experience significant disabilities that may compromise their ability to effectively care for themselves (Pope & Tarlov, 1991). Persons with disabilities experience numerous stressors, including discrimination, problems with environmental accessibility and prejudice from persons without disabilities (Smart, 2001).

Motor vehicle crashes are the most common cause of serious injury in this country, with total societal costs, including direct medical care, rehabilitation, lost income and productivity, exceeding $224 billion annually (Healthy People 2010). The death rate for motor vehicle-related injuries in the United States for the year 2000 was 15.4 per 100,000 resident populations (U.S. Department of Health and Human Services, 2003). Older adults have higher rates of mortality than their younger counterparts (Jacoby, Ackerson, & Richmond, 2006). According to the American College of Surgeons Committee on Trauma (ACSCOT) National Trauma Data Bank (NTDB) Annual Report (2003), the largest aggregation of trauma registry data, motor vehicle crashes accounted for 39% of the 548,735 cases that were submitted from 1997 to 2002. Motor vehicle crashes accounted for the largest number of hospital and intensive care unit days and for 39.5% of all mortalities (ASCOT, NTDB, 2003).

Persons with traumatic injuries following a motor vehicle crash experience both
physiological and psychosocial effects that may influence how they manage their lives following the crash. In this review, these factors are considered outcome variables. These outcomes are thought to be influenced by factors that occur at the time of the crash or that precede the traumatic injury; these factors are considered predictor variables. In addition, a number of factors have been identified that seem to explain the relationship between the predictors and outcomes; these variables are considered mediator variables. Common outcomes following a traumatic injury resulting from motor vehicle crashes will be outlined, followed by a discussion of salient predictor and mediator variables (Table 1).

Table 1

Relevant Variables

<table>
<thead>
<tr>
<th>Outcome Variables</th>
<th>Predictor Variables</th>
<th>Mediator Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impaired functional ability</td>
<td>Injury severity</td>
<td>Attribution for the event</td>
</tr>
<tr>
<td>Psychosocial distress</td>
<td>Body area injured</td>
<td>Urinary cortisol levels/ coping strategies</td>
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<tr>
<td>Posttraumatic stress disorder</td>
<td>Sympathetic arousal</td>
<td>Illness intrusiveness</td>
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<td>Depression</td>
<td>Peritraumatic dissociation</td>
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<td>Travel anxiety and Driving phobia</td>
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Effects of Traumatic Injuries and Motor Vehicle Crashes

Researchers have shown that individuals who have sustained traumatic injuries often exhibit decreases in functioning and psychosocial distress that extend beyond the acute phases following the initial traumatic event. The long-term negative effects most frequently identified include (a) impaired functional abilities, including delay in return to work/school; and (b) psychosocial distress, including posttraumatic stress disorder, depression and anxiety-associated disorders.

**Impaired Functional Abilities**

Individuals with traumatic injuries following a motor vehicle crash may experience limitations in their ability to function at their pre-injury level. Research indicates that while most individuals return to pre-injury functioning, a significant percentage experience some functional limitations and a small percentage experience severe limitations.

The majority of individuals with traumatic injuries return to their pre-injury level of functioning. Researchers have reported that between 50% and 60% of individuals with traumatic injury have no activity limitations (MacKenzie, Siegel, Shapiro, Moody & Smith, 1988) or disability (Jurkovich, Mock, MacKenzie, Burgess, Cushing, deLateur, et al., 1995) at one year post-injury. Of those individuals who experience traumatic injury and require hospitalization, approximately 90% return to pre-injury activities at six months (Strohmyer, Noroian, Patterson, & Carlin, 1993; VanDongen, Veltman, Bostrom, Buechler, & Blostein, 1993). Researchers have consistently shown that between 70% and 90% of individuals hospitalized with traumatic injuries will return to work or school in
one year (Gruen et al., 1995; Kivioja, Myllynen, & Rokkanen, 1990; Mackenzie, Shapiro, Moody, Siegel, & Smith, 1986).

While many individuals with traumatic injury make a good recovery, a significant number experience on-going functional limitations in eight areas: (a) physical functioning, (b) social functioning, (c) physical role, (d) bodily pain, (e) mental health, (f) emotional role, (g) vitality, and (h) general health (Aitken et al., 2007; Lee, Chaboyer, & Wallis, 2008). In a study of hospitalized trauma patients one year after injury, 30% of 22 hospitalized trauma patients had significant limitations in functional outcomes in 7 of the 8 areas listed above (Zatrick, Jurkovich, Gentilello, Wisner, & Rivara, 2002). In a similar study, 77% of 48 hospitalized trauma patients had mild disability and 23% had moderate disability as measured by twelve health-related dimensions (i.e., sleep/rest, emotional behavior, body care, eating, home management, mobility, social interaction, ambulation, alertness/behavior, communication, recreation, and work) at one year (Gruen et al. 1995). At one year, 16% of 479 hospitalized trauma patients had difficulty with a minor or major physical activity, and 27% were limited in either mobility or one of the five basic self-care activities (i.e., feeding, bathing, dressing, toileting and bed transfer) (MacKenzie, Siegel, Shapiro, Moody & Smith, 1988).

Individuals with traumatic injury with on-going functional limitations may experience difficulties in their return to work. In a study of 502 injured workers, Blackwell, Leierer, Haupt, and Kampitsis (2003) found that 31% returned to work, but required either environmental or job modifications, and 18% required job training. Over half were unable to return to work at one year post-injury.
A small group of individuals who experience a traumatic injury suffer severe and persistent functional limitations. Between 5% and 9% of individuals with traumatic injury experience severe disabilities (Jurkovich et al., 1995, MacKenzie et al. 1988; Rhodes, Aronson, Moerkirk, & Petrash, 1988), and 2% require institutionalization or remain in a persistent vegetative state (Rhodes et al., 1988; MacKenzie et al., 1988).

In summary, while some individuals who have sustained traumatic injury have some ongoing difficulties in performing activities of daily living and maintaining role functioning, most return to pre-injury functioning. While the majority of individuals with traumatic injury return to work and school, some require job modifications and training and some never return to their previous positions. Little research has been done to examine other ways in which the lives of survivors of motor vehicle crashes are affected, such as alterations in the overall quality of their lives or in their social/personal relationships.

Psychosocial Distress

Traumatic injury has been shown to result not only in functional limitations, but in psychosocial distress as well. MacKenzie, Shapiro, Moody, Siegel and Smith (1986) suggest that understanding the relationship between psychological distress and the level of functional recovery is important for providers of trauma care. In a Delphi study, Bayley, Richmond, Noroain and Allen (1994) found that research focusing on the psychological and lifestyle changes associated with traumatic injury ranked third among research priorities that would positively impact patient welfare. Negative psychological effects, such as posttraumatic stress disorder, depression and anxiety following traumatic injury, has been found to negatively affect finances and employment (Landsman et al,
1990; Michaels et al., 1998) and lead to avoidance behaviors and accident phobia behaviors (Blanchard et al., 1995; Taylor & Koch, 1995). The most frequent serious psychological problems that have been identified following motor vehicle crashes include posttraumatic stress disorder, depression and anxiety associated disorders (Blanchard & Hickling, 2004).

*Posttraumatic Stress Disorder.* Individuals who experience traumatic events that are life-threatening frequently develop emotional and behavioral reactions that can threaten mental health and potentially lead to the development of posttraumatic stress disorder (PTSD). PTSD is a psychological reaction to a stressful event of an intensity that is beyond what would be considered a normal response. The central features associated with PTSD are the re-experiencing the stressful event, avoidance of stimuli associated with the event and numbing of responsiveness, and arousal (American Psychiatric Association, 2000). Norris (1992) found that motor vehicle crashes are the single most frequent cause of PTSD in the United States.

Early researchers reported a wide range in the incidence of PTSD following a motor vehicle crash. Reported incidence ranged from between 5% and 9%, (Malt, Hoivik, & Blikra, 1993; Green, McFarlane, Hunter, & Griggs, 1993; Mayou, Bryant, & Duthie, 1993) to 100% (Kuch, Cox, & Evans, 1996). This wide variation is likely related to a number of factors including (a) non-homogeneous samples, (b) time passed since motor vehicle crash in relation to participant evaluation, (c) variation in assessment techniques used by researchers, and (d) variation in diagnostic criteria used to establish diagnosis of PTSD. In recent studies, researchers have demonstrated more consistent findings regarding the incidence of PTSD following a motor vehicle crash. Incidence rates
between 21% and 49% have been reported (Bryant, Harvey, Guthrie, & Moulds, 2000; Delahanty et al., 1997; Ehlers, Mayou, & Bryant, 1998; Koren, Amon, & Klein, 1999; Zatrick, Jurkovich, Gentilello, Wisner, & Rivara, 2002; Richmond & Kauder, 2000).

Depression. Another common response to traumatic injury following a motor vehicle crash is major depression, experienced independently or co-morbidly with PTSD (Blanchard & Hickling, 2004). In the National Co-Morbidity Study (NCS) researchers found that regardless of gender, individuals with PTSD from varying types of traumatic events were likely to have co-morbid mood disorders, including major depression (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). The incidence of co-morbid depression following a traumatic injury from a motor vehicle crash has been shown to range between 36% and 53% (Blanchard, et al., 1995; Hickling & Blanchard, 1992; Welch, 1995; Zatrick, Russo, & Katon, 2003; Zatrick, et al., 2004)

The variations in rates of PTSD and depression described in the literature may be related to a number of factors, (a) non-homogenous populations, (b) assessment techniques used, (c) specificity of the instruments, and (d) amount of time lapsed between the motor vehicle crash and interaction with the researcher.

In summary, individuals who have experienced a traumatic injury following a motor vehicle crash are at risk for developing depression either independently or co-morbidly with PTSD. Based on the studies reported above, research has demonstrated that between one-fourth to one-half will develop psychological distress manifested as depression.
Travel Anxiety and Driving Phobia

In addition to the psychosocial outcomes of PTSD and depression in individuals with traumatic injuries following a motor vehicle crash, a significant number will experience problems of travel and driving anxiety.

Travel and driving anxiety. Involvement in a motor vehicle crash is associated with the development of changes in how individuals feel about traveling and driving. Blanchard and Hickling (2004) defined driving phobia as complete avoidance of driving or restriction of driving to only that which is absolutely necessary. Driving reluctance was defined as avoidance of driving (a) near the location of the crash, (b) during weather conditions that were associated with the crash, (c) on specific roads, and (d) for pleasure. In a study of 158 participants following a motor vehicle crash, Blanchard et al. (1995) found that 93% of those with PTSD acknowledged effects on their travel behavior. These effects included not driving at all (4.8%), driving phobia (15.3%), avoiding the crash site (33.9%), and avoiding driving for pleasure (44.1%). Other researchers found rates of anxiety associated with either traveling or driving ranging from 22% to 33% (Frommberger et al., 1998; Mayou, Bryant & Ehlers, 2001; Mayou, Tyndel, & Bryant, 1997; Vingilis, Larkin, Stoduto, Parkinson-Heyes, & McLellan, 1996). The research cited above thus indicates that about one-fourth to one-third of individuals who have been injured in a motor vehicle crash experience either travel or driving anxiety.

Researchers have studied the incidence of PTSD, depression and anxiety associated disorders in individuals with traumatic injuries following a motor vehicle crash. Findings from the above studies indicate that a substantial percentage of these individuals suffer from some type of psychosocial distress that may interfere with their
ability to participate in activities of daily living and work, and may affect their sense of well-being. While these findings are informative in understanding the salient psychosocial effects that influence recovery following a motor vehicle crash, they provide little understanding concerning the complexity of the psychosocial process of managing one’s life following a traumatic injury from a motor vehicle crash.

Predictors

Several factors that occur at the time of the traumatic injury are associated with functional and psychological responses following a motor vehicle crash. These factors, considered to be predictor variables, include: (a) injury severity, (b) body area injured, (c) urinary cortisol levels/sympathetic arousal, and (d) peritraumatic dissociation.

*Injury Severity*

Most researchers use the Injury Severity Score (ISS) developed by Baker and O’Neill (1976) to measure severity and to quantify the degree of injury. The ISS facilitates the comparison of severity of injury among diverse types of injury. Using a numerical system, the ISS is scored from 1 to 75, with 1 being the least severe injury and 75 being the most severe injury (Baker & O’Neill, 1976).

Researchers have studied how injury severity influences recovery from a functional perspective. Low correlations have been found between the severity of injury and post-injury disability (r = .15) (Richmond, 1997; Richmond, Kauder, & Schwab, 1998) at 3 months post-injury, and between injury severity and functional parameters at 6 months (r = .05) and 12 months (r = .04). Several researches have found no correlations between injury severity following a motor vehicle crash and disability (Bull, 1985; Clay, van Kampen, & Hogerzeil, 1987). Although it had been speculated that higher ISS scores
would lead to more significant functional limitations, the research demonstrates that injury severity has little value as a predictor of functional outcomes in individuals with traumatic injuries.

Research findings investigating the relationship between injury severity as a predictor for the development of PTSD have been inconclusive. There have only been three studies that demonstrated that the severity of injury predicted the development of PTSD (Blanchard & Hickling, 1997; Frommberger et al., 1998; Malt, Hoivik, & Blikra, 1993). Blanchard and Hickling (1997) found correlations between injury severity and the development of PTSD at two months post-injury ($r = .302$). At six months post-injury, both Frommberger et al. (1998) and Malt, Hoivik, and Blikra (1993) reported significant associations between PTSD and ISS scores. Other studies, however, showed no correlation between the severity of injury and the development of PTSD in survivors of motor vehicle crashes (Bryant & Harvey, 1996; Bryant et al., 2000; Delahanty, Raimonde, Spoonster, & Cullado, 2003; Dougall, Ursano, Posluszny, Fullerton, & Baum, 2001; Green et al., 1993; 1998; Koren et al., 1999; Schnyder, Moergeli, Klaghofer, & Buddeberg, 2001).

While one would expect those individuals with more serious physical injuries to be more likely to develop PTSD, the research findings did not consistently demonstrate a correlation between injury severity and the development of PTSD. Some authors speculate the relationship between injury severity and PTSD were mediated by other factors, such as cortisol levels (Delahanty, Raimonde, Spoonster, & Cullado, 2003), premorbid or comorbid psychopathology (Koren, Arnon, & Klein, 1999), and length of hospitalization (Frommberger et al., 1998; Jeavons, 2000).
In summary, while one would expect that individuals with higher injury severity scores would experience a greater degree of functional limitation and a higher incidence of PTSD, research findings have been inconsistent regarding the predictive value of injury severity as it relates to functional and psychological outcomes.

**Body Area Injured**

A few researchers have examined the relationship between the area of the body injured and functional limitations following a traumatic injury. At the end of one year, functional limitations were found in 40% of subjects with traumatic brain, 57% of subjects with spinal cord, and 53% of subjects with extremity injuries (MacKenzie et al. 1988). Bull (1985) reported that individuals with traumatic brain and lower extremity injuries were more likely to have significant disabilities compared to other body areas. Richmond (1997) found that extremity and pelvis injuries resulted in significantly higher functional limitations at 3 months post-injury than did injuries to other parts of the body.

For the purpose of this study, those individuals with central nervous system injuries, self-inflicted injuries and pre-injury active major psychiatric syndromes were excluded. Although not stated, it is speculated that exclusion criteria were used to facilitate completion of assessment tools and follow-up. Again, there is no consistent evidence, therefore, that injury in any one body area predicts negative outcomes.

While injury severity and body area injured would seemingly influence outcomes, research does not consistently support this. Knowledge of the direct physical consequences of the injury thus provides little assistance in identifying individuals early in the recovery process who may have long-term negative outcomes in the areas of
physical functioning, social interaction, return to work and/or school and recreational activities.

*Urinary Cortisol and Sympathetic Arousal*

The role of the stress hormone response following trauma in predicting recovery has been studied. Researchers have investigated the role of neuroendocrine levels in individuals with traumatic injuries following a motor vehicle crash in predicting the development of PTSD. Woolf (1992) found that changes in circulating levels of hormones following a traumatic injury were bidirectional; levels of adrenocorticotropicin (ACTH), cortisol, growth hormone (GH) and prolactin levels increase, while gonadotropin, gonadal steroid and thyroid hormone concentrations decrease. In a similar study, Hetz, Kamp, Zimmerman, von Bohlen, Wildt, and Schuettler, (1996) found that circulating levels of ACTH, cortisol, prolactin and GH increased following a motor vehicle crash. Prolactin levels were positively correlated, and cortisol levels were negatively correlated, with injury severity. Some researchers have reported that initial cortisol levels of victims of motor vehicle crashes contributed, in part, to the prediction of the development of PTSD (Delahanty, Raimonde, & Spoonster, 2000; Delahanty, Royer, Raimonde, & Spoonster, 2003).

Other researchers have studied the role of sympathetic arousal, expressed as an increase in heart rate, as a predictor of the development of PTSD following a motor vehicle crash (Bryant, Harvey, Guthrie, & Moulds, 2000; Shalev, Sahar, Freedman, Peri, & Glick, 1998). Tachycardia occurring shortly after the traumatic injury, but not elevations of blood pressure, was predictive of the development of PTSD at 1 and 4 months (Shalev et al., 1998) and at six months (Bryant et al., 2000). Researchers sought
to replicate these findings, but found that those individuals with tachycardia were significantly less likely to develop PTSD at 13 months post-injury (Blanchard, Hickling, Galovski, & Veazey, 2002).

In summary, while stress responses, including hormonal changes and sympathetic arousal, are experienced by survivors of motor vehicle crashes, it is unclear if there is an association between these changes and the development of PTSD. The inconsistencies in these findings may be attributed to confounding factors that influence the relationship between physiological measures and psychological outcomes. Such factors include when the physiological measures were taken (i.e., time since crash), type of injury (e.g. head injuries influence hormonal response), or whether PTSD was measured prospectively or retrospectively (Blanchard et al., 2002; Delahanty et al., 2000; Woolf, 1992). Studies concerning the consistent relationships between hormonal changes and sympathetic arousal and the development of other long-term effects, such as depression and driving anxiety, were not found in the literature.

**Peritraumatic Dissociation**

Individuals experiencing a traumatic event often describe alterations in their perception of person, place and time. Peritraumatic dissociation includes perceptions of changing of time, out-of-body experiences, a profound unreality of the event, and alteration in pain (Spiegel, 1993). Two conditions are pivotal in peritraumatic dissociation: activation of the fear structure and activation of the trauma memory, both triggered by trauma-related stimuli (Foa & Kozak, 1986).

Peritraumatic dissociation was found to be predictive for the development of PTSD in individuals following a motor vehicle crash in a number of studies. Researchers
found that peritraumatic dissociation was strongly predictive of the development of PTSD at 6 months post-injury (Shalev, Peri, Canetti, & Schreiber, 1996; Ehlers et al., 1998). Delahanty et al. (2003) found that increased levels of peritraumatic dissociation were predictive of PTSD one month post-injury, whereas Holeva and Tarrier (2001) found that peritraumatic dissociation did not predict the development of PTSD at 2 to 4 weeks or at 4 and 6 months post-injury.

In summary, findings have been inconsistent concerning whether factors which can be measured at the time of the crash, including injury severity, body area injured, urinary cortisol/sympathetic arousal and peritraumatic dissociation predicts long-term responses of individuals following a motor vehicle crash. While injury severity would seem to be related to functional outcomes, and indices of the stress response would seemingly be related to development of PTSD, these variables have not been robust predictors of outcomes. Little research has been done to investigate the relationship among/between these factors and other outcomes, such as depression and anxiety.

Mediators

The ways in which individuals interpret or process traumatic events are thought to mediate the relationships between event-related factors (e.g., severity, body area affected) and outcomes. Mediators discussed here include (a) attribution for the event (b) coping strategies, and (c) illness intrusiveness.

Attribution for the Event

Attribution is a cognitive process whereby individuals interpret the cause of events in their lives and consider how those events influence their thinking and behavior (Heider, 1958; Harvey & Weary, 1985; Weiner, 1980, 1986). The relationship between
attribution for a traumatic event and the development of PTSD following a traumatic injury has been studied. Delahanty et al. (1997), for example, found that subjects who blamed themselves rather than blaming others for their motor vehicle crashes had fewer symptoms of PTSD. This finding is consistent with early work by Bullman and Wortman (1977) and others who found that individuals who blamed themselves for accidents resulting in a spinal cord injury were better able to cope than were those who blamed others (Buckelew, Baumstark, Frank & Hewett, 1990; Reidy & Caplan, 1994; Schultz & Decker, 1985). Blanchard and Hickling (2004) found that individuals who believed that the motor vehicle crash was attributed to something outside of their control, such as poor road conditions, developed fewer symptoms of PTSD. There is some indication, therefore, that those individuals who blame themselves for their injuries may have fewer PTSD symptoms and better adjustment, possibly because self-blame may result in a sense of control.

Coping Strategies

Individuals often use either behavioral and/or psychological coping strategies to manage stressful events. Problem-solving coping involves strategies to ameliorate a stressful situation, while emotion-focused coping involves strategies to adjust the emotional consequences of stress (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Most individuals use both types of coping. Coping strategies that maximize support or reframe stressful events in a positive way have been shown to decrease anxiety, increase personal control and improve family functioning (Fife, 1995; Kosciulek, 1994; Patterson & Garwick, 1994).
The use of leisure has been reported to be a buffer from stress in individuals with a spinal cord injury following an accident as it serves as a mental distraction, preserves a connection to the past, provides an escape from the boundaries of the hospital or home and serves as an escape from disability or illness (Hutchinson, Loy, Kleiber & Dattilo, 2003).

Coping strategies used by individuals following a traumatic injury have been studied by Welch (1995). These individuals used both problem-solving and emotion-focused coping when dealing with stress. Three phases of coping were identified. In the crisis phase, participants coped by developing amnesia for the event and relying on family support and faith. During the stabilization phase, physical healing slowed, while the emotional effects were central. During the healing phase, participants gathered resources to maximize recovery.

Grossman and colleagues (1995; Grossman, VanNeste-Kenny; Lee; Chambers-Evans, & Goodin, 1999; Grossman, Lee, VanNeste-Kenny, McHarg, Godin, & Chambers-Evans, 2000), in a series of studies of 51 critically-injured patients 8 to 12 weeks post-injury, found that cognitive processing efforts were positively correlated to sharing concerns and mobilizing support, while cognitive processing efforts using re-framing the traumatic event had negative effects on psychological adjustment. The authors suggest that the correlation between coping strategies and the degree of psychological adjustment had not been clearly identified.

Although the importance of coping strategies on recovery has been studied, little evidence is available that suggests strong correlations between specific coping strategies and emotional well-being. It is unclear, therefore, which strategies are most effective in
individuals who have experienced a traumatic injury. In addition, researchers have suggested that strategies may change over time.

*Illness Intrusiveness*

Illness intrusiveness is the degree to which a particular illness and/or the associated treatment interferes with any activity that is valued by the individual. Illness intrusiveness is thought to increase emotional distress and compromise psychological wellbeing in diseases that are chronic in nature (Devins et al. 1993). Although there has been no research I could find that has explored the role of illness intrusiveness in traumatic injury, this variable may explain some of the effects following a traumatic injury.

The role of illness intrusiveness in relation to a variety of medical conditions has been studied, including end-stage renal disease (ESRD) (Devins, Binik, Hutchinson, Hollomby, Barre, & Guttmann, 1983), rheumatoid arthritis (RA) (Devins, Edworthy, Guthrie, & Martin, 1992), larnectomy (Devins, Stam, & Koopmans, 1994), systemic lupus erythematosus (SLE) (Devins & Edworthy, 2000) and irritable bowel syndrome (IBS) (Dancey, Hutton-Young, Moye, & Devins, 2002). The researchers found in all studies that illness intrusiveness was significantly correlated with a number of negative outcomes. As illness intrusiveness increased in end-stage renal disease and subject control decreased, negative mood increased (Devins et al., 1983). In subjects with rheumatoid arthritis, an increase in illness intrusiveness led to greater depressive symptoms (Devins et al., 1992). Illness intrusiveness was found to mediate the relationship between perceived stigma and psychosocial outcomes in subjects post-
laryngectomy (Devins et al., 1994), while race-related quality of life was mediated by illness intrusiveness and level of education in individuals with systemic lupus erythematosus (Devins & Edworthy, 2000). In subjects with IBS, the severity of symptoms and perceived stigma correlated significantly with quality of life, while illness intrusiveness and gender mediated perceived stigma and quality of life (Dancey, et al., 2002).

In summary, a number of cognitive processes thought to explain the relationships between event-related factors, such as the severity of injury symptoms, and well-being following traumatic injury has been investigated. While there is some suggestion that self-blame of the injury and certain types of coping strategies have been facilitative, only a few studies have examined these factors. Illness intrusiveness may influence outcomes of traumatic injury, but has not been examined in survivors of motor vehicle crashes.

Experiences of Traumatic Injury

A number of researchers have studied the experience of having a traumatic injury from the perspective of the individuals who have sustained the injury. Richmond, Thompson, Deatrick, and Kauder (2000) used content analysis to explore the recovery of 63 adults following a traumatic injury. They described a three stage nonlinear process. The first stage of the process was the actual event, described as the beginning of the journey back to pre-injury life. During this stage, individuals become aware that the event caused more than the traumatic injury; it influenced their entire being. The second stage was described as the fallout. During this stage, individuals realized the consequences of the injury. This stage was multifaceted, including physical, psychological, social and
spiritual components. The final stage of the process was described as moving on. During this stage, individuals recognized that their life had been altered in very profound ways.

Morse and O’Brien (1995) studied the experiences of individuals who had survived a serious traumatic injury from the time of their injury to recovery. Using grounded theory methods, they presented a basic psychosocial process of what they entitled “preserving self.” This process involved four stages. The first stage was vigilance. During this stage, individuals had the ability to describe with clarity the details of the event, while acknowledging that their ability to accurately account for the passing of time was hampered. The next stage was disruption. Individuals experienced profound changes in the world that they knew and experienced gaps in memory, changes in sleep/wake cycles and dramatic, vibrant dreams. The third stage was enduring the self. The hallmark of this stage was living through pain and disappointments. During this stage, individuals learned to deal with their injuries and treatments. The final stage was regaining self. This stage was melding of the old and new, individuals became acquainted with their new selves. It was during this stage that individuals acknowledged the changes that had occurred and made sense of the experience of the injury.

The perceptions of adults experiencing a traumatic injury were studied with phenomenological methods. Schmitke (1993) interviewed eleven people who sustained traumatic injury. Three stages were identified. The first stage was the interruption of life activities and changes in interpersonal relationships. The next stage was striving to return to their pre-injury life, during which individuals made efforts to regain control. The final stage was making sense. During this stage, individuals were concerned with seeking to
gain an understanding of the injury and how it has affected their life in a deeper, philosophical way.

To describe the experience of getting well following a traumatic injury, DeWitt (1993) interviewed 12 adolescents. The experience of getting well changed over time and lead to positive behavioral changes. The overarching theme of the interviews was the need to return to pre-injury life. The adolescents indicated that the love and attention that families demonstrated were positive and aided in the recovery process, although the process of getting well was frightening. Willpower, the value of wanting to get better, was identified as pivotal to the process of recovery. The adolescents articulated the importance of time and the appreciation that the process of getting better takes more time than anticipated. Being treated as a normal person was critical to the adolescents. They identified the need for self-reflection on both the positive and negative changes that occurred following their injury. Reliance on self, independence, and interpersonal relationships were recognized by the adolescents as critical to their recovery.

In summary, a few studies have examined how traumatic injuries influence the lives of those who experience them from their own perspectives. Of those studies, concerns regarding perceptions of self, interruptions in life activities, and returning to pre-injury activities seem particularly salient. No studies have been found that focused on the perspectives of those who sustained injuries specifically in a motor vehicle crash.

Summary

The prevalence of negative effects of traumatic injury sustained in a motor vehicle crash have been identified. Approximately one-third of people who survive a motor vehicle crash will experience lingering problematic consequences, including alterations in
functioning and psychosocial distress. Most will experience profound disruptions to their everyday lives and will struggle to return to their pre-injury life. While some factors that predict outcomes and mediate recovery and psychological adjustment following a traumatic injury have been identified, little research has been done to provide an in-depth description of how individuals with traumatic injuries following a motor vehicle crash manage their everyday lives.

The purpose of this study was to develop a theoretical framework that describes how individuals with traumatic injuries manage their everyday lives following a motor vehicle crash. I chose the term “manage” because other terms commonly used to reflect individual’s experiences in the post-injury period (e.g. recovery, coping, adaptation) did not encompass the breadth of process I wished to describe. “Managing” captured the complexities involved in conducting one’s affairs or carrying on the everyday life following a significant event. The framework was developed from open-ended interviews that captured the perspectives of those who had sustained an injury in a motor vehicle crash.
CHAPTER II

METHOD

In order to develop a theoretical framework that describes processes used by individuals who have sustained a traumatic injury in a motor vehicle crash to manage their lives, grounded theory methods were used. Grounded theory is a qualitative method used to study specific phenomena. The intent of grounded theory is to develop a mid-range theory that seeks to explain a psychosocial process based on the data collected (Morse & Field, 1995; Strauss & Corbin, 1998). A mid-range theory is a set of interrelated ideas and concepts that make up a model explaining a specific phenomenon. The model provides the foundation for the development of meaningful interventions to assist in the practice of nursing (Smith & Liehr, 2003). Because managing one’s life following a traumatic injury is a temporal psychosocial process, grounded theory was the best method to meet the aims of this study.

The grounded theory method was developed by Glaser and Strauss (1967). The theoretical underpinning of grounded theory is symbolic interactionism. Symbolic interactionism is rooted in sociology, particularly the work of George Herbert Mead at the University of Chicago, and is based on the assumption that interaction with others is central to the development of human behavior (Mead, 1934). Three premises of symbolic
interactionism are (a) human beings act toward objects based on some meaning that they
attach to that particular object, (b) meanings arise from social interaction, and (c)
individuals’ manage and adjust those meanings through a continuous interpretive process
(Glaser, 1978).

Grounded theorists seek to interpret and explain human behavior through the
gathering and analysis of data from many sources, including in-depth interviews, diaries,
media and other documents (Morse & Field, 1995). Data collection and analysis occurs
simultaneously, making this a recursive rather than a linear process. Analysis is
accomplished through the systematic categorization of the data, and theory is developed
from the patterns and relationships that emerge.

A basic tenet of grounded theory is theoretical sampling, which involves the tasks
of collecting, coding and analyzing data in a simultaneous fashion. Unlike the positivist
approach of a priori sampling strategies, sampling decisions are made as the theory
emerges (Glaser & Strauss, 1967). This strategy involves choosing particular participants
or other data sources as dictated by the theoretical relevance to the emerging theory.
Theoretical sampling provides the mechanism for the researcher to refine, elaborate and
saturate the categories. Throughout the research, sampling decisions will be used to
increase depth and complexity of the emerging theory (Milliken & Schreiber, 2001).

Sample

A purposive sample of fifteen subjects were recruited. In a grounded theory a
specific number of participants cannot be determined a priori (Morse, 1991, 2000;
Sandelowski, 1995), but rather determined as data are obtained and analysis begins.
Data collection was continued until saturation was reached within the categories (Strauss & Corbin, 1998). Once fifteen participants were interviewed, the research team determined that adequate data had been collected to construct the theoretical framework and meet the study goals. At this point, information provided by the participants became repetitious and no new categories emerged.

Participants met the following criteria: (a) had experienced a traumatic injury that required inpatient hospitalization resulting from a motor vehicle crash, (b) were 18 years of age or older, (c) were able to communicate in English, (d) were able to sustain attention during an in-depth interview, and (e) were medically cleared by the trauma surgeon to return to work or school. We recruited individuals who were medically cleared to exclude individuals who were still experiencing acute physiological alterations, such as cognitive deficits, pain, nausea, and inability to maintain adequate fluid or nutritional intake. Individuals medically cleared would be able to reflect back on how they managed their lives between the time of the traumatic injury and the point in time when they were deemed “recovered” by their physician.

Setting

Potential subjects were recruited from a Trauma Outpatient Clinic within a Level I Trauma Center in Ohio. All accredited trauma centers in Ohio, are required to meet standards that have been developed by the Committee on Trauma of the American College of Surgeons (2003) and cover all phases of trauma care from pre-hospital care to post-discharge follow-up. Each trauma center is required to maintain a computerized, hospital-based registry that meets a minimum data set to contribute to the statewide
trauma registry. The Trauma Outpatient Clinic is staffed by Attending Trauma Surgeons, Surgical Residents, Trauma Clinical Nurse Specialists and Physician Assistants. The Trauma Service has approximately 2,600 hospital admissions and follows approximately 2,100 patients in the Trauma Outpatient Clinic per year.

**Instruments**

To describe the sample and complement narrative data, the researcher collected the following data from the participant’s medical record: (a) gender, (b) age, (c) ethnic origin, (d) education level, (e) employment status, (f) religious affiliation, (g) driver or passenger at the time of the motor vehicle crash, (h) surgical procedures performed, (i) complications, and (j) whether there were any fatalities. The type and severity of injury were measured using two instruments, the Abbreviated Injury Scale and the Injury Severity Score.

*Abbreviated Injury Scale.* The Abbreviated Injury Scale (AIS) is a consensus derived anatomically-based injury categorization system used to rank and compare injuries by severity and to standardize terminology used to describe injuries according to body system involved (American Association for Automotive Medicine, 1985). Injuries are classified into one of six body regions: (a) head/neck, (b) face, (c) thorax, (d) abdomen, (e) extremities, and (f) skin based on anatomic locations and the specific lesion found. Injuries to each body system are scored according to their relative severity on a scale of 1 (indicative of minor injury) to 6 (indicative of an injury for which no treatment is possible and is incompatible with life).
For the purpose of this study, AIS scores were obtained from the trauma registry database at the Level I Trauma Center. Data were abstracted from the medical records by trained registrars employed by the trauma program, coded based on information obtained from diagnostic and surgical findings as noted in the medical record, and were entered into the computerized trauma registry database. The development and continual refinement of the AIS by panels of interdisciplinary experts supports the validity of this classification system. The current AIS '90 is the fourth major revision of the AIS scaling system, expanding from the original 75 injury descriptors to over 2000 (American Association for Automotive Medicine, 1985). The AIS is currently the most widely used anatomical rating scale for injury (MacKenzie et al., 1986). Although AIS was originally developed for automobile impact injury assessment, the 1985 and 1990 revisions of the AIS were expanded to include penetrating injury. Current AIS severity codes are based on the following criteria: (a) potential for mortality, (b) diagnostic certainty, (c) rapidity, (d) duration, (e) complexity, and (f) expected effectiveness of resolution.

As an anatomic-based score, the AIS categorizes injuries themselves and not their physiologic consequences. The AIS permits the categorization of each injury into discrete body systems. From one perspective, this clear categorization is an advantage of the AIS. However, it poses considerable difficulties. Because of the nature of traumatic injury, multiple body systems are often involved. There is no way to reflect the complex nature of multi-system involvement using only the AIS. In this study, the single maximal AIS score in individuals who experience multi-system injuries will be used to determine severity of injury.
Injury Severity Score. The Injury Severity Score (ISS) measures the anatomic severity of multiple injuries (Baker & O’Neill, 1976). The ISS is derived from the AIS and is the sum of squares of the highest AIS in each of the three most severely injured body regions, facilitating the comparison of severity of injury among diverse types of injury. The six body regions include: head/neck, face, chest, abdomen/pelvic contents, extremities/pelvic girdle, and skin. Using a numerical system the ISS is scored from 1 to 75, with 1 being the least severe injury and 75 the most severe injury (Baker & O’Neill, 1976).

The ISS was designed to make possible the comparison of heterogeneous populations with multiple injuries. The development of the ISS was based on a sample of 2,128 individuals where the mechanism of injury was a motor vehicle crash or pedestrian struck by a motor vehicle. The ISS has been used extensively as a predictive indicator of mortality in individuals who have experienced traumatic injuries and has been found to account for 49% of the variance in mortality. During the initial studies, it was revealed that ISS scores had a linear relationship with injury severity and mortality (Baker, O’Neill, Hadden, & Long, 1974). The relationship has been corroborated in the Major Trauma Outcome Study, which was based on data from 111 hospitals including 47,000 trauma patients (Copes et al. 1988).

Procedure

The researcher obtained approval from the Institutional Review Board at Kent State University and the Midwest Level I Trauma Center. Recruitment posters were displayed in the Trauma Outpatient Clinic staff office with an explanation of the study (Appendix B - Participant Recruitment Poster). Potential participants were informed of
the study by the Trauma Clinical Nurse Specialist when the patient was medically cleared for discharge from the Trauma Outpatient Clinic by the Trauma Surgeon (Appendix C-Script Explaining Study). Potential participants were asked to call a private toll-free phone number to schedule an interview. They were instructed to leave their phone number or another way to be reached. The researcher conducted a brief phone screening, and verified inclusion criteria. (Appendix D- Phone Script for Study Screening Eligibility).

A convenient date and time was selected by the participant. The researcher provided a private place within the Trauma Outpatient Clinic that was free from interruptions for the interview. The purpose of the study was described verbally at the time of the brief phone screening. At the time of the interview, participants were asked to read and sign the written informed consents (Appendix E- Consent for Participation in the Study and F- Consent for Audiotaping the Interview and accessing the participant’s medical record). The participant was given a copy of the consent letter for their records. Participants were told that the information provided would be kept confidential, within the limits of the law, and that they were free to withdraw or refuse to answer questions at any time. A brief demographic data sheet was completed by the participant prior to the interview (Appendix G- Demographic Data Obtained from Medical Record and H- Demographic Data Completed by Participant).

A brief interview (Appendix I- Interview Guide) was constructed, but the actual interview questions were determined by the participant’s responses. According to Schreiber and Stern (2001), the interview is a guide for the researcher, but does not
dictate the course of the interview. The interview encouraged the participants to share their story without undue restriction or interference from the perspective of the researcher. The interviews lasted one to two hours. If any participant had become very emotionally upset during the interview, the interviewer would have assessed the need to stop and provide additional support to the participant. If additional support had been needed, the participant would have been referred to the emergency trauma center for evaluation by the psychiatric social worker. This was not enacted as no one showed this much distress. Permission to re-contact was obtained from the participant to allow for clarification and validation of the information gathered during the interview. Participants received thirty-five dollars for their time and travel. Following the interview, each audiotape was transcribed verbatim for data analysis.

Data Analysis

Data analysis was conducted by the investigator in consultation with her dissertation directors. The research team therefore consisted of three individuals: the investigator and the two doctoral dissertation directors. Analysis was conducted through in-person group meetings and, as the theory was developed, by phone conferencing. Coding was conducted at three levels: (a) first-level coding, (b) second-leveling coding, and (c) third-level coding (Schreiber & Stern, 2001).

In first-level coding the investigator carefully read the transcripts, choosing meaningful sections of the text, such as paragraphs, sentences, or stories, and assigned codes to those text units. The researcher used the words of the participants as codes when possible to preserve their perspective (Glaser, 1978; Schriever & Stern, 2001).
For second-level coding, the investigator took the first-level codes and combined them into categories, which are concepts that are at a higher level of abstraction. The properties and dimensions of the categories were determined by comparing the emerging categories with new data.

During third-level coding the relationships among the categories were determined in order to devise the theoretical framework. Analysis continued until a theoretical framework was developed that accounted for the variation in the data and provided a meaningful explanation of how individuals with traumatic injury following a motor vehicle crash manage their lives (Schreiber & Stern, 2001).

Memoing was conducted from the planning stage of the research through the data collection and data analysis phase. Memos were constructed to: (a) document the researcher’s assumptions, (b) document methodological decisions, and (c) reflect on the analysis of the data. All memos were dated, titled, cross-referenced and filed (Schreiber & Stern, 2001).

Diagramming was constructed to allow the researcher to stand back from the data and examine how categories are related. Diagramming was ongoing at each stage of data analysis and provided a mechanism to validate the emerging theory.

**Evaluative Criteria**

Lincoln and Guba (1985) discuss trustworthiness as a basic issue that qualitative researchers must address to establish the reliability and validity of their findings. The standard tests for reliability and validity are not appropriate in qualitative research methods, but rigor is of critical importance. Four standard bearers have been identified as
pivotal in establishing trustworthiness: (a) truth value - establishing confidence in the truth of the findings for the participants, (b) applicability - determining how the findings are applicable in other contexts and with other participants, (c) consistency - establishing that the findings would be repeated if the study was replicated in a similar context, and (d) neutrality - establishing that the findings are determined by the participants, rather than the biases, motivations, interests and perspectives of the researcher (Lincoln & Guba, 1985).

Truth value or credibility was established by peer-debriefing. Peer debriefing is undertaken to test working hypotheses as they emerge and minimize researcher bias. Peer debriefing involved using Trauma Advanced Practice Nurses (Trauma APN) working at the Level 1 Trauma Center to review the emerging theory and validate that the theory accurately represented what they experienced in their clinical practice.

The standard bearer of applicability is focused on verifying that the sample under study is representative of the population. The burden for the investigator is to provide an adequate description of the sample, thereby, laying the foundation for transferability (Lincoln & Guba, 1985). In this study, applicability was established by providing an in-depth description of the sample, including: (a) age, (b) gender, (c) ethnicity, (d) educational level, (e) employment status, (g) religious affiliation, (h) type of injury, (i) injury severity score, (j) procedures, (k) complications, and (l) rehabilitation.

Consistency in grounded theory is the equivalent of reliability in conventional quantitative studies. Establishing consistency in this study was accomplished by the use of an audit trail. The audit trail included memos, diagrams, and meeting minutes.
Neutrality is synonymous with objectivity (Lincoln & Guba, 1985), and can be further described as being “value-free” (p. 300). In this study, neutrality was accomplished by using a group analysis technique. Experts in grounded theory describe the importance of the novice researcher utilizing others to uncover the core concept (Glaser, 1978), and that mentorship is critical to learning this method (May, 1994; Stern, 1994; May & Hutchinson, 1994). This researcher used group analysis with her dissertation directors, who contributed to the development of the framework.

In summary, grounded theory methods were used to develop a mid-range theory that described the processes that individuals use to manage their everyday lives following a traumatic injury. Managing one’s life is a psychosocial process individuals engage in as they strive to respond to the challenges and complexities of their recovery. Data were collected from the participant’s medical record and in-depth face to face interviews. Intense analysis and comparison of the emerging codes were used to develop the categories and to devise the framework. The researcher maintained rigor by establishing trustworthiness through (a) truth value, (b) applicability, (c) consistency, and (d) neutrality (Appendix J – Data Coded to Major Categories).
CHAPTER III

FINDINGS

A theoretical framework was developed that depicts how participants managed following a motor vehicle crash. The psychosocial problem shared by participants was labeled *Having My Life Taken Away*, and the psychosocial process by which they responded to this problem was labeled *Getting My Life Back*. The process of *Getting My Life Back* included four stages: (a) *staying alive*, (b) *getting fixed up*, (c) *getting by*, and (d) *getting on with it*. Each stage of the process had a component related to (a) how participants viewed the accident and its impact, and (b) how they interacted with others.

The Sample

Fifteen individuals who sustained a traumatic injury in a motor vehicle crash participated in the study. The individuals were recruited from the trauma outpatient clinic at a Midwestern Level 1 trauma center. Nineteen individuals agreed to participate in the study, but two did not keep their appointments, and two who were to be interviewed on the phone did not return their consent forms.

The sample included a diverse group of seven men and eight women (Appendix A). Participants ranged in age from 21 to 55, with most between the ages of 30 and 50. Twelve were Caucasian, two were African-American and one was Asian-American. Ten participants reported being employed in a variety of occupations; the sample included a retail sales person, health care worker, factory worker, accountant, business owner and
office assistant. Four were unemployed, and one was disabled as a result of the crash. Four participants were Catholic, one was Lutheran, and one was Jehovah’s Witness; nine cited no religious affiliation. Participants’ educational levels ranged from completing some high school to completing graduate school. The length of time between their motor vehicle crash and their interview ranged from 2 weeks to 2 years. The majority of the interviews took place less than 6 months from the time of the motor vehicle crash.

Most of the interviews (n = 13) were conducted in person in a private space in the Trauma Outpatient Clinic or at a place chosen by the participant. Interviews ranged from 25 to 80 minutes, with an average of 45 minutes.

All participants had been in a motor vehicle crash; 11 of the crashes involved cars, 3 involved motorcycles, and one involved a race car. All crashes were severe enough that the participants required hospitalization. Their length of hospitalization ranged from 2 days to 17 days. Some participants required outpatient physical, occupational or speech therapy following discharge from the hospital.

During the first 24 hours of hospital admission, all participants’ injuries were evaluated and scored using two systems: The Injury Severity Score and The Abbreviated Injury Scale. The Injury Severity Score (ISS), developed by Baker and O’Neill (1976), measures severity and quantifies the degree of injury, which facilitates the comparison of severity of injury among diverse types of injury. Using a numerical system, the ISS is scored from 1 to 75, with 1 being the least severe injury and 75 being the most severe injury (Baker, & O’Neill, 1976). Participants had an average ISS score of 15, with a range of 1 to 41. The Abbreviated Injury Scale (AIS) is a consensus derived anatomically-based injury categorizations system used to rank and compare injuries by
severity and to standardize terminology used to describe injuries according to the body systems involved (American Association of Automotive Medicine, 1985). Based on anatomic locations and specific lesions found, injuries are classified into one of six body regions: (a) head/neck, (b) face, (c) thorax, (d) abdomen, (e) extremities, and (f) skin. Injuries to each body system are scored according to their relative severity on a scale of 1 (indicative of minor injury) to 6 (indicative of an injury for which no treatment is possible and is incompatible with life). The AIS range of participants was 1 to 4. All had traumatic injuries in more than one anatomic area. Ten participants had injuries involving the head/neck area, two had facial injuries, eight sustained thoracic injuries, six experienced injuries involving the abdomen, three had skin injuries, and all participants had extremity injuries.

The majority of the participants received initial trauma care by emergency medical technicians, paramedics and flight nurses prior to their arrival at the level one trauma center. On arrival to the emergency trauma center, all were evaluated by the trauma team using standardized protocols. Two participants were taken emergently to the operating room because they were hemodynamically unstable and did not respond to fluid volume resuscitation. Participants with the more severe injuries underwent multiple surgical procedures including exploratory laparotomy, splenectomy, control of hemorrhage, open reduction and internal fixation of fractures, placement of chest tubes and repair of lacerations. Those with the most severe injuries were cared for in the intensive care unit, where they received invasive monitoring, mechanical ventilation, infusions of vasoactive drugs and blood transfusions. Most participants were evaluated by a rehabilitation physiatrist during their inpatient hospitalization.
The Interviews

Most participants provided rich detail about their experiences related to the motor vehicle crash. They described what they recalled about the accident, the trip to the hospital, their experience in the emergency department and during their hospitalization, and their recovery at home. A few participants were tearful during their interview, but most expressed appreciation for the opportunity to tell their stories. They revealed: “I am emptied out,” “[It was] good to have someone to listen,” “It helps,” and “Thank you for letting me talk with you.” Every participant willingly answered all of the interview questions and most appeared to become more relaxed as the interview progressed.

The analysis team noted several commonalities in how participants structured their narratives. In response to the first interview question, “Tell me about the motor vehicle crash in which you were injured,” all participants spoke at length about the circumstances surrounding the accident in the form of a story. The analysis team referred to this practice as “setting the scene.” “Setting the scene” included providing information about the context of the crash, the “characters” involved, and the actions that occurred. For most participants, the context included (a) the time of day, (b) the weather, and (c) the purpose of the trip. The “characters” included (a) who was traveling with them, (b) who they were going to see, (c) who was in the other vehicle, (d) who witnessed the accident, and (e) who helped or did not help. The setting included the exact location where the crash took place (e.g., exact route numbers or street names). The action included (a) what the “characters” did to cause the accident, (b) what the “characters” did to avoid the accident, and (c) what the “characters” did once the accident occurred.
Another commonality of how the narratives were structured was the focus on the participants’ relationships with others. In addition to the “characters” in the accident stories, most participants discussed three groups: (a) important family members (e.g., spouses, parents, children and other relatives), (b) members of the health care team (e.g., paramedics, nurses, physicians and therapists), and (c) friends and neighbors.

The Theoretical Framework

In grounded theory, the psychosocial problem is what individuals who have shared a common life challenge (e.g., a motor vehicle crash) view as their main problem (Schreiber, 2001), and the psychosocial process is how they resolve the problem. The theoretical framework that depicts how participants managed following a motor vehicle crash includes the psychosocial problem of *Having My Life Taken Away* and the psychosocial process of *Getting My Life Back* (see Figure 1). In the description of the theoretical framework below, pseudonyms are used to protect the identity of the participants.

Figure 1 represents a progressive process that begins with *staying alive* (represented by the top oval) and, as indicated by the downward arrows, moves sequentially through three other stages: *getting fixed up, getting by, and getting on with it*.

In describing each of the four stages, the participants focused on two key concerns. These concerns, *how participants viewed the accident and its impact* and *interactions with others*, are indicated by offset smaller ovals. Broken arrows lead to the stage-specific manifestations of the two concerns, which are the categories labeled in the bottom right and left of each larger oval. Each stage is represented, therefore, by a large
oval with the name of the stage and the name of the categories that reflect how participants viewed the accident and interacted with others during that stage.

The model is presented as a sequence of four stages because the participants generally described moving through each stage chronologically. There was, however, some individual variation. Not all participants moved through all of the stages, and some had a set-back and therefore moved in a reverse direction. Generally speaking, however, the model should be read from top to bottom as the process of Getting My Life Back is considered a progressive, staged experienced.

_Psychosocial Problem: Having My Life Taken Away_

_Having My Life Taken Away_ is the psychosocial problem that participants described as a result of their motor vehicle crash. The sense that the crash took away their life occurred because the crash was a sudden event over which they had little control. They described the accident as happening “quick and hard” and “without warning.” Most expressed a sense of losing control; they felt their lives changed in an instant.

At first, participants literally feared their lives would be taken away because they did not know whether they would survive the crash. They described the circumstances during and following the crash as life-threatening: “[The car] rolled three times,” “[I was] hanging upside down,” “I couldn’t breathe,” “[The] car might explode,” “I was gurgling and spitted blood,” “I smelled gas.”

Later, once the participants knew they would survive the crash, they perceived that their life as they knew it had been taken away. They were troubled because they
Figure 1

Getting My Life Back
could not do “all the normal stuff.” Although alive, many could not take care of themselves and their daily routines were altered due to their injuries. Variations of the term Having My Life Taken Away were used by the participants. They stated: “It [my life] has not been the same,” “[I] want my life back,” “It [My life] was taken away from me.”

Psychosocial Process: Getting My Life Back

The core psychosocial process by which participants responded to the psychosocial problem of Having My Life Taken Away was determined to be Getting My Life Back. Because they perceived their lives were taken away, they described a number of actions to get their lives back. These actions were directed toward making it through the accident and re-gaining a sense of control over their lives. Because the accident was sudden and life-threatening, they first did things to survive at the scene; they had to figure out “how [to] get out of this mess.” Once they survived the crash, the participants described doing things to return to their pre-crash lives; they needed to get “back on my feet.” Participants indicated that Getting My Life Back is a four stage process that included (a) staying alive, (b) getting fixed up, (c) getting by, and (d) getting on with it. Each process had a component related to (a) how participants viewed the accident and its impact, and (b) how they interacted with others.

Staying Alive

Immediately following the motor vehicle crash, participants described how they feared for their life because they were either trapped in the vehicle, in acute physical distress, or aware of some environmental danger. Many were trapped because they were left hanging upside down, unable to extricate themselves from their seatbelts, or unable to get out of their damaged vehicles. All of the participants described being in acute
physical distress; having difficulty breathing, experiencing excruciating pain, and bleeding severely. For some participants, environmental hazards threatened their lives; they described smelling gasoline and seeing smoke and steam coming from the vehicle. The two components of staying alive were taking stock and being rescued.

_Taking stock._ How participants viewed the accident and its effects during the immediate aftermath is described as taking stock. To stay alive, participants made a rapid determination of “how bad it [the accident] was.” The analysis team chose the phrase taking stock to capture these actions because to “take stock” means “to review or make an overall assessment of a particular situation, typically as a prelude to making a decision” (The New Oxford American Dictionary, 2005, p.1667). Many participants assessed their injuries and degree of physical distress to determine what they needed to do to stay alive. One described how it “looked like I broke my leg, the way it was mangled.” Jason, a 21-year-old Caucasian participant, stated:

> Like after I rolled it, I looked up at the ceiling and saw there was blood, so I touched my head and blood started pouring down my face and down my back. I thought that the ceiling had come down and hit my head.

Others took stock of the physical environment to determine the degree of danger; one stated, “I smelled gas and I am scared to death of fire.”

For most participants _taking stock_ occurred immediately following the crash at the scene of the accident, but for those who had a loss of consciousness at the time of the crash, _taking stock_ occurred as soon as they “came to.” One participant stated: “I remember kind of waking up and looking down and thinking, why is this airbag in my lap?” For some, taking stock occurred when they awoke in the hospital. James, who
sustained a near amputation of his arm, multiple facial fractures and a serious spleen injury, revealed: “The first day I actually remember, I kind of woke up and was terrified because I didn’t know where I was…my jaw was wired shut and I couldn’t talk and I had hoses coming out of me.”

Being rescued. Interactions with others in the aftermath of the crash can be described as being rescued. Once participants took stock and determined their situation was serious, their paramount concern was being rescued. A few participants described actions they took to rescue themselves; they tried to unhook their seatbelt, to pry open their car door, and/or crawl out of the vehicle. The majority, however, had to wait for help to arrive. All described being rescued, and most participants expressed strong feelings about the roles others played in their rescue. They stressed who were the rescuers and the bystanders, who could have helped but only gawked or who saw the crash and drove on without stopping.

Participants described four types of rescuers and two types of bystanders. One type of rescuer was the average individual. This individual was the person who did not have any special rescue training, but was present when the crash happened or came upon the scene shortly after. The average individual typically made the 911 call. One participant described how “an old guy pulled up, got out, and asked if somebody was hurt.” Another type of rescuer was the super-hero. These individuals were described by the participants as almost having super-human characteristics. One participant stated, “Some guy came out of nowhere named Bob, came and said ‘you need to get out’, he opened the door and asked if I was hurt. I said no and then…he took me and said lean against me, hang on to me and don’t pass out.” The professional rescuer was the specially
trained nurses and paramedics who tended to the participants at the scene. This type of rescuer extricated participants from their cars, extinguished fires and took measures to prevent further injury. A few participants described another type of rescuer, the **ethereal rescuer**. The *ethereal rescuer* was not a real person, but rather a spiritual presence. One participant described an ethereal rescuer: “My guardian angel must have pushed my [gas] pedal a little harder.”

Two types of individuals were present but did not help and are therefore referred to as bystanders. The **rubber-neck**er was at the scene of the crash but did nothing to assist and, in some cases, hindered the rescuers. **Rubber-neckers** were described as “people [who] just watched and caused traffic problems.” The second type of bystander was the **passers-by**. The **passers-by** drove by, saw the accident, yet made no effort to stop and assist. One participant described trying to flag-down drivers passing by, but none would stop. Participants felt very strongly about those who helped and those who did not.

Liz, a 46-year-old Caucasian participant, described the importance of being rescued:

> A gentleman, all of the sudden I see a gentleman there, the gentleman said honey you need to get out. So my daughter, he helped her out, so I’m laying there and the gentleman says, ma’am, you have to get out, I smell gasoline. I said I can’t get out, that headrest is in my way. So the guy, bless his heart, he took his hand moved it out of the way, just scooped all the glass out of the way and helped me crawl out. He just lifted her [my daughter] and carried [her] over to his truck, covered her up and turned on the heat because it was a chilly damp day.
**Getting Fixed Up**

Once participants had survived the immediate time period following the crash, the focus then turned to managing their traumatic injuries. The next stage of the process of *Getting My Life Back* is getting fixed up. The analysis team chose the phrase getting fixed up because it describes how participants managed when most of the focus was on their physical injuries. The two components of *getting fixed up* were *filling in the pieces* and *being sustained."

*Filling in the pieces.* How participants viewed the accident and its aftermath in the process of getting fixed up is best described as *filling in the pieces.* Soon after the immediate danger passed, participants actively sought information about their motor vehicle crash. For many, the crash occurred so quickly that they only remembered some of it and were unable to completely reconstruct the chronology of the events prior to and immediately following the crash. One participant stated, “I know my memory probably wasn’t as clear as I thought.” A few participants had no memory of the events leading up to and immediately following the accident because they lost consciousness at the time of the crash due to their injuries. One participant was unconscious for an extended period of time due to medication and did not regain consciousness until three days after his accident. Another implied that he had no memory of the crash due to the alcohol he consumed. Because they did not have a clear understanding of how the crash occurred, participants engaged in *filling in the pieces.*

The participants needed to fill in the pieces about how and why the crash had happened. One explained, “I was just mad that I didn’t know how it happened, I just started to swerve and couldn’t control it and did not know why, it really makes me mad.”
Many participants wanted to clarify the role the other driver played in the crash and how the driver responded following the crash. One participant stated, “I am wanting somebody to point her [other driver] out because she actually is a church member.”

Participants used three strategies to the get the information they needed to fill in the pieces; they obtained information from other people, returned to the scene of the crash, and sought out other sources of data. All participants actively sought information from family members, friends, medical professionals, law enforcement officers and attorneys to fill in the pieces and begin to make sense of their experience. One participant described: “[I] read the journal my sister kept for me, she wrote in detail every day, from the day I got in the wreck to the day I got out of the hospital.” Some participants who were unable to get the information they needed from other individuals returned to the scene of the crash in order to fill in the pieces. One stated, “You would think someone would be uncomfortable going down that road again, but I am the type of person that is sort of interested.” In order to obtain information about the crash, a few of the participants used other pieces of evidence, such as photographs, police reports or information from their attorney. One participant revealed, “I thought that the car hit me from the side and when I saw the pictures and the accident report, in fact the car hit me head on.”

*Filling in the pieces* was so important to participants that if they were unable to gather the information they needed to fill in the pieces, they made assumptions about how and why the crash occurred. Many reconstructed the events surrounding the crash in their minds. They frequently used words or phrases such as “I believe,” “I guess,” or “apparently” when conveying the story of the accident. Participant statements that
reflected how they had filled in the pieces, even in the absence of “evidence,” included:

“I believed it [the crash] happened this way,” “She was drunk, I guess leaving a bar on the way to a party,” “I think that person must have called the squad,” and “Apparently he put his head down, when he looked up it was too late.”

**Being sustained.** The interactions with others during the process of getting fixed up, was described as *being sustained*. The team chose the phrase being sustained to describe these interactions because although the participants were out of immediate danger at this point they were dependent on others to provide life sustaining care. Whereas the “others” who were involved in being rescued included everyday people and emergency personnel, the “others” who were involved in being sustained were primarily health care professionals, including physicians, nurses and therapists.

During this period of time, participants were compromised and medically fragile. Their relationships with others were described with a sense of being done to and therefore being dependent. The activities or procedures being done by others included arranging transportation, administering medications, performing procedures, carrying out diagnostic tests and instructing participants to “do things.” Participants described how healthcare professionals “put me in traction for my broken hip socket,” “got a bunch of stuff [glass] out of my head,” or “gave me medicine to sedate me because I was freaking out.”

Participants’ discussions of the experience of *being sustained* included descriptions of the nature of the interactions between the participants and the health care providers. The participants conveyed a sense that *being sustained* was an interpersonal process that was either good or bad, rather than neutral. Most of the interactions were described as positive. One participant stated, “You can tell which [nurses’ aides] have
love for people, it was absolutely wonderful.” A few interactions with healthcare professionals were described as negative and stressful: “My experience in the hospital third shift was pitiful, they may have all been sleeping, because when I needed my pain pills… the response time was pathetic.” Some of the negative interactions with health care providers were “excused” by the participants because they realized that the health care professional was too busy, the unit did not have enough staff, or the health care professional did not understand how to do a particular procedure. One participant stated, “The only thing I did not like about the whole ER…the one guy who had to take the pressures in my eye, I guess they don’t do that a lot, I don’t think that was his fault because they don’t get too many 21-year-olds that need their eye pressure checked.”

Even though being sustained was primarily described in terms of being done to, many participants described interactions in which they attempted to have “a say” in their care and attempted to maintain some control of the interaction. One participant revealed, “They [health care professional] said ‘we’ve got to cut your clothes off,’ and they were my favorite jeans. I said ‘please don’t cut those off.’” Another participant said:

“All I could tell them is ‘I’ve got to sit up.’ ‘Can I please sit up’? I can’t lay down.’ They accommodated me, they said ‘we will try.’ It is not according to procedure but one was kind enough to sit behind me …because I couldn’t lay down and breathe.”

Getting By

Once participants were stabilized they were discharged home to continue their recovery and were no longer dependent on close monitoring by health professionals. The next stage of the process of Getting My Life Back is labeled as getting by because
although participants no longer need sustaining care, they managed by receiving assistance from others to “get by” on a day-to-day basis. The two components of getting by were weighing gains and losses and being tended to.

Weighing gains and losses. How participants viewed the accident and its aftermath in the process of getting by is described as weighing gains and losses. Participants described three types of losses: loss of physical functioning, loss of social and work related roles and psychological or emotional loss. Some participants’ injuries resulted in permanent changes in physical functioning or placed them at risk for developing serious infections. These changes required life-long surveillance by healthcare professionals. One participant stated, “Since I had my spleen removed, I have to be a little more cautious of things because if I get any type of infection, then I might not be able to fight it off.”

Several participants described how they had lost the ability to perform their normal educational, social, or occupational roles. For many participants, these losses were very significant. One participant said, “Even though I am able to breathe and I am alive, I can’t work and I can’t do my job, I would love to go back to work.” Some participants were no longer able to do the things they normally did for their spouses or children. One participant stated, “How can I take care of my husband?” Another participant lamented, “I like to fish, I like to play sports, having that taken away from me…that disturbed me.” Susan, a 50-year-old Caucasian participant, described how her loss affected her ability to perform her job:

The thing that really affects me is that I have lost ½ of my hearing…I have seen specialists to see if anything can be done to make it better, they said not
other than getting a hearing aid…seeing how I listen to lungs for a living I have to be very careful when I listen and I think I am starting to use my left ear more, starting to compensate.

Many participants referred to their psychological or emotional losses resulting from the accident. One participant stated, “This whole experience like I said, it hurt me in so many ways, not just physically, it is very depressing.” Another said:

“You have denial. You have the anger and then you begin to accept. I think this is like mourning a loss. When you have an accident, unless you come out totally unscathed, which even if you don’t have physical injuries, you have emotional injuries. It is a mourning because you have lost something.”

While the losses the participants experienced were significant, many participants believed they had gained from the accident. These gains included receiving care from family and friends, the wisdom to do things differently to improve their safety, and a call to re-evaluate life’s priorities.

For some, being involved in the accident brought about positive, caring interactions from others. Participants described how others displayed a sense of caring, spent quality time with the participant, phoned to check on how the participant was feeling and cooked the participants’ favorite meal. One participant said, “I have been getting up in the morning and we [he and his parents] sit around and talk and make breakfast and eat together…my Dad gets home later…and we sit around and just have conversations, talk about what is going on, my Dad has been talking to me a lot. Now we sit down and have words with them [parents] and in the past I wouldn’t have done that.”
For some participants, looking back at their experience of being involved in a motor vehicle crash caused them to identify specific changes they decide to make to decrease their risk in the future. Some new behaviors gained were wearing their seatbelt and not driving when drinking alcohol. One participant stated, “It was a very eye-opening experience, you know, maybe you better care a little more about yourself and take more precautions [like wearing a seat-belt] than what you did before,” Another revealed, “You can’t go back and change a thing and you have to just go on with it. You can’t undo what you have done [drinking while driving] you have to get on with it and learn.”

What some participants gained from the crash was a call to reexamine life’s priorities. They described the ways in which living their life had changed following the accident; they looked on the “bright side” and realized that this experience was “a wake-up call.”

The majority of participants described a process of examining what they felt they had gained in the accident and comparing that against what they thought they had lost. They described a process of grappling with how it all came out in the end. One participant said, “I guess there is just a lot to sit back and think about.” Jeff, a 30-year-old Caucasian participant, described the process of weighing gains and losses:

In a way it [the accident] is a good thing but in a way it could be a bad thing. It depends on which way [people] are looking at you. You never know. I would say it is probably a good thing. They probably look at you and say you are lucky. with most people that is what they do, tell me, ‘You are lucky to be alive,’ and they wish the best for me. I would say it is a good thing.
Through the process of weighing gains and losses, the participants came to a conclusion about how they fared overall following their experience of having a traumatic injury. Some concluded they lost more than they gained. One participant said, “This accident really ruined my life, relationship wise, personal wise, financially and whatever.” Others believed their gains outweighed their losses; “I mean I come back to the fact, I am lucky to be alive … you know little inconveniences, but like I said before, in the big picture, that is minor stuff. I’m alive. That is the important thing.”

**Being tended to.** The nature of the interactions with others during the process of getting by was determined to be being tended to. The team chose the phrase *being tended to* because the participants’ needs had changed from life sustaining treatments to assistance with daily activities. The term “tended” connotes a watching over or watching after someone who needs attention and assistance. Participants needed assistance with transportation, dressing and bathing, preparation of meals, laundry, completing insurance paperwork and obtaining prescriptions. One participant stated, “I had food everyday, they arranged to take me back and forth to appointments, mowed the grass, fixed the lawnmower and offered to feed our animals.” Another participant said, “I have to rely on other people to get done what I need to get done… I wouldn’t have been able to do it, there is just no way.” Some participants described emotional “tending to.” Emily, a 54-year-old Asian American, explained:

I had a lot of friends come over and visit me. I had a lot of flowers and a lot of cards. People who I wouldn’t even think would send me a card and I am like wow! I actually meant this much to these people. It is just overwhelming, the support that people have given me.
Despite needing help from others, many of the participants at this point began to desire to do things on their own. In some cases, this created a strain in their relationships with others. The participants conveyed a sense of “pushing and pulling” as they and their family and friends tried to adapt the process of being tended to as the participants improved. A participant explained, “Everybody was wanting to do everything for me at once and I was so used to doing it on my own, now I am pretty much getting used to everybody helping me out and I am doing some things on my own.” John, a 28-year-old Caucasian participant, described how his relationship with his parents evolved:

It was kind of really hard at first because my leg really wasn’t mobile then and I was hobbling around a lot, which I went back to my parent’s house and they was wanting to do a lot for me and it started a lot of tension between us because I would argue with them because I want to try to do this on my own. I don’t want you guys to keep doing everything for me because I ain’t never going to be able to do it on my own if I don’t try to do it. So it caused a lot of tension between us at the house. Then eventually, they accepted that I do have to get up and try to do things on my own or I ain’t never going to get better doing everything so I guess that it was kind of hard at first.”

*Getting On With It*

Once the participants had reached the point in their recovery that they no longer needed the assistance from others to get by, they wanted to move ahead with their lives. This stage of *Getting My Life Back* is labeled *getting on with it*. The analysis team chose the phrase getting on with it because it describes how the participants managed when they no longer need to get by on a daily basis, but rather wanted to resume their “normal
lives.” The two components of getting on with it were changing outlook on life and becoming closer to others.

Changing outlook on life. How participants viewed the accident and its aftermath in the process of getting on with it was labeled changing outlook on life. At this time, many participants looked at their lives in new ways. Some described a new found appreciation for good health and good relationships. Several indicated they would no longer take those things for granted. Some participants expressed a new appreciation for the value of their life. One participant stated, “When you look at the pictures of the [crash] you go and count your blessings,” while another described that “I kind of walk on that air that said I am lucky to still be walking and able to walk on this earth.” A few of the participants acquired a sense of gratitude. One stated, “I tell everybody in my family that I love them every time I talk to them. So, it is just a very eye-opening experience.” Another revealed, “[The accident] was an eye-opener, it [taught me] to really appreciate the people around you, that how your life does make an impact on others.” Many participants described how the experience of having a traumatic injury yielded a philosophical understanding of the fragility of life. A participant stated, “There is nothing you can do to prepare for [the accident], it is stunning how in just an instant of time, everything is changed, everything.” Another said, “It has made me appreciate life, that it can be taken away from you in a heartbeat.” While acquiring a changed outlook on life was a common response, not all participants expressed such an experience. A few gave no indication that their life philosophy changed in any meaningful way.

Becoming closer. The nature of the interactions with others during the process of getting on with it is described as becoming closer. For a few participants, the impact of
the accident had positively affected existing relationships with family and friends. For some participants, people who had been acquaintances before the accident were now more like “family.” A few of the participants described that the accident had been the turning point in improving their relationship with a family member. One participant stated, “My Mom never shunned me but I never had that mother/daughter relationship, when she realized I was okay, my Mom was crying and I was like wow, I think it has helped our relationship.” John, a 43-year-old Caucasian participant, who sustained multiple fractures described the process of becoming closer:

A good friend of mine was out of town when the crash happened. He called about every six hours to check on me, to see how I was doing. He sent his girlfriend and her daughter up to check on me and visit for a while. I didn’t really even know them. It was a big shock. They were treating me like family, it was amazing. It really makes you feel good, that they would take the time.

Trajectories

The model in Figure 1 is based on the finding that participants shared the processes of staying alive, getting fixed up, getting by, and getting on with it. While the processes were common among participants, however, there was variation in how they each enacted the processes. We use the term trajectory to reflect the unique way each participant moved through the four processes.

Some participants, for example, described a resolution to each stage that was positive in tone and seemed satisfactory to them, whereas others seemed to feel there was little resolution and each stage turned out badly. While data collected does not allow us to
determine the cause of positive or negative trajectories, some tentative hypothesis can be put forth based on an examination of all the participant’s trajectories (Appendix I).

First, injury severity did not seem to determine the nature of the trajectory. Looking at two of the participants who had the highest injury severity (participant 005 and 009), we noticed that they experienced very different trajectories. Participant 005 was not satisfied with her care at the scene, complained of rubber-neckers, did not have a good hospital experience, experienced strained relationships with her family and did not believe her life had changed in any meaningful way. Participant 009, on the other hand, was helped at the scene by an average individual, had positive relationships with healthcare providers, experienced a revitalized relationship with his parents and described how this experience had changed his outlook on life in a positive way.

Similarly, two participants with an ISS of one (lowest score) described vastly different trajectories. Participant 015 described her dislike of being hospitalized, believed everything that was important to her had been taken away, did not experience closer relationships with family and friends and was left bitter and resentful. Participant 002, on the other hand, was rescued by both an ethereal rescuer (guardian angel) and a superhero, felt cared for my many people in her life, experienced many unexpected blessings to her life, was more appreciative of her life and enjoyed an improved relationship with her mother.

The primarily positive or negative tone of the individual trajectories, seemingly independent of injury severity, raises two possibilities. It may be that characteristics of the person prior to the accident (e.g. psychological health or optimism) may influence how the person moves through the four processes, or it may be that how an individual
fares during the earlier processes determines how they fare in the later processes. For example, those who determine that the losses of the accident outweigh the gains are unlikely to come out of the experience with a new, positive outlook on life.

When examining the individual trajectories the team also noted that the three participants who had no memory of the circumstances surrounding their rescue (participants 006, 011 and 015) experienced more negative trajectories; they tended to feel their lives were ruined, had limited affirmative changes in their outlook on life and did not enjoy improved relationships with friends or family. This suggests that the memory of the crash and the immediate aftermath may be facilitative of a positive resolution to subsequent processes.

In summary, while the participants share common processes as depicted in the model, they move through the processes in unique ways that do not seem to be related to the severity of the injuries. Those who moved through each stage in a way that is satisfying to them ultimately get on with their lives with a new, more positive outlook on life and enriched interpersonal relationships.
CHAPTER IV

DISCUSSION

The findings illuminate the ways in which individuals who experience a motor vehicle crash and sustain traumatic injuries manage following the crash by identifying their most salient concerns and responses. When describing their experiences, crash survivors tend not to focus on their physical injuries and the psychological effects of the accident, but rather on their sense that their life as they knew it was taken away by the crash. Consequently, they tend not to discuss their experiences in terms of healing and recovery, but rather discuss how they go about getting their life back.

Not surprisingly, the way crash survivors seek to get their lives back evolves as their physical conditions improve. At the scene of the accident, when critically injured, their most predominant concern is staying alive. Once their injuries are stabilized, however, most often when they are in the hospital, they concentrate on getting their injuries taken care of by others. When their injuries are no longer acute and they are discharged home, their focus turns to getting by day-to-day with the assistance of others. Later, as they begin to resume some of the everyday activities, they turn their attention to getting on with their lives in ways that incorporate the crash experience.

Regardless of the degree or extent of healing from the traumatic injury, those who experience a motor vehicle crash are very concerned with understanding the accident and
the effect it has, or will have, on their lives. They are invested in constructing a complete story of the accident and its aftermath. They begin to “story” the crash as it occurs as they seek to determine how badly were they injured, who else was involved, and what role they played in causing the crash. Once they are stable, they begin to gather as many details as possible about the crash to complete their story. If the details are not available, they imagine what likely happened. Once the story is as complete as possible, their attention turns not so much to reconstructing the details of the crash, but to understanding the impact the crash and subsequent traumatic injuries has had, and will have, on their lives.

A major concern of crash survivors as they attempt to get their lives back, regardless of the degree of healing, is the nature of their interactions with others. Relationships that are in the foreground of their stories change as they move through the process. In the immediate aftermath of the crash, survivors are dependent on the individuals at the scene for survival, and, therefore, the bystanders and rescuers assume prominent roles in the crash story. Crash survivors feel very strongly about these individuals; they feel deep gratitude to those who helped and disgust for those who did not. In the hospital, health care professionals assume a key role. Crash survivors remain dependent on them for assistance and the provision of care; the survivors clearly identify those who are helpful and those who are not. In relationships with health care professionals, crash survivors begin to assert their own needs and desires, presumably to regain some control over their lives. When the crash survivors are at home, the most important others are their family and friends. While crash survivors continue to depend on these individuals for help with daily needs, these relationships involve on-going
negotiation related to how crash survivors can begin to care for themselves. During this time, becoming more independent is a primary concern for survivors, sometimes resulting in tension in their interpersonal relationships. For some crash survivors, interpersonal relationships are positively affected by the crash, and they are drawn closer to important people in their lives.

The findings of this study are consistent with several studies that have investigated the responses of those who have sustained traumatic injuries. Just as prior researchers have found that injury severity does not strongly relate to the degree of post-injury disability (Richmond, 1997; Richmond et al., 1998) and the development of PTSD (Bryant & Harvey, 1996; Bryant et al., 2000; Delahanty et al., 2003), the findings of the current study indicate that injury severity does not determine how individuals get their lives back when they sustain an injury in a motor vehicle crash.

The current findings most closely resonate with the work done on illness intrusiveness. The concept of illness intrusiveness, the degree to which a particular illness and/or the associated treatment interferes with any activity that is valued by the individual (Devins et al. 1993b), is closely aligned with the central construct of our model, *Having My Life Taken Away*. Both constructs focus on how health concerns interfere with “normal” activities.

The findings of this study are also consistent with the work of Morse and O’Brien (1995), particularly that a sense of disruption is a key response to traumatic injury. The construct of *Getting My Life Back* also reinforces prior work that focuses on the yearning to return to pre-injury life (DeWitt, 1993; Schmitke, 1993), and the construct of *filling in the pieces* supports Schmitke’s (1993) findings related to the quest to gain an
understanding of the injury. The construct *changing outlook on life* reinforces the findings of Richmond and Kauder (2000) that survivors of serious injury often realize that their lives were changed and would always be different.

The findings of this study extend prior research on individuals’ responses to traumatic injury. The trauma literature has focused on identifying and measuring the myriad of physiological, psychosocial and functional outcomes that individuals with traumatic injuries experience, whereas the current findings indicate that individuals who are injured in a motor vehicle crash are most concerned with how the crash and injuries “took away” their lives. Studies that examined coping with traumatic events have focused on attribution, that is, determining the cause of the event (Fife, 1995; Folkman & Lazarus, 1980; Grossman et al., 1995, 1999, 2000; Hutchinson, Loy, Kleiber & Dattillo, 2003; Lazarus & Folkman, 1984; Welch, 1995), whereas the findings of the study reported here suggest that while determining the cause of the crash is a salient concern, it was most important that crash survivors have a complete and detailed understanding of the chronology of the crash - having the “complete story” was most critical.

Little has been written about what crash survivors experience at the crash site, yet the findings of this study indicate that this initial experience is important to survivors, even after they are out of danger. How participants are rescued has significant meaning to them; “rescuers” and “bystanders” become an important part of their story. Also, the role of others in the experience of crash survivors is not often addressed extensively in the literature. The current study indicates that the nature of interactions with others is a key component of managing following a motor vehicle crash. The art of negotiating with
others to “have a say” in one’s care and resuming independence is an important part of these interactions.

Limitations

There are several limitations to this study. The majority of participants experienced short-term, although in some cases severe, physical injuries; the findings may therefore not apply to those enduring long-term disability. Those who sustain a spinal cord injury, for example, would likely manage their lives very differently than those who do return to their pre-crash lives without major modifications.

While the sample allowed the construction of a framework reflecting the shared process of individuals who suffered a traumatic injury following a motor vehicle crash, the sample was too small to examine the cause of individual differences in trajectories. The sample size, for example, did not allow investigation of how demographic characteristics, such as gender, age and occupation, might affect how individuals got their lives back. For example, although older adults experience traumatic injuries in large numbers, this sample did not include any older adults, who might experience unique trajectories and ways of managing. Similarly, how the trajectories were influenced by specific crash factors, such as whether the injured person was the driver or passenger, whether alcohol was present, and whether the crash resulted in fatalities, could not be determined. One crash survivor, for example, was responsible for the death of a passenger and seemed to fare particularly poorly in the process of Getting My Life Back, but it was unclear if the fatality or her personal characteristics (e.g., a history of depression) were most influential in determining her course.
All of the participants were recruited from one trauma program within one hospital. While there is some standardization of care among all Level 1 Trauma Centers that are verified by the American College of Surgeons, being from one facility may have influenced how the participants described the care that they received. Similarly, since the researcher was employed within the trauma program, the participants may not have felt they could freely discuss dissatisfaction with their hospital experiences, accounting for the generally positive way in which they described their interactions with health care professionals.

Because all of the participants were interviewed on one occasion, and the time that had elapsed since the accident had occurred varied considerably, the amount of information participants could provide about the four stages of the process may have been limited. Some who were interviewed close to the crash, for example, might not yet have experienced the later stages.

Future Research

Several areas of future research are recommended. Longitudinal studies that recruit individuals close to the crash and follow them throughout recovery are needed to validate and further explicate the four stage process of the theoretical model. Multiple interviews across time would increase the likelihood that researchers could capture nuances in the stages of *Getting My Life Back*.

Multi-site studies using larger samples would be needed to expand and refine the theory. A larger sample would also allow researchers to examine how both individual and crash-related factors may influence the process. Recruiting a sample of greater demographic diversity with participants who had experienced crashes that varied on
salient characteristics (e.g. fatalities, alcohol involvement) would allow researchers to incorporate salient person and crash-related factors in the theory. Because the psychosocial problem of Having My Life Taken Away resonated most closely with the concept of illness intrusiveness, and this variable has not been explored in this population, a replication of studies in which illness intrusiveness was explored with those with medical illness is warranted with crash survivors.

*Further Development of the Model*

There are several aspects to the model that could be enhanced with further study with a larger, more diverse sample and modifications in the interview procedure. Recommendations for the development of each stage are discussed below.

The findings indicate that following a motor vehicle crash, survivors focus on staying alive; they described taking stock of the seriousness of their situation and being rescued by those at the scene and by professional rescuers. Particularly notable was the consistency with which the participants described the bystanders and rescuers. With the data available, we identified several “types” of bystanders and rescuers. With more in-depth questioning regarding who was at the scene of the accident, especially who helped and who did not, researchers could provide a better understanding of how the response of bystanders and rescuers influence the survivors’ experiences of Getting My Life Back. Additionally, it was notable how all the participants at one point feared for their lives, regardless of the circumstances of the crash. With additional study and focused questioning, researchers might explore at a deeper, phenomenological level how this fear was experienced and perhaps re-experienced as time goes on.
During the stage of getting fixed up, all participants made concerted efforts to complete their crash story. Exploring this phenomenon in more depth may shed light on whether the completeness of the story aids in finding meaning of the experience and how it facilitates the integration of the crash experience into one’s life. The findings also indicate that at this stage, interactions with the healthcare providers are important and regaining control in these interactions is crucial. To further develop this stage of the model, requesting that participants describe specific interactions with nurses with a greater level of detail would add to our understanding of how control is negotiated in these interactions.

In the getting by stage of the process of Getting My Life Back, most participants were very concerned with determining whether the good outweighed the bad in the aftermath of the crash. A number of factors that might influence this determination, such as the psychological health and optimism of the survivor, could be measured with quantitative methods and integrated with narrative data. Additionally, a study with a larger, more diverse sample would allow the researchers to explore the influence of the presence of alcohol/drugs and fatalities or serious injuries of others may play in the process of weighing gains and losses.

The final stage of the process getting on with it was described by only a few participants, and, therefore, is an underdeveloped portion of the theoretical framework. A longitudinal study design would allow researchers to explore how the early phases of the process of Getting My Life Back affect movement through the subsequent stages of the process and elucidate how individuals get on with their lives following the crash. Additionally, obtaining more in-depth information about relationships with significant
others throughout the process would explicate the how crash survivors grow closer to the important people in their lives.

Clinical Recommendations

A number of clinical implications may be drawn from the findings. For nurses who care for individuals who have sustained a traumatic injury following a motor vehicle crash, the theoretical framework provides a new conceptual understanding of how crash survivors manage their lives following the crash. By appreciating that crash survivors experience a sense of *Having My Live Taken Away* and struggle with *Getting My Life Back*, a process that changes over time, nurses may better understand the main concerns and priorities of crash survivors and offer new perspectives when developing an individual plan of care.

Bedside and advanced practice nurses may use the theoretical framework to guide discussions with crash survivors regarding how they are managing their lives. The framework, for example, could be used as a catalyst to discuss the importance of interpersonal relationships throughout the process. By asking survivors to discuss their experiences of *being rescued, being sustained, and being tended to*, they would be afforded the opportunity to discuss their feelings regarding the dependency inherent in each process and to explore how their needs to become more self-sufficient might be met. Many may not have considered the possibility that their relationships may improve as a result of the crash.

Similarly, the model could be a catalyst to consider survivor’s need to reconstruct the crash and determine its impact on their life. “Storying” the crash in a comprehensive way was a prominent need of the crash survivors. By providing guidance and being “a
listening ear” for the crash survivors, nurses can assist them to reconstruct the crash and tell their story. Because “storying” is so vital to crash survivors, nurses could use the model to develop questions that would encourage “story-telling.” Given the importance that the crash survivors give to their experiences at the scene of the crash, for example, especially the actions of “rescuers” and “bystanders,” survivors might be asked to discuss this part of the accident experience.

For some survivors the crash will be the impetus to grapple with questions related to the deeper meaning of life. Crash survivors may experience a desire to ponder such “philosophical” questions as what purpose the crash served, what the crash experience revealed about the “goodness” and “badness” of others, and what role did fate play in the crash. When crash survivors are ready, nurses can talk with them about these deeper issues. Crash survivors are likely to have experienced a point in time immediately following the crash where they thought they might die, and others in their lives may avoid discussing such sensitive life and death experiences. Bedside and advanced practice nurses may provide survivors an opportunity to discuss this otherwise “unstoried” part of the experience.

Because re-gaining control over their lives is such an important thread throughout the process of Getting My Life Back for the crash survivors, nurses may look for ways to relinquish control back to the survivors as soon as it is feasible. Providing opportunities for survivors to make decisions about their care, engage in self-care activities, and have their concerns heard and acted on may facilitate their movement through the process of Getting My Life Back.
Appendix A

Demographics of Sample

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Appendix B

Recruitment Poster

Participants Needed for Study

“How Individuals with Traumatic Injuries Manage Their Everyday Lives Following a Motor Vehicle Crash”

Researchers need women and men who:

● experienced a traumatic injury in a motor vehicle crash
● required hospitalization for at least 24 hours
● are over the age of 18
● speak and understand English
● have been discharged from the Trauma Clinic by their doctor

Participation includes:

● a confidential interview lasting approximately 1-2 hours
● interview will take place in the Trauma Clinic
● Participants being paid $35.00 for their time and travel

If you are interested in the project:

● Please call Anne C. Russell, RN from Kent State University College of Nursing
● 1-800-XXX-XXXX
Appendix C

Written Script for Explaining the Study

My name Anne Russell, I am a doctoral student at Kent State University. I’m conducting a study of how individual’s manage their lives following a traumatic injury sustained in a motor vehicle crash. The study would involve talking with me for about 1-2 hours about your injuries and what your life has been like since your motor vehicle crash. You will be paid $35.00 to compensate your time and travel. May I give you a study flier?
Appendix D

Phone Script for Study Screening Eligibility

This is Anne Russell. I am a doctoral student at Kent State University College of Nursing. This is a confidential, toll free line. Thank you for your interest in the study “How Individuals with Traumatic Injuries Manage their Everyday Lives Following a Motor Vehicle Crash” The purpose of this study is to better understand the experience of a traumatic injury. Please leave your name and phone number, or other way you can be reached, and I will contact you shortly. Please indicate if I may leave a message on an answering machine.

When phone contact is made with the potential participant, the researcher will thank them for calling and for their interest in the study. The following questions will be asked by the researcher.

To make certain you are eligible for the study, may I ask you a few questions:

___ yes ___ no

I want to confirm some information:

1. Are you over the age of 18? ___ yes ___ no
2. Did you have an injury from a motor vehicle crash? ___ yes ___ no
3. Did you stay in the hospital for at least 24 hours? ___ yes ___ no
4. Are you able to communicate in English? ___ yes ___ no
5. Would you be able to talk to me for about an hour? ___ yes ___ no
6. Are you discharged for the Trauma Clinic by the Trauma doctor? ___ yes ___ no
I will conduct a confidential interview in the Trauma Clinic at Miami Valley Hospital in Dayton, Ohio, that will last approximately one to two hours and will consist of several general questions about your life since your injury. You are free to answer only those questions you feel comfortable with and may stop the interview at anytime. You will be paid $35.00 for your time and travel. Our conversation will be audio-taped so that I can have an accurate record of what is said during the interview.

Would you be interested in scheduling an interview? ___ yes ___ no

Schedule date and time of the interview __________________________

May I mail you a reminder card with the location, date and time of our interview and who to call if you cannot keep the appointment? ___ yes ___ no

Address to send reminder card to ________________________________
Appendix E

CONSENT FOR PARTICIPATION IN RESEARCH

APPROVED BY MIAMI VALLEY HOSPITAL

Study Title: How Individuals with Traumatic Injuries Manage Their Everyday Lives Following a Motor Vehicle Crash

Patient Name: ________________________________

Name and title of investigator who discussed this research with me:
______________________________________________________________

This is a type of research study. Research studies only include individuals who choose to participate. Please take your time to make your decision. I would like you to take part in this project because you have been involved in a motor vehicle crash and had traumatic injuries.

Why is this study being done? The purpose of this study is to better understand how individuals with traumatic injuries manage their everyday lives following a motor vehicle crash. The knowledge gained from this research will help nurses and other healthcare providers to provide care and support to others who have similar injuries. The information may help develop methods to help individuals heal and recover.

How many people will take part in this study? Approximately fifty (50)

What is involved in the study? The participant will be asked to meet in the Trauma Clinic located in Miami Valley Hospital with the researcher for an open-ended interview to find out how the individual has managed his/her life following a traumatic injury

Participant Initials
The conversation will be audio-taped so the researcher will have an accurate account of the interview. The audiotape will be transcribed (typed) word for word for analysis.

How long will I be in the study? The interview will take approximately one to two hours in the Trauma Outpatient Clinic. Privacy will be provided during the interview to insure confidentiality. Following the interview, the audiotape will be typed. Taking part in this research project is entirely up to you, and no one will hold it against you if you decide not to do it. If you take part, you may stop at any time.

What are the risks of the study? There is minimal psychological risk in this study. It is possible that the participant may become emotionally upset while discussing their experience of being involved in a motor vehicle crash and sustaining traumatic injuries. The principle investigator is an experienced advanced practice registered nurse with expertise in working with patients with traumatic injuries and can provide emotional support to the participant. In the event additional support is necessary, the participant will be referred to the Miami Valley Hospital Emergency Trauma Center for evaluation by an experienced social worker.

What are the benefits of the study? If you take part in this project knowledge gained from this research will help nurses and other healthcare providers to have a deeper understanding and appreciation of the experience of having traumatic injuries following a motor vehicle crash. This knowledge will assist nurses and other healthcare providers in caring for persons who have experienced a traumatic injury.

What are the costs of the study? There is no financial cost to the participant. Participants will be given $35.00 reimbursement to compensate them for time and travel.

________________
Participant Initials
The decision to participate is voluntary. If you decide to participate, you understand that you are free to withdraw consent and to discontinue participation at any time. Such withdrawal will not adversely affect your care at this institution or cause a loss of benefits to which you might otherwise be entitled. If you decide to end your participation in the study or withdraw authorization for use of personal health information (PHI), please send written notice to the investigator.

What about confidentiality? Any information that is obtained in connection with this research and that can be identified by me will remain confidential to the extent provided by federal, state and local law. I understand, however, that an authorized representative of the investigator or Miami Valley Hospital Institutional Review Board may examine my records, and this will not be considered a breach of confidentiality. Protected Health Information (PHI) is any personal health information through which you can be identified. If you agree to participate in this research, you agree to having the researcher obtain information from your medical and trauma registry records to obtain the following information: age, gender, placement in vehicle, fatalities, types of injuries, injury severity score (ISS), abbreviated injury score (AIS), surgical procedures, complications and whether rehabilitation services were used. This information will be used to describe the sample and add to the narrative data that the researcher will obtain during the interview. Typed interviews and PHI will be identified by a series of three (numbers or letters). The principle investigator will keep a list with you name, short identification code, and medical record number in a locked file that no one else has access to.

__________________
Participant Initials
When the study is complete, that list will be destroyed and all specific identifiers removed from electronic files. The investigator will remove the identifiers from your information, making it impossible to link you to the study. Your identity will not be revealed in any publication that may result from this study.

Who do I contact if I have questions?

If you want to know more about this research project and have a question please call

Anne C. Russell, RN, Doctoral Student
(Name)

Claire Burke Draucker, RN, PhD, Dissertation Chairperson
(Name)

Kent State University, College of Nursing
(Address)

330-672-8805
(Phone number)

This project has been approved by Kent State University. If you have questions about Kent State University’s rules for research, please call Dr. John West, Vice President for Research and Dean of Graduate Studies 1-330-672-2851. You will get a copy of this consent form.

Sincerely,

Anne C. Russell, RN, Doctoral Student
Principle Investigator

You can contact the hospital administration of Miami Valley Hospital at the Department of Consumer Relations (937) 208-2666 if you have questions concerning your rights with regards to the research or I you have a research-related injury.
I HAVE READ THE ABOVE MATERIALS AND UNDERSTAND THEM COMPLETELY. I HAVE HAD A CHANCE TO ASK QUESTIONS AND ANY ITEM THAT WAS UNCLEAR HAS BEEN FULLY EXPLAINED TO ME.

_____________________________________________          _________
Signature of subject or                            Relationship (if needed)          Date
Person responsible

_____________________________________                           _________
Signature of investigator obtaining consent                                  Date

_____________________________________                            _________
Signature of witness (Not connected to research)                         Date

Copies to:   Medical Record
             Patient
             Original Research Record
Appendix F

Audiotape Consent Form

I agree to audio-taping at ____________________________________________
on ________________________________.

___________________________________                           __________________
Signature                                                                                     Date
Appendix G
Demographic Data Sheet
Obtained from Medical Record

Age:    

Gender: _____ Male
        _____ Female

Occupant in Vehicle: _____ Passenger
                     _____ Driver

Fatalities: _____ Yes
            _____ No

Type of Injuries: _____ Head ________________________________
                  _____ Chest ________________________________
                  _____ Abdomen ________________________________
                  _____ Pelvis ________________________________
                  _____ Extremities ______________________________
                  _____ Back ________________________________

Injury Severity Score (ISS): 

Abbreviated Injury Score (AIS): 

Surgical Procedures and Dates: ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                               ______________, ______________,
                              
Complications: __________, __________, __________, __________,
               __________, __________, __________, __________,
               __________, __________, __________, __________,
               __________, __________, __________, __________,
               __________, __________, __________, __________,

Rehabilitation: _____ Inpatient
                _____ Outpatient
                _____ Length of Rehab in Days
Appendix H

Demographic Data Sheet
Information Completed by Participant

Directions: Please check the description that best describes you. Write out your religious affiliation in the space provided.

Ethnic Origin:   _____Caucasian
                  _____ African-American
                  _____ Hispanic
                  _____ Asian
                  _____ Other

Education Level: _____ Grade School
                  _____ Some High School
                  _____ High School Graduate
                  _____ Some College
                  _____ College Graduate
                  _____ Some Graduate School
                  _____ Graduate Degree

Employment Status: _____ Employed
                    _____ Unemployed
                    _____ Retired
                    _____ Disabled

Religious Affiliation: ____________________________
Appendix I

Interview Guide

1. Tell me about the motor vehicle crash in which you were injured.
2. Tell me about your traumatic injury.
3. How did you manage things in the hospital?
4. How did you manage things shortly after you got home?
5. How did you manage things after you had been home for awhile?
6. Is there an incident that stands out for you that you could tell me about that would help me understand what it has been like for you?
7. Tell me a story that would help me understand how this injury affects your day-to-day life.
8. Tell me a story that would help me understand how this injury affects your thoughts about your future.
9. Tell me a story that would help me understand the things that have helped you manage since the traumatic injury.
10. How have the important relationships in your life changed since your traumatic injury?
11. What advice would you have for someone who has experienced a motor vehicle crash or a traumatic injury similar to yours?
12. What advice would you have for healthcare professionals who work with individuals who have experienced a motor vehicle crash or sustained a traumatic injury similar to yours?

13. Is there anything else I should know about managing your live following a traumatic injury that I didn’t ask?
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<th>Taking Stock</th>
<th>Being Rescued</th>
<th>Filling in the Pieces</th>
<th>Being Sustained</th>
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