Traumatic Injury and Identity: Incorporating Traumatic Episodes into the Life Story

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TRAUMATIC INJURY AND IDENTITY: INCORPORATING TRAUMATIC EPISODES INTO THE LIFE STORY

by

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ABSTRACT
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With an increasing number of traumatic injury survivors, a better understanding of post-trauma meaning-making processes is needed, including improvement in our understanding of post-trauma narrative reconstruction. This project aimed to identify emergent themes within the life story narratives of spinal cord injured veterans and to both generate and test hypotheses regarding how emergent themes related to an indicator of post-trauma wellness. Seven themes were revealed within two specific sections of the life story interview. Findings revealed that individuals who author their life narratives in such a way as to demonstrate altruism and generativity showed significantly higher wellness. Further, narratives with a greater mention of faith, as well as those with imagined futures reflecting a more affirming tone, tended to be authored by individuals with higher levels of wellness. Results help to further our understanding of how those who have been traumatically injured construct their post-injury identity and inform our understanding of resiliency in a traumatic injury population.

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Due to medical advances, more individuals are surviving traumatic injuries than ever before. With this comes the increased need for appropriate psychological care to target the emotional needs of individuals who are faced with the challenging recovery process following such events. Before the most appropriate psychological treatment approaches can be identified, the process of emotional recovery must be better understood, including the way in which a traumatic event may become incorporated into the identity of the injured individual. Research in rehabilitation and trauma psychology has begun to clarify the recovery process in various trauma populations; however, much of the work has used quantitative methods, alone. Without the use of qualitative methodology, the nuances of the individual experience are lost. Further, the impact traumatic events have on identity has been largely overlooked.

This study aimed to examine the ways in which acute trauma survivors (specifically, spinal cord injured veterans) narrate their lives, and thus to address how trauma experiences may be incorporated into one's identity, using a mixed methods approach. Literature regarding the life story model of identity will first be reviewed, including work that has assessed the life stories of those who have experienced challenging and potentially traumatic life events. Next, research examining meaning-making of traumatic experience will be presented, which will include a discussion of the conceptualization of trauma, theoretical models of the post-trauma stress reaction, and post-traumatic growth. Finally, methodology, findings, and a discussion will follow.

Examining the Self

Background

The role and importance of understanding one's unique life narrative, or life story, has been emphasized by several influential psychologists, including Jerome Bruner and Donald Polkinghorne, both of whom have helped shape the field of narrative psychology in the late 1900s and into today. Polkinghorne (1988) describes the human tendency to create life narratives and discusses the way in which individuals, cross-culturally, describe their lives as stories. Therefore, they describe their lives, not as constituting a set of isolated incidents, but rather a series of related events. In fact, from very early in life, children learn this ability (Bruner, 1986). McAdams (1993) agrees with this contention, writing that everyone, from the time they are young children, can discern stories from other forms of writing. Individuals therefore expect stories to contain certain features, such as setting, characters, plot, theme, high points, and low points. Common daily experiences involve stories of some type, whether watching the television or movie screen, hearing a song on the radio (especially from the country music genre), or overhearing water cooler gossip. Individuals' lives are full of stories; in fact, McAdams (1993) states, "Human beings are storytellers by nature...Storytelling appears to be a fundamental way of expressing ourselves and our world to others" (p. 27).

Some theorists, such as Jerome Bruner, have further asserted that the human ability to create stories is innate. Bruner, in his 1986 book entitled *Actual Minds, Possible Worlds,* proposes this very idea, stating that there are two manners by which individuals exhibit cognitive functioning. He posits that narrative is one of the two, the other, "logico-scientific." Both provide unique ways of organizing the world. While the logico-scientific mode is characterized as formal and logical, empirically validating one's surroundings, the narrative mode is imaginative and expressive. Both are complementary

processes that work in tandem to create a wide range and depth of thought (Bruner, 1986).

Theorists have proposed that the purpose of creating life narratives is to provide one's life with a sense of unity. When one is able to accomplish this and become self-integrated, one experiences high levels of satisfaction, as the integration allows the individual to perceive that his or her life is meaningful (Polkinghorne, 1988). In fact, some theorists have suggested that being human, in itself, is a meaning-making activity (Strasser, 1977; Merleau-Ponty, 1942).

One's culture may have a great impact on one's life story. Culture is thought to provide the general outline for one's story, while the individual then fills in the details from his or her unique experiences. In North America, the plot outlines are influenced by movies, books, television, and other forms of popular culture, providing a structure of what our lives "should" mean (Polkinghorne, 1988). Therefore, life stories in this region of the world often reflect the value of productivity, revolving around doing and achieving (Kenyon, 1996). McAdams (1996) supports the notion that each culture contributes uniquely to individuals' life stories and that there are unique expectations of life stories, depending on the culture in which one lives. In Western culture, for example, in addition to the noted value of productivity, one's life story is expected "to have their beginnings in the family, to involve growth and expansion in the early years, and to locate later problems in early dynamics" (McAdams, 1996, p. 308).

One concern regarding culture's influence on life stories is the potential for resulting inauthentic self-stories. Authenticity in life stories refers to the act of acknowledging one's life narrative and making it one's own (Scott-Maxwell, 1986).

When an individual does not acknowledge his or her life narrative in this way, it signifies that the individual has unsuccessfully generated a personal self-story (Polkinghorne, 1988). It has been noted that "meaning is less and less guaranteed by the individual's unquestioned sharing of culture and society" (Kenyon, 1996, p. 28). That being said, an individual cannot simply live out any one narrative one wishes to; humans face inherent limitations. Furthermore, human beings live lives that are necessarily interconnected with other human lives. Because of this dynamic nature of human existence, an individual simply cannot live a single, contained story. Rather, a story must be understood as a product of many intersecting stories, be them public, private, familial, or cultural (Kenyon, 1996). Still, one living an authentic life does so by choosing the life he or she is living and doing so in a conscious, deliberate manner.

The Life Story Model of Identity

It was out of this intellectual context that McAdams's life story model of identity began to take shape. While his work has roots in the sciences and the humanities, and though it draws from several intellectual traditions, it most clearly integrates scholarship addressing the self, ideographics, and narrative psychology. Notably, the life story model of identity is deeply influenced by ideas of William James. Over one hundred years ago, William James contributed to our understanding of the self by differentiating between the "I" and the "me" features of personality. He suggested that the "I" refers to the self as the subject and is the feature of personality that does the "selfing," while the "me" is the self as an object, which is the product of the selfing process. For James, there is only one "I," one agent that continuously integrates experiences. This is an endless list of "me's,"

however, as a “me” may exist for every person, institution, mode, or situation imaginable (e.g., me with my sister, me at the hospital, etc.; James, 1890).

McAdams characterizes life stories as psychosocial constructions that serve to integrate one’s life experiences, creating a sense of cohesion and unity in one’s life and thus providing one with a sense of life purpose (McAdams, 1996, 2001). Life stories include one’s reconstructed past, perceived present, and anticipated future (McAdams, 2001), and they are stories largely characteristic of those living in modern cultures. This is due to the “problem of modernity” (McAdams, 1996), a state in which emerging adults (i.e., adolescents through those in their mid-20s) are faced with having to create their own identity, feeling societal and often familial pressure to make significant life decisions, namely choosing career paths and beginning families of their own.

To McAdams, one’s identity is one’s *storied* self; identity and self are not equivalent, but once a person has created a unified and purposeful story, he or she has achieved identity (McAdams, 1995). As the problem of modernity is only characteristic of emerging adults, identity is therefore something that begins to take shape at the emergent adulthood stage of life. Younger children are simply gathering information that will later be part of their own life stories (McAdams, 2001). One’s style of attachment in infancy, as well as family dynamics within one’s home, serve as important material for the life story one will eventually construct. It may also determine the narrative tone of one’s story, whether that tone is one of, for example, optimism and trust in others, or pessimism and mistrust. Narrative tone is a defining feature of a life story and is apparent in both content and manner of storytelling (McAdams, 1993). Children have not yet faced the problem of identity, where they feel a need to begin to craft their own unique story

(McAdams, 2001). Further, at the point of emergent adulthood, necessary cognitive abilities (i.e., formal operations) have formed that allow individuals to explore their identity in an abstract manner, whereas individuals before this age period are not able to do so (McAdams, 2001).

McAdams describes life stories as internalized and always evolving. Though during intimate moments in our lives we may choose to share parts of our life story with others, it is a private construction, existing only within ourselves. Still, the story is substantially influenced by one's culture, since the individual cannot be isolated from the context in which he or she is embedded. As such, one's story consists of facts about a person's life but also goes much further, tying together one's past, present, and imagined future into a meaningful whole (McAdams,1996).

Because life stories are constructed by both individual and culture, and created imaginatively in a way that embodies more than just fact, McAdams (1993) refers to one's life story as a myth. While he emphasizes that we do not tell ourselves lies, we do strive to construct our stories in ways that are satisfying and meaningful. Even when we experience opposing events or behave in contradictory ways, we edit our stories in ways that allow such events to fit into the existing story, creating "a sacred story that embodies personal truth" (McAdams, 1993, p. 34). Life stories are continually revised, as they must incorporate new events as they are experienced into one's existing life story in a way that maintains cohesion within the narrative (McAdams, 1996, 2001). While the goal is cohesion, however, it is possible to have too much consistency. The ideal life story – one that enables an individual to feel purposeful and satisfied – allows for some degree of flexibility within the narrative. As McAdams (1996) states:

> "A life story need not make everything fit together in a person's life. Modern adults do not need perfect consistency to find unity and purpose in life. Indeed, a good life story is one that also shows considerable openness to change and tolerance for ambiguity…an open story propels the person into the future by holding open a number of different alternatives for future action and thought. In contemporary social life, life stories need to be flexible and resilient." (p. 315)

A life story is more than a simple summary of events that have occurred in a person's lifetime. A summary would be more consistent with autobiographical memory, which refers to an objective account of events that took place in an individual's past (Roediger, McDermott, & Goff, 1997). A life story, on the other hand, is much more subjective. It is a reconstruction of past events, colored by one's perception of the present and anticipated future (McAdams, 1996). The future-orientation is apparent in the goals and dreams that an individual may articulate having; thus, at times in our lives when we experience events that make us envision the future differently, our life stories may shift dramatically. For example, experiencing an event that increases death salience (e.g., one's fiftieth birthday, when one may begin thinking that he or she has already lived at least half of his or her life) may alter one's perceptions of events already lived and may alter the narrative tone (McAdams, 1996).

The life story model of identity is central to the proposed study. As has been reviewed, it is theorized that the purpose of creating a life story is to perceive a sense of cohesion in one's life and thus to feel purposeful; however, this has only been conceptualized with normal populations in mind. Traumatically-injured individuals face unique challenges that may hinder their ability to create the same sense of unity in their life stories. This study aims to determine the manner in which such a task is carried out

and potential differences in the narrative constructions of those demonstrating positive and negative post-injury adjustment.

Since McAdams developed his life story model of identity, researchers and theorists have explored identity within this framework and also explored influencing factors on the life story. Along the way, they offered critiques and suggestions on ways of expanding this conceptualization of identity.

Criticism of the Life Story Model of Identity

One such critique has come from Chandler (2000), who focuses on the constructs of self, time, and culture. In contrast to McAdams's perspective that life narrative serves as *the* way to organize events experienced, he argues that life narrative is just one of many modes in which we may arrange our experiences in time in order to make sense of them. The "presumed exclusivity" (Chandler, 2000, p. 215) of life narrative as the one and only way of establishing an identity is thought to be concerning. The overarching focus of the author's writing is the theme of sameness within change, emphasizing that the self must change in some ways over time but also remain constant on some level. If individuals were not perceived as remaining consistent over time in some way, he notes that "no one could be held accountable for their actions" (p. 211). McAdams would likely agree with these statements, believing that the events we experience in our lives affect and shape us, and it is because of this that we need to remain flexible, and *changeable*. However, McAdams's idea of need for organization of life events into a coherent story would reflect the sameness to which Chandler (2000) also seems to be referring.

Chandler (2000) also challenges the notion of the life story, itself, and the idea that story-telling is an inherent manner of constructing one's identity. He asserts that

researchers are imposing the structure. When asking individuals to discuss their lives as narratives, they can do so quite readily, but this does not mean that they would have necessarily constructed such a story, had the task not been proposed (Chandler, 2000). This argument illustrates just one side of a heated debate between narrative theorists. On one hand, some theorists believe, like Chandler, that one's life narrative is a foreign structure and not inherent to the individual's life. As Polkinghorne (2004) writes of this camp of theorists, "narrated life stories are distortions, not descriptions, of life as lived" (p. 33). On the other hand, another group of narrative theorists contend "that life itself is structured narratively" (Polkinghorne, 2004, p. 33). Bruner (1986) is one such theorist adhering to this view, given his perspective that humans possess an innate cognitive capacity for thinking in terms of narrative. McAdams also belongs to this group, given his notion that one's story *is* one's identity. It is apparent, though, that McAdams's perspective does not exist as the one leading theory of individual identity. Rather, other – perhaps equally as reasonable – arguments have been offered in an attempt to make sense of the human experience.

Polkinghorne (2004) summarizes a view that marries the two, seemingly opposing, sides of the narrative debate. He draws from the views of Paul Ricoeur (1991, 1995), who has argued why life narrative is neither innately experienced nor externally imposed. Ricoeur suggests that to understand the self, one must understand the "senses of mimesis," (designated as $mimesis_1$, $mimesis_2$, and $mimesis_3$), referring to the different perspectives of viewing the whole of an individual's life. $Mimesis_1$ consists of the "felt sense we have of who we are that underlies the articulated narrative compositions we tell about ourselves" (p. 36). This perspective acknowledges the disjointed and incoherent

events that occupy our daily existence. Ricoeur describes these events as having a "prenarrative quality" (p. 37) – prenarrative meaning that one is aware of the greater, more unified whole that his or her single events will eventually comprise. $Mimesis_2$ consists of one's life story. This perspective is that which molds all fragmented, once meaningless events into a meaningful structure. Its construction also allows an individual's life to have a history, where, upon reflection, one may recognize events as foreshadowing events to come. Elements that are involved in transforming events as lived into the narrative composition are, first, one's reconstructed memory of past events; second, "narrative smoothing," in which one condenses and elaborates where needed to form the episode coherently; and third, relying on culturally available plots, where one chooses an existing plot of one's culture and adapts it to provide meaning to their own. $Mimesis_3$, then, refers to one's interpretation of his or her construction. As Polkinghorne (2004) writes, "by incorporating the narratized story into our self-hood, our actions become informed by the understanding of who we are as portrayed in the newly told story." For Ricoeur, one's identity is formed after all mimeses have been accomplished; however, one's identity then continues to develop, as "we are a process of becoming" (Polkinghorne, 2004, p. 45).

Ricoeur and others previously noted have emphasized the influential role of culture in the development of identity. Some social constructionists (e.g., Foucault, 1984) go so far as to suggest that the self does not even exist and instead, all an individual is is a reflection of his or her culture. This idea traces back to George Herbert Mead and his theory of mind and self, in which he argued that the self is created within a social context, developed once an individual assumes the perspectives of others. To Mead, the self first

exists within a community and only then, as a result of dynamic social processes, does the individual develop a sense of consciousness about the self (Mead, 1934).

Chandler (2000) and Shotter (2000) both challenge this assumption. Polkinghorne (2000) responds to these theorists and summarizes their position, saying that they acknowledge the difficulty in wading through the myriad of cultural plots that hide the self from view but that the self does exist and can be viewed once the cultural plot barriers are breached. Chandler and Shotter agree that one's experiences result from both interpersonal interactions and interactions between the self and the world and therefore are not simply culturally constructed (Polkinghorne, 2000). To Shotter (2000), the only means by which to perceive the self is by viewing it historically. That is, because human beings are living entities, an understanding of them can only arise from viewing influential past events on the self and possible future selves, based on these events (Shotter, 2000).

Further critiques of McAdams's model have come from Polkinghorne (1996), who targets several aspects of the model, including its applicability only to emerging adults and adults in modern societies, as well as the role of narrative, itself, in the development of identity. Though Polkinghorne generally supports McAdams's model, he first states that it is unclear whether the model is intended as a blueprint for the way psychologists might study a specific population (i.e., emerging adults/adults in modern Western culture), or as a general framework for studying individuals. To Polkinghorne, the model is appropriate as intended for a specific population but not as a general framework. Further, he reconceptualizes McAdams's identity problem, proposing that it is typical of cultures in periods of transition and that "postindustrial Western period is a

time of cultural transition…Viewed from this perspective, the multiplicity of identity stories…vying for acceptance by modern Western adults is simply a symptom of a period of cultural change" (p. 365). Regarding the role of narrative in the formation of identity, Polkinghorne differentiates between a life story and an identity story, stating that the story one articulates about his or her life is qualitatively different than the story as lived by the individual. Therefore, he states that we cannot refer to both stories as the same entity, as McAdams does but that we must distinguish them, thereby acknowledging their important differences, as one (life story) reflects the public self and the other (identity story) reflects the private self (Polkinghorne, 1996).

Baumeister (1996) has expanded McAdams's model by suggesting that individuals make sense of life events in specific ways, offering four "needs for meaning" (p. 322) that he believes individuals have. Baumeister agrees that individuals use life stories to integrate and make sense of different events experienced but also posits that human beings have certain needs that influence the way in which they construct stories. These needs include purpose (two types: goals and fulfillment), value and justification, efficacy, and self-worth (Baumeister, 1996). Research has demonstrated that individuals experience greater meaning in life and less distress when at least one of these needs was met, when compared to individuals who did not have any of these needs met (Baumeister, 1991).

Baumeister (1996) suggests that an individual's life purpose (or, more realistically, purposes) may serve as life themes that guide the way in which one's life story may be constructed. Further, Baumeister asserts that the second need for meaning, value and justification, may serve to color one's life events as either morally right or

wrong. Regarding efficacy, one must feel as though he or she directly influenced positive change in one's life. He emphasizes that it is likely not enough [to bring about a sense of meaning in one's life] to simply observe positive change occurring, but rather, one must feel he or she played a significant role in creating such change. Finally, with regard to self-worth and narrative, Baumeister suggests that an individual may make particular statements in one's story that confirm one's worthiness as a human being (Baumeister, 1996).

It is apparent that there is much existent literature that responds to the model set forth by McAdams. Baddeley and Singer (2007) have offered their own theory – one that describes how individuals' life stories change throughout development, from childhood through adulthood. The authors aim to illustrate how narrative so readily allows one to perceive the "inherent tension" (p. 178) between the self and one's culture, argued by both Erik Erikson and Dan McAdams to be the composition of identity. Baddeley and Singer (2007) state that one's narrative begins with one's birth story, though one must hear the story many times before it can become one's own. They describe one's childhood narrative as that of reminiscing with one's parents, wherein parents model narrative structure for the child. The authors note, "Children are initially guided to construct stories that correspond to societal molds. Although they have become clearly identified characters with their own lines, they are not in the fullest sense speaking their own minds" (p. 181). It appears as though the authors consider one's early stories – although not entirely unique to the individual – as life stories, themselves, and perhaps not solely as material to be used for one's eventual life story that McAdams describes.

Baddeley and Singer (2007) concur with others (e.g., McAdams) in that it is not until the adolescent years that, armed with more advanced cognitive abilities, individuals may begin to tell their unique stories. Still, these stories reflect, often to a great degree, the surrounding culture's ideals. Research by Habermas and Bluck (2000) suggests that adolescents, as compared to adults, perceive the life course as less variable. In other words, adolescents may hold a much more structured and stereotypical conception of what constitutes a typical life. The authors go on to distinguish the life stories characteristic of young, middle, and older adulthood. In young adulthood, research suggests that individuals begin to form intimate relationships and begin to co-construct their stories with their significant others (e.g., Belove, 1980). At this point in an individual's life, telling of one's life narrative becomes more frequent, due to the range of stories that young adults internalize regarding cultural scripts related to intimacy (Alea & Bluck, 2003). Middle adulthood, on the other hand, focuses more on raising a family and contributing to society in one's professional careers. It is at this point where the idea of generativity may come into play for many adults, when the notion of death now becomes more realistic and individuals therefore feel a need to contribute to the well-being of younger and future generations in a way that forms a lasting legacy. Engaging in generative acts allows for individuals to symbolically live on after they have experienced death (de St. Aubin, 2004; Baddeley & Singer, 2007). Finally, at the point of older adulthood, adults' life stories tend to consist of reflection and life review (Baddeley & Singer, 2007). Researchers such as Watt and Wong (1991) have distinguished different types of reminiscence that each serve different purposes. Together, these comprise the distinct life stories seen at each stage of life.

Thus far, life stories, in general, have been discussed, including how they have been conceptualized, what factors may influence them, and the relationship between life stories and identity – constructs that some theorists, like McAdams, believe are one and the same, while others believe are distinct. Life story research has been conducted with a number of different populations. As a specific interest here is in the life stories of trauma survivors, and since traumatic events serve as a type of life transition, the following section focuses on the life stories of individuals who have faced life transitions.

Bauer and McAdams (2004) assessed adults in the midst of life transitions, hypothesizing that the way in which individuals interpret life transitions determines whether or how they experience post-transition self-development. They based their assertion on past research demonstrating that life transitions may lead to periods of self-reflection, meaning-making, and personal development (Cantor & Kihlstrom, 1987; Bauer & Bonanno, 2001). The sample
(n = 67) consisted of adults who were either in the process of changing careers or religions. The four themes of personal growth investigated were integrative (social-cognitive maturity), intrinsic (referring to social-emotional well-being), agentic, and communal (the latter two referring to transition satisfaction and global well-being). The dependent variables assessed were ego development, well-being, and life impact from the transition (Bauer & McAdams, 2004). Results of the study supported the researchers' hypothesis: different types of development were found, depending on the interpretation of one's transition. Those whose transition stories reflected agentic growth demonstrated a greater perceived positive impact of the transition, while those whose stories reflected communal growth showed greater subjective well-being. Interestingly, those who

reported to have learned from their life transition and formed new perspectives regarding significant relationships (i.e., integrative and communal themes) also demonstrated higher levels of maturity and happiness – qualities King (2001) regards as necessary to experience "the good life" (p. 58).

It appears, then, that not only is it beneficial for individuals to interpret life transitions as resulting in either agentic or communal growth but especially to discover new perspectives on one's relationships in the process. However, it should be noted that, due to the cross-sectional design of the study, it cannot be determined whether those who had higher baseline levels of well-being may have tended to view transition periods in the manners illustrated (versus growth stories leading to greater well-being). Further, while the researchers chose their narrative growth themes based on theory and previous research, perhaps richer, more meaningful data would have been collected had the themes not been imposed. An important quality in conducting qualitative research is refraining from entering with preconceived notions of potential emergent themes, something the researchers intentionally disregarded in their study.

As this study examined the impact of difficult life experiences (specifically acute trauma), the following section reviews literature on this topic. It addresses how an individual may construct one's life story around such an experience, examining emergent themes within the narratives of those who demonstrate both positive and negative post-trauma trajectories.

Challenging Life Events and the Life Story

The notion of "the good life," noted above, was examined in studies of individuals having experienced difficult life events. Bauer and colleagues (2008) describe

the good life as an idea adapted from ancient philosophers, describing a state of perceived pleasure in life and meaningfulness. It is also a state in which one demonstrates psychosocial integration, reflected in measures of ego development. The authors review literature demonstrating that individuals with higher levels of ego development perceive difficult life experiences as turning points in their lives. They acknowledge the challenges faced and the suffering experienced as a result of the difficult life experiences; however, upon reflection, they tend to view such experiences as having allowed them to understand themselves and their world differently (Bauer, McAdams, & Pals, 2008).

Two studies that have illustrated such transformation in individuals having experienced difficult life experiences are the work of King (2001) and Pals (2006). These researchers have contended that individuals who have fully recognized the negative influence of the life experience and then proceeded to coherently and positively integrate the experience into their self-defining narrative demonstrated that they, more so than those whose stories were unresolved, were living the good life (Bauer, et al., 2008). Pals (2006) illustrated this idea with a large sample of women who were asked to describe their most difficult life experience since their college years. All women were college-educated and most were Caucasian. Narratives were coded for indicators of narrative identity processing, such as complexity of narrative elaboration, positive/negative ending, and ending coherence (Pals, 2006). Findings from the study supported the idea that individuals who view challenges as opportunities for growth versus threats to the self that must be avoided experience greater maturity, happiness, and ego development and live more pleasurable and meaningful lives (Bauer, et al., 2008).

King (2001) reviewed life stories of individuals who demonstrated high levels of happiness and maturity and who also had experienced difficult life events to determine how such individuals might construct their life narratives. She found that those with greater levels of happiness told narratives exhibiting more coherence of events and also happier endings. Those with greater levels of both happiness and maturity told narratives illustrating, as Pals (2006) also demonstrated, a change in self-understanding as a result of the challenging experience. Such individuals, though describing a negative impact of their experience, concluded their narratives with positive descriptions of the self, including gaining wisdom as a result of their experience (King, 2001).

One must wonder whether the idea of viewing one's challenges faced as opportunities for growth has its limitations – whether the findings noted would still hold true for those who have experienced some of the most extreme life challenges. In line with the specific aims of the present study, the following work focuses on the narratives of those who have experienced potentially traumatic life events.

Potentially Traumatic Life Events and the Life Story

The work of Crossley (2001) discusses the importance and meaning of space for individuals who have experienced trauma. He emphasizes that many people actually do well in the face of trauma, and one means by which they do so is by "rebuilding images of self and world" (p. 279). In other words, when one's self-identity and broader reality have been altered due to an extreme stressor, one can reconstruct these perceptions of self and other and by doing so, create meaning out of one's experience. This work utilized semi-structured interviews with a sample of HIV-positive individuals and assessed participants' perceived impact of their diagnosis. Crossley (2001) found that the notions

of space and place recurred in the narratives of the participants, in that they helped construct and maintain individuals' identity. One participant discussed how he felt the need to simply escape a particular location that had become associated with negative experiences (e.g., the death of several partners). For him, he felt unable to reconstruct his identity within that particular space and instead, needed to relocate to a more "restorative environment" (p. 285), a term which Kaplan (1983) uses to describe a space in which an individual may feel whole, even when living a traumatic experience.

Other researchers (e.g., Hunt & McHale, 2008) have focused on the notion of traumatic memories following trauma, arguing that psychologists must gain an understanding of their impact, as significant components of one's narrative. The researchers assert that traumatic memories stem from the broader social context; therefore, to understand such memories, "psychologists should consult with historians, sociologists, and others to build the social world through which people have lived" (Hunt & McHale, 2008, p. 55). They go on to insist that one's perception of the traumatic memory, as opposed to objective memory, is most important, as it influences the meaning made of the event. Such an assertion is consistent with other work (e.g., deRoon-Cassini, de St. Aubin, Valvano, Hastings, & Horn, 2009) that has found perception of one's situation to override objective reality concerning indices of well-being in a population of trauma survivors. McAdams (1993) further supports this notion, saying "human beings tend to see their own lives in more positive terms than an objective appraisal would warrant... To derive personal meaning from a bad event, one must construct a personal story to make sense of the event…[the story] simply reflect[s] the human yearning to make sense of subjective experience through narrative rather than empirical fact" (p. 49).

Hinojosa et al. (2008) similarly write that the way in which one interprets one's experiences plays a main role in understanding the meaning made of the experience.

The work of Hinojosa et al. (2008) examines whether individuals experiencing illness can maintain continuity of self or whether their views of self and world become altered post-illness, as past work has argued (e.g., Bury, 1982; Park & Folkman, 1997). The researcher explains that individuals have multiple dimensions to their identities. When an illness affects one dimension, individuals may turn to other facets that have not been disrupted. This work examined a sample of veterans who had experienced a stroke to determine whether expectations for aging and religious beliefs might play a role in whether an individual maintains a coherent self or experiences disrupted self. Findings revealed that, while most participants did experience disrupted self, a substantial portion (approximately one-third) perceived their identity as continuous. For some of those who experienced continuity, their perceived expectations for age appeared to allow them to understand their illness as more congruent with their sense of selves than others who did not hold such age expectations. Further, religious beliefs for some enabled them to create meaning of their experience (e.g., believing the illness was God's plan), in turn allowing them to maintain continuity of self (Hinojosa, Boylstein, Hinojosa, & Faircloth, 2008). One might wonder if the participants' narratives would have been similar with increasing time post-illness. One month may not have granted enough time for some individuals to incorporate their illness into their sense of selves; with greater time post-illness, it is possible that more individuals would have demonstrated continuity of self. On the other hand, one month may not have been enough time for individuals to fully experience the illness's negative impact in their lives; therefore, perhaps a greater number of individuals

would have illustrated disruption of self, had they been further removed from their initial stressor.

As has been argued, “narrative discourse is a mirroring of the sort of activity of which life consists. Life is not chaotic whereas narratives are well formed, nor is life confused whereas narratives are orderly. Life, too, is well formed and orderly” (Carr, Taylor, & Ricoeur, 1991). The work previously discussed, however, suggests that this is not the case when one’s life experiences include a traumatic event. Thus, it may be argued that not everyone’s life is “orderly.” When the motor vehicle crash survivor must walk down the street as an amputee or when the assault victim must approach the world as a paraplegic, they may well disagree that their lives have been neatly structured. Yet, they are faced with the task of incorporating the traumatic event and all its aftermath, presumably quite disconnected from anything previously experienced, into the same story once lived and told. To begin to understand this process was the goal of this study. The following section focuses on post-trauma meaning-making, including, first, a description of what constitutes an event as traumatic and an exploration of the history of this conceptualization and current definitions.

Meaning Making of Traumatic Episodes

Post-traumatic Stress Disorder and Conceptualizations of Trauma

The lifetime prevalence rate of Posttraumatic Stress Disorder (PTSD) is approximately eight percent for adults living in the United States. The disorder may be specified as acute, chronic, or delayed. Acute symptoms occur within three months of the

traumatic event, chronic occur at least three months, and delayed occur after six months have elapsed post-event (American Psychological Association, 2000).

PTSD first appeared in the DSM-III in 1980. Since this time, there has been much controversy over this diagnosis; arguments have included what symptoms should constitute the disorder and whether the diagnosis is even valid (North, 2009). DSM-IV-TR criteria for PTSD include: 1) exposure to a life-threatening event (can include direct exposure or witnessing or learning about the event of a close other) and can also include the threat of serious injury or threat to bodily integrity; 2) response of intense fear, helplessness, or horror following the event; 3) re-experiencing the traumatic event (e.g., intrusive, distressing thoughts; recurrent, distressing dreams, flashbacks); 4) avoidance of such things related to the traumatic event (e.g., thoughts, feelings related to the event; activities, places that remind one of event); 5) persistent hyperarousal (e.g., exaggerated startle response; hypervigilance); 6) experience of above symptoms for a period longer than one month; and 7) significant distress or impairment in important areas of functioning (American Psychological Association, 2000). The symptoms of hyperarousal were not included initially in the PTSD criteria but appeared in the DSM-III-R in 1987. Researchers have argued that further research is needed to better understand the PTSD diagnosis, in turn better understanding the causes of and appropriate treatment for PTSD. At this point, what is lacking in the literature is an investigation of the biology behind the diagnosis, differential diagnoses, and familial patterns (North, 2009). One central argument regarding the PTSD diagnosis surrounds whether the requirement of experiencing (or witnessing or learning about) a traumatic event should exist within the diagnostic criteria. Some argue that there are consequences to assigning causality –

specifically, that doing so prevents researchers from investigating other possible causes of PTSD (North, 2009).

This same diagnostic criterion of experiencing a trauma has been critiqued from yet another angle. Brown (2008) explores new, more culturally competent definitions of trauma, arguing that this criterion is too narrow and therefore overlooks other potential forms of trauma. The author identifies as problematic the following wording in the first criterion for PTSD: "threat [of death, bodily integrity, or serious injury to self or to] a family member or other close associate" (American Psychological Association, 2000, p. 463). Because in different cultural traditions, "family" can refer to those outside of one's biological family members, the language used in the diagnostic criteria may be considered non-inclusive. Further, it is possible for some to experience threat to self from sources other than a violent event. For instance, the author describes a scenario where an individual experiencing racism at his workplace over an extended period developed PTSD symptomology but could not be diagnosed solely because the precipitating event did not meet this DSM-IV-TR criterion, though all others were met. The same may occur for other members of minority cultures who experience varying types of discrimination. The author urges clinicians to think more broadly and more inclusively regarding what may constitute a trauma for each client, given his or her unique history. She offers new ways of conceptualizing a traumatic event. The first is a situation in which an individual's just world beliefs are shattered; that is, the beliefs most individuals in Western cultures possess concerning the goodness of others and fairness in the world no longer hold. The second concerns the experience of microaggressions, which can be direct or indirect and serve as "reminders of the threat of violence that underlies bias"

(Brown, 2008, p. 103). A further conceptualization of trauma is a situation in which an individual's trust is betrayed, when an individual in authority who is believed to have one's best interests at heart engages in behavior that suggests otherwise. Finally, the author notes that instances with special meaning attached to them can constitute trauma. For example, she describes the experience of being raped (which, alone, may lead to PTSD), but at times with the added factor of having been victimized by someone who held special meaning for the individual (Brown, 2008). The instances described above, though they may not meet current diagnostic criteria for PTSD, may well represent a traumatic experience to the individual. More broadly defined criteria could serve to incorporate these cultural and other contextual factors into our understanding of PTSD.

In addition to understanding the conceptualization of trauma, including its ongoing controversy, it is also necessary to examine the leading models of stress reaction in the aftermath of a traumatic event. Understanding the stress reaction is important in understanding individuals' perceived post-trauma experiences.

Theoretical Models of the Stress Reaction Following Trauma

Conservation of resources theory

Conservation of resources (COR) theory (Hobfoll, 1989) has been offered as a stress model explaining why individuals have given psychological reactions following significant stressors. The focus of this theory is the concept of resources, defined as "objects, conditions, personal characteristics, or energies that are valued by the individual or that serve as a means for attainment of these objects, conditions, personal characteristics, or energies" (Hobfoll, 1989, p. 516). According to the theory, individuals

perceive stress when they have experienced actual or threatened loss of resources or they have not gained resources when they have invested other resources. Objects refer to physical objects such as one's home, vehicle, and clothing. They are items that allow an individual to cope with stress in a problem-focused manner. Conditions refer to the things valued by individuals or that serve to protect what is valued. Examples include stable employment and family stability. Personal characteristics refer to individuals' skills and serve to guard against increases in perceived stress. Examples here are such things as positive feelings about oneself, ability to organize tasks, and job skills. Finally, energies are those resources that help individuals gather other resources; therefore, they are not necessarily valuable in and of themselves but are more indirectly valuable. Energy resources include, for example, stamina/endurance and financial credit (Hobfoll, 1989, 1996).

COR theory is based on several principles, one of which states that loss constitutes individuals' primary pathway to stress. When Hobfoll initially developed the theory, he consulted established questionnaires surveying stressful events and noticed that the majority of items on all surveys had to do with loss (Hobfoll, 1989). The model also allows for replacement of valued resources; that is, when individuals lose certain resources, they may substitute with other valued resources in an attempt to reduce the amount of loss. When actual replacement cannot be accomplished, symbolic replacement may be employed (Hobfoll, 1989). This principle also asserts that loss has a more substantial impact on individuals' psychological health than does resource gain. Stated differently, the same amount of gain as loss will have significantly less impact on the individual than will the loss (Hobfoll, 2001). A second principle of COR theory states

that individuals utilize resources in such a way as to maintain and add to resources already possessed. The final principles of COR theory have to do with what Hobfoll refers to as loss and gain spirals. A loss spiral refers to the circumstance when individuals lose resources following a significant stressor, and the loss of initial resources makes individuals vulnerable and thus triggers subsequent losses. Similarly, gain spirals refer to when individuals gain resources and the initial gain triggers subsequent gain. However, as was previously noted, losses have a greater impact than do gains; therefore, gain spirals are less intense than are loss spirals (Hobfoll, 1996, 2001).

Immediately following the stressful event, it is normal for individuals to experience a negative reaction. Though these reactions typically fade within a relatively short time-frame, the effects of the event can vary considerably, from very short-term to long-term. Certain types of events have been shown to be more deleterious than others; for instance, those caused unnaturally (by humans) seem to be more impacting than those occurring naturally (natural disasters). Further, events that result in the loss of significant others in individuals' lives may have the most negative impact of all. Still, individual characteristics play a role in determining how a particular person will respond to a stressor. A greater history of past stressors and past losses may create increased vulnerability that can affect the individual's response to the current stressor (Hobfoll, 1996).

Recent studies examining COR theory have supported the model. For example, research by Dekel and Hobfoll (2007) examined psychological distress in a sample of individuals who had experienced and were continuing to experience extreme amounts of stress. Participants were survivors of the Holocaust and were those currently living in

Israel. Compounding their extreme past stressors of experiencing the Holocaust, they were experiencing unpredictable terrorist attacks. Resource loss during the Holocaust would have been significant and would have largely consisted of close others – family members who did not survive. It was hypothesized that the combined resource loss as a result of the Holocaust and the current terrorism would predict greater levels of PTSD and general psychological distress. Findings revealed that the sample did, in fact, demonstrate increased levels of distress, including anxiety, somatization, and hostility. This may be explained in terms of COR theory, in that survivors had experienced substantial resource loss from their experience of the Holocaust, making them more vulnerable to additional resource loss with exposure to new stressors (Dekel & Hobfoll, 2007; Hobfoll, 2001).

A recent study examining COR theory with a sample of spinal cord injured veterans assessed objective and subjective physical resource loss and the relationship to psychological well-being (deRoon-Cassini et al., 2009). Objective medical injury severity and perceived loss of physical functioning were gathered. Interestingly, objective injury severity was not significantly related to a measure of psychological well-being, while perceived loss of physical functioning significantly predicted well-being; specifically, those who had greater levels of perceived loss demonstrated lower levels of well-being. This study highlighted the importance of perception of loss following a potentially traumatic stressor, consistent with the principles of COR theory. While one would intuitively expected objective degree of loss to relate to psychological well-being, this does not appear to be the case (deRoon-Cassini, et al., 2009).

There have been several criticisms of COR theory over the years. One such criticism is that resource loss is simply a result of appraisal processes. Hobfoll (2001) responds that there is sufficient evidence negating this assertion. Secondly, it has been argued that evaluations of loss are, in part, determined by personality characteristics. However, Hobfoll (2001) asserts that, even though personality characteristics can impact the extent to which an individual experiences resource loss, the loss, itself, still accounts for significantly more of the variance in psychological distress. Thirdly, it has been argued that resource loss is confounded by emotion; that is, with greater resource loss, individuals experience greater levels of negative emotion, thus resulting in greater levels of distress. Again, Hobfoll (2001) states that no evidence has been found to support this notion. Finally, COR theory has been criticized for being too general, as there are an endless amount of resources. Hobfoll (2001) indicates that he has attempted to address this problem by identifying key resources, presumably those most highly valued by the individual. It has been suggested, however, that future research provide support for those resources that are indeed most highly valued and therefore have greatest potential for leading to psychological distress if lost (Hobfoll, 2001).

Coping and emotion

Other theoretical models have been presented to explain emotional processes following stressful events. Folkman and Lazarus (1988) proposed a well-accepted model explaining the role of coping following a stressor. A competing model with COR theory, this coping model asserts that individuals are continually vigilant of their environment-self transactions, and when a given transaction is interpreted as stress-provoking, individuals then engage in either emotion-focused or problem-focused coping efforts

(Folkman & Lazarus, 1988; Folkman, 1997). Coping efforts that target distress regulation define emotion-focused, while coping that attempts to in some way manipulate the individual's circumstance defines problem-focused coping (Folkman & Lazarus, 1988). The model suggests that there are several ways in which coping has an effect on emotion, having to do with coping that redirects attention, that brings into awareness the appraised meaning of the event, and that changes the actual environment-self transaction. Further, it is expected that an event perceived as favorable will result in positive emotional states following the engagement of the individual in coping strategies. On the other hand, it is expected that an event perceived as unfavorable will result in negative emotional states following coping efforts (Folkman & Lazarus, 1988).

Following Folkman and Lazarus's (1988) initial model, subsequent research has discovered new information that has since altered the model. In a longitudinal study of individuals diagnosed with HIV and their caregivers, Folkman (1997) found evidence that, in addition to negative emotions, positive emotions contributed substantially to the coping process. The study utilized a sample of over 300 gay men in a committed relationship, some of which were diagnosed with HIV and some of which were healthy caregivers for their HIV positive partners. Every two months for a period of two years, researchers conducted in-person interviews with all participants. Findings revealed that, as hypothesized, negative psychological states were quite prevalent throughout the study. However, an unexpected finding also revealed that positive psychological states were also common. Though caregivers who experienced the death of their partner, as compared to a community sample, experienced fewer positive psychological states throughout the study, the differences were small. Further, assessments occurring more

than four weeks following the loss of the partner demonstrated that caregivers experienced positive emotion just as often as they did negative emotion. These results thus refuted the notion that persons in extremely difficult situations are less capable of experiencing positive psychological states. Except for the time surrounding bereavement, positive psychological states occurred equally as often as negative psychological states (Folkman, 1997). Results are consistent with the work of Bonanno, who purports that men and women often do well in the face of trauma (Bonanno, 2004, 2008). A revision was thus made to the original coping model of Folkman and Lazarus (1988), in that out of distress may emerge coping efforts – specifically, meaning-focused coping – that result in positive emotion, then serving to replenish resources necessary for the individual to continue engaging in problem-focused and emotion-focused coping behaviors. Positive states may also serve to alleviate distress levels (Folkman, 1997; Folkman, 2008). The meaning-focused coping found to lead to positive emotional states were specifically "positive reappraisal, revision of goals, spiritual beliefs, and the infusion of ordinary events with positive meaning" (Folkman, 2008, p. 7). Research testing Folkman's (1997) revised model over the past decade has supported the model. From this work, the modes of meaning-focused coping have also been revised, now including "benefit finding" and "benefit reminding" (discovering the benefits of having experienced the stressful event and consciously reminding oneself of these benefits), "adaptive goal processes" (forming new goals and working toward achieving them), "reordering priorities" (deciding what one values differently after, versus prior to, a significant stressor), and "infusing ordinary events with positive meaning" (viewing events once seen as mundane as especially significant; Folkman, 2008, p. 7).

Other recent work has also focused on meaning-making and adjustment following significant life stressors. At a time when negative outcomes would be expected, this work addresses what might allow individuals to instead find meaning and even experience growth.

Meaning-making and Post-traumatic Growth

It is necessary to first acknowledge the work of Dr. Victor Frankl (1905 – 1997), responsible for originally discussing the idea of meaning-making during extremely difficult life experiences. Frankl, a Holocaust survivor and psychiatrist, largely influenced the way in which the term existential meaning (referring to the perspective of finding purpose in life and working to achieve life goals) is conceptualized and the way it is believed to benefit our well-being. Frankl believed that all individuals have a need to uncover the unique meaning of their lives. Based on this assertion, he developed the field of logotherapy, stating in his 1946 book, *Man's Search for Meaning*, "It is one of the basic tenets of logotherapy that man's main concern is not to gain pleasure or to avoid pain but rather to see a meaning in his life. That is why man is even ready to suffer, on the condition, to be sure, that his suffering has a meaning" (p. 113).

Research has now revisited this notion of finding meaning during extreme stress. Park and Ai (2006) argued that, consistent with the positive psychology movement, it was time for the field of trauma to focus on new findings that have emphasized positive recovery through meaning-making after trauma. The authors refer to a framework of meaning-making, asserting that when a traumatic event occurs, an individual's global meaning system becomes severely disrupted (Park & Ai, 2006; Park & Folkman, 1997). Global meaning is one of two theorized levels of meaning and is characterized by one's

core beliefs about how the world operates, the goals one works to achieve, and one's feeling of having purpose in life (Park, 2010; Park & Folkman, 1997). As people tend to believe that the world is a fair and just place, experiencing a trauma may violate such beliefs. Suddenly, one must try to reconcile the fact that he or she has lost valuable resources and now faces a strenuous recovery process with the idea that the world is still fair (Park & Ai, 2006).

It is believed that one's global meaning system is constructed in early life but then altered over time, as influenced by one's life experiences (Park, 2010; Austin & Vancouver, 1996). It is possible that experiencing multiple traumas over one's life may have a cumulative effect on the individual, thus affecting his or her global meaning. Likewise, when one experiences multiple positive events over his or her life, these, too, can have a cumulative effect and may influence the global meaning system created (Catlin & Epstein, 1992). Global meaning systems tend to be stable over time; in other words, adults tend to conform new experiences to already existing meaning systems, rather than altering existing systems to fit the range of events experienced (McCubbin, Thompson, Thompson, & McCubbin, 1993). Some research has also demonstrated that, for most adults, global beliefs may be characterized as unrealistically optimistic and may not reflect the true nature of one's past experiences (Weinstein & Klein, 1995), perhaps serving as a defense mechanism.

Situational meaning is the second theorized meaning-making level, at which there are three facets: the first involves the appraisal of the degree to which the event is significant to the individual, the second involves a search for meaning behind the event, and the third involves the meaning one has resolved that the event had for him or her

(Park & Folkman, 1997). At times, an event can be perceived as fairly innocuous and may be deemed to fit within one's global meaning system. At other times, however, an event may be too powerful and threatening to be categorized into the overarching meaning system, as the appraised situational meaning is too discrepant from the global meaning. If one's situational and global meaning systems are discrepant enough, one typically experiences psychological distress, and the individual will then aim to lessen the distress. Here, meaning-making processes come into play (Park & Folkman, 1997; Park & Ai, 2006). Park (2010) distinguishes between meaning making (a process aimed at reducing global and situational discrepancy) and meanings made (the outcome of meaning-making process). It is possible that the incongruence in meaning systems is not able to be reduced, potentially leading to rumination (Horowitz, 1991).

A recent study examining processes and products of meaning-making in a sample of adults diagnosed with cancer found that, across time (two years), attempts at meaning-making (referring to "process") directly related to growth and meaningfulness in life and indirectly related to violation of just-world beliefs (referring to "products"; Park, Edmondson, Fenster, & Blank, 2008). Growth was found to be the most stable construct assessed over this period. A limitation of the study, however, was that meaning making was measured by a positive reframing subscale from an established questionnaire, and this subscale consisted of only two items. It is also limiting to think of meaning-making only as positive reappraisal, as the process of making meaning may well include much more than that; in some cases, perhaps meaning making can even take on a more negative tone. It seems necessary to assess meaning making in a broader manner in order to capture this complex construct in its entirety.

Along with the idea of meaning-making, growth after trauma has also been assessed in recent years. Studies of post-traumatic growth (PTG) show inconsistent findings regarding the relationship between PTG and psychological distress. While some have found PTG to be negatively related to psychological distress, others, surprisingly, have found a positive relationship between these two constructs (e.g., Hobfoll, Hall, & Galea, 2006). Hobfoll and colleagues (2007), in a target article in *Applied Psychology: An Internal Review*, suggest a missing piece from the established conceptualization of PTG. That is, they propose a crucial "action" component. From their past work, they assert that when one has PTG cognitions, only, this may potentially result in psychological distress. To avoid distress and actually experience a positive impact of PTG, one must turn his or her growth cognitions into actions. The authors acknowledge that, for some types of trauma, the action component may be more challenging than for others. For instance, if an individual experiences a physical health concern, it may be more practical to translate growth cognitions to action, as opposed to experiencing such trauma as a terrorism attack. In the latter example, it may be less effective to put forth actions to try to combat the effects of the trauma. With a physical illness, however, one's actions (e.g., treatment compliance, fund-raising for research purposes) may more realistically make an impact and result in improved psychological health. To Hobfoll and colleagues (2007), it is necessary to follow individuals over time post-trauma to assess whether they have, in fact, translated their cognitions into action. Therefore, it appears that longitudinal studies are especially important when examining those within a trauma population (Hobfoll, et al., 2007). The authors hypothesized that those with higher levels of self-efficacy would exhibit positive psychological health from PTG, whereas those low

in self-efficacy would not. After testing this assumption, they indeed found that those with low levels of self-efficacy showed more distress, and the impact of PTG became worse with time. Interestingly, those with high levels of self-efficacy did not reveal a positive impact of PTG (Hobfoll, et al., 2007). It is apparent that further work must be done to determine the role of self-efficacy with regard to PTG and whether the action component suggested is of critical importance. One might assume that clinical applications exist here – that clinicians working with survivors of trauma may help aid the development of growth cognitions or growth actions, or aid in improving one's sense of self-efficacy. It has been argued, however, that until PTG is better understood, clinicians should avoid aiding in improving PTG when working with trauma survivors (Calhoun & Tedeschi, 1999).

Several researchers have provided criticism of Hobfoll et al.'s (2007) work regarding PTG. Tedeschi and colleagues (2007) state that the target article clearly misunderstood some of the basic tenants of PTG. These authors clarify that PTG results after one has re-examined his or her core belief system following a traumatic experience. The authors also clarify that, unlike the assertion that either growth cognitions or growth actions take place post-trauma, instead, many internal changes take place that then can lead to changes in behavior. Further, Tedeschi et al. (2007) argue that PTG is not isolated from negative reactions to trauma, and that, in fact, those who experience PTG also acknowledge the negative impact of their trauma. Hobfoll's comparison of PTG and resource gain (from COR theory) is also criticized, as Tedeschi et al. (2007) state, "The gains involved in PTG go well beyond comforting oneself and simply feeling better or having more free time" (p. 401).

Other criticisms of Hobfoll et al.'s (2007) target article on PTG have focused on his action component of the construct. Butler (2007) states that, in reference to Hobfoll's (2006) study assessing self-efficacy and PTG, the results may have been influenced by confounding factors, but the lack of a control group prevents knowing for certain. Also questioned was what exactly the action component should consist of, as it does not appear logical that just any action would do. Rather, must there be something unique about the type of action one takes that influences PTG? Others also question the methodology of the study, stating that growth actions were not adequately measured, as self-efficacy is not a sufficient reflection of this construct (Wagner, Forstmeier, & Maercker, 2007).

Still others have targeted the concept of resilience that Hobfoll et al. (2007) has seemed to equate to PTG. This is asserted by Westphal & Bonanno (2007), who state that Hobfoll and colleagues have not distinguished the two constructs and that this is an important distinction to make, since resilient outcomes, which are quite common, do not necessarily involve PTG. They state, "…It is crucial to note, as a growing number of prospective studies have now demonstrated, that many and often the majority of people exposed to potentially traumatic events exhibit a stable trajectory of healthy functioning, or resilience, in both personal and interpersonal spheres across time" (Westphal & Bonanno, 2007, p. 420). The authors go on to state that by referring to PTG with the action component as the ideal post-trauma outcome, it implies that a resilient outcome is not as optimal, an assertion that has no support in the field (Westphal & Bonanno, 2007). Clearly, there exits discrepancy in the field surrounding the concept of PTG. It appears that critics of Hobfoll et al.'s target article have attempted to clarify the state of the

literature, though disagreement remains. How might COR theory be related to PTG? In what ways are the notions of PTG and resilience similar and also unique? Further research with trauma populations seems necessary to help clarify such relationships, and more generally, research is needed to address how individuals might incorporate traumatic experiences into their life narratives. There is currently a substantial gap in the literature in this area, and this is where the life story model of identity may be quite useful.

By using the life story model of identity, the tensions, voids, and criticisms of COR theory and PTG can be addressed. Factors influencing both negative and positive post-trauma outcomes can be examined. Examining one's life story may reveal what is unique about those who can and those who cannot make sense of a life potentially full of both normalcy and disabling trauma. We may also realize the individual factors predicting both positive and negative trajectories post-trauma.

The aims of the present study were to identify emergent themes within the life story narratives of individuals who have experienced traumatic injury and to both develop and test hypotheses regarding how each theme would predict indices of post-trauma adjustment. To do so, a mixed methods approach was utilized in this study. General hypotheses regarding emergent themes from the life story interview were that each theme will be significantly related to an indicator of wellness. The direction of these relationships was specified once the themes were identified.

Method

Participants

Participants were individuals seeking services on the spinal cord injury unit at the Zablocki Veterans Administration Medical Center (VA) in Milwaukee, Wisconsin. Participants who were willing to participate in the study, who were at least 18 years of age, and who did not have impaired decision-making ability were eligible for participation. Those who were unable to read the informed consent document, who were unable to respond adequately to questions during the consent process, and those who were non-English speaking were ineligible for the study. Participants were either seeking medical or rehabilitation services at the VA or participating in their annual evaluations on the spinal cord injury unit and varied in the amount of time that had passed post-injury. Though some participants acquired their spinal cord injuries while in combat, most acquired their injuries due to other activities and were only seeking medical services at the VA due to their veteran status. One hundred five participants completed the interview in its entirety. Ninety-seven percent of the sample was male. Ninety percent was Caucasian, 5% African American, 2% Native American, and 3% other. Thirty-six percent was married or in a committed relationship, 29% divorced, 20% single, 4% dating, and 9% other. Seventy-three percent had children. Eighty-eight percent was not employed. Fifty-six percent was not service connected. Fifty-two percent lived with others, versus living alone. See Table 1 for a summary of demographic characteristics.

Procedure

A staff psychologist working on the spinal cord injury unit approached eligible patients on the unit to ask whether they were interested in talking with a research assistant about the study. Research assistants were trained in the institutional review board (IRB) procedures of both Marquette University and the VA and were under the

direct supervision of the VA staff psychologist. The psychologist informed the research assistants when a patient was interested in learning more about the study. After this information was communicated, one of the research assistants discussed the study with the patient. If the patient chose not to participate, the patient was thanked for his or her time; if the patient wished to proceed with the study, the research assistant conducted the informed consent process, during which the patient was given a copy of the informed consent document. The research assistant then conducted the face-to-face research interview. The interview took approximately two to three hours to complete. A digital recording device was used to record the entire interview, beginning after the informed consent process. When necessary, participates took a short break during the interview. Occasionally, an interview could not be fully completed in one setting, and in these instances, the interview was completed as soon as possible after the start date (typically within 48 hours). As this study was a cross-sectional design, each participant was interviewed only once.

Once data collection neared completion, positive and negative exemplars were identified from the total sample. First, using the visual binning option of SPSS statistical software, version 17.0, wellness scores (the sum of two measures of well-being; discussed further below) and illness scores (the sum of two measures of psychopathology; discussed further below) were separated into three equal groups representing low, middle, and high scores. Positive exemplars were those who scored highest on indices of wellness and lowest on indices or illness, while negative exemplars were those that scored highest on indices of illness and lowest on indices of wellness. Next, a 5-person committee consisting of two doctoral-level graduate students, an

academic faculty member, and two advanced clinicians practicing at the VA met bi-weekly to review participants' narratives and engage in the process of theme generation. Committee members initially read 8 full narratives (4 positive exemplars; 4 negative exemplars), searching for emergent themes within the data. Committee members were instructed to look for both intragroup similarities (narrative patterns within positive exemplars and patterns within negative exemplars) and intergroup differences (discrepant patterns between positive exemplars and negative exemplars). Themes were discussed during committee meetings. Then, after several meetings, the committee identified two primary sections of the exemplars' narratives that seemed to best reveal intra- and inter-group comparisons. These two sections were "Life Chapters," in which participants were asked to outline the chapters of their life stories, and "Alternate Futures for the Life Story," in which participants were asked to describe a positive future (events they hoped would happen in their future) and a negative future (events they feared could happen in their future). From that point forward, only the Chapters and Futures sections were targeted for theme generation. These sections of the same 8 narratives were re-read multiple times until a saturation point was reached, at which time, no further themes emerged.

Measures

Demographic characteristics

Participant variables were assessed for the purpose of describing the sample and running appropriate statistical analyses to assess potential group differences. The demographic characteristics assessed included gender, age, relationship status, ethnicity,

occupation, service connection status (degree of financial assistance provided by the government for service-related injury), income, living situation (live alone vs. living with someone else), patient status (inpatient vs. outpatient), education level, years enlisted in military, and date of spinal cord injury.

The life story interview

To gain access to participants' sense of selves and to understand the manner in which they have organized and made sense of their life experiences, a revised version of McAdams's Life Story Interview (LSI; McAdams, 1996) was used. This is a semi-structured interview, divided into the following sections: "Life Chapters," "Critical Events," "Influences on the Life Story: Positive and Negative," "Alternative Futures for the Life Story," "Personal Ideology," "Life Theme," and "Other" (see Appendix). As noted above, only the Life Chapters and Alternative Futures sections were analyzed for this project. The LSI allowed the researcher to understand how survivors of trauma navigate the task of incorporating traumatic experiences into the story of their lives, and thus, into their identity. The revised version of the interview included those sections most appropriate for the purposes of the study. The life story interview took approximately 1.5 to 2 hours to complete.

The LSI has been used in such work as McAdams and colleagues' (1997) study that aimed to discover emergent themes in the lives of individuals with high levels of generativity, or a characteristic of some people in mid- to late life in which they develop and act upon a desire to invest the self into the well-being of younger and future generations. de St. Aubin (1996) also utilized the LSI to examine personal ideology in adults.

Disability and handicap

To evaluate degree of disability and handicap, the Craig Handicap Assessment and Reporting Technique Short Form (CHART-SF) was used (see Appendix). This measure was included in the present study to address the inconsistencies in past work regarding the significance of degree of injury severity in how it relates or does not relate to post-trauma adjustment and to potentially include in analyses as a control variable. While research has tended to suggest that injury severity does not have a significant relationship with post-trauma adjustment (e.g., Krause & Dawis, 1992; Hampton, 2004; Matheis et al., 2006), a smaller number of past studies have found a significant relationship (e.g., Clayton & Chubon, 1994). Other work has found that while objective injury severity is not predictive of post-trauma well-being, perception of injury severity is (deRoon, de St. Aubin, Valvano, Hastings, & Horn, 2009). The CHART-SF consists of 19 items and is widely used in the area of spinal cord injury rehabilitation (Gontovsky, 2009). The original version of this measure, the CHART, was created in order to provide an objective manner of assessing levels of handicap (as determined by the World Health Organization) that result for individuals, post-rehabilitation (Whiteneck, 2001). The CHART-SF contains all of the original subscales from the CHART, which include Physical Independence, Cognitive Independence, Mobility, Occupation, Social Integration, and Economic Self-Sufficiency. Each subscale of the CHART-SF yields a score ranging from 0 (severe handicap) to 100 (no handicap), in addition to a total score (0 – 600). The administration time of the CHART-SF is approximately fifty percent shorter than that of the original version (Gontovsky, 2009). The short form was created by choosing the fewest number of items to explain the largest amount of variance in each

subscale (accounting for over 90% of the variance in five or the six subscales; Mellick, 2000). The CHART has been shown to have adequate test-retest reliability and validity in individuals with spinal cord injury (Whiteneck, et al., 1992), and the CHART-SF subscales have shown to be highly correlated with their corresponding scales on the CHART (Whiteneck, 2001). In this sample, Cronbach's alpha for the total disability scores was .66.

Well-being

Two dimensions of well-being, personal well-being (PWB; Ryff, 1995) and social well-being (SWB; Keyes, 1998), were assessed. The PWB includes six dimensions of well-being. Different versions of the PWB exist, ranging from three items to 12 items per scale. The 3-item version (18 items total) was used for the proposed study. Responses are based on a 6-point likert scale. The PWB yields six subscores (self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, positive relations with others), and a total score for personal well-being. The shortened scales correlate with their parent scales from .70 to .89 (Ryff & Keyes, 1995). The SWB consists of 15 total items on a 6-point likert scale. It yields five subscores (social acceptance, social actualization, social contribution, social coherence, social integration) and a total score for social well-being. In large national and international studies, internal consistency for both measures has been adequate (e.g., Costanzo, Ryff, & Singer, 2009), and test-retest reliability for the PWB has been satisfactory (Ruini, et al., 2003). In this sample, Cronbach's alpha was .84 for the PWB total scores and .82 for the SWB total scores.

Anxiety and depression

To assess anxiety and depression, the Hospital Anxiety and Depression Scale (HADS) was used. It is a self-assessment scale developed by Zigmond and colleagues for detecting states of these conditions in medical settings (Zigmond, 1983). The scale has 14 items, 7 related to depression and 7 related to anxiety. The responses are on a 4-point scale. The total score for the scale is derived from the following cut points: 0-7 = normal; 8-10 = mild; 11-14 = moderate; and 15-21 = severe. The measure takes approximately 5 minutes to administer. The HADS has been validated in both psychiatric and general populations for both adults and adolescents (Herrman, 1997; White, 1999). In this sample, Cronbach's alpha was .83 for anxiety and .76 for depression.

Wellness

A variable was computed from a combination of variables to include a marker of overall psychological health. To create this variable, personal and social well-being total scores were converted to z-scores and then summed. Likewise, anxiety and depression total scores were converted to z-scores and then summed. The anxiety and depression summation (a reflection of psychopathology) was then subtracted from the well-being summation (a reflection of wellness). Computing a total wellness score in this way accounts for participants who may score high on indices of both wellness and illness or low on both wellness and illness. Past work suggests that individuals do commonly experience seemingly opposing emotional states simultaneously. The work of Folkman (1997) that spurred Lazarus and Folkman's revised theory of posttrauma coping illustrates this well, given their findings that individuals experienced positive emotional states as often as negative emotional states following bereavement. Further, the work of Ryff and colleagues (2006) demonstrate that psychological well-being and ill-being are

generally independent constructs. It is therefore important in the present study to distinguish those individuals experiencing a broader range of emotional states from those experiencing primarily positive or primarily negative states, as such individuals may have very different profiles and may demonstrate important differences in posttrauma adjustment. Cronbach's alpha for overall wellness scores was .85. See Appendix A for the complete interview protocol.

Development of Scoring Systems

The development of each scoring system involved 10 steps: 1) After two initial readings of the Life Chapters and Futures sections of the Life Story (as noted earlier, only in the 4 wellness and 4 illness exemplar narratives), the same 5-person committee noted above discussed which themes they noticed emerging within the data. 2) For each identified theme, two of the five committee members were assigned to re-read the narratives looking only for examples that did and did not support that theme. 3) The committee compared theme examples and discussed any discrepancies. 4) Intra-group similarities and inter-group differences were determined, such that the prevalence of the identified theme was determined within the positive exemplars and within the negative exemplars, and then the proportion of positive versus negative exemplar cases that demonstrated the theme was determined. 5) If more than 2 of the 4 positive/negative exemplar narratives demonstrated the theme and less than 2 of the 4 negative/positive exemplar narratives demonstrated the same theme, it was considered significant. Otherwise, no further development of that theme was carried out. 6) One of the committee members was chosen to draft a set of instructions in which to score the narratives for that particular theme. 7) These instructions were distributed to two

independent scorers, advanced undergraduate students receiving laboratory credit, who then scored a random sample of 20 cases, taking note of questions that arose or instructions that needed more clarification within the scoring system. 8) The two sets of scores were compared, and any differences were discussed among the lab members, including all undergraduate members, the dissertating doctoral student, and the faculty lab advisor. 9) If inter-rater reliability was greater than or equal to 85 percent, that scoring system was considered complete, and it was assigned to one undergraduate lab member, who then scored all narratives for that theme. If inter-rater reliability was less than 85 percent, the scoring system was revised and re-distributed to two different independent scorers (this process was repeated until adequate inter-rater reliability was established). It should be noted that one scoring system did not reach adequate inter-rater reliability, despite multiple revisions, and therefore was not included in the final scoring systems. 10) Quality checks of final scores were conducted on 20 randomly chosen narratives, and inter-rater reliability was again assessed using Cohen's Kappa. Qualitative descriptions of Kappa's strength vary in the literature. According to Landis & Koch (1977), scores ranging from 0 – .2 = slight; .21 – .4 (fair); .41 – .6 = moderate; .61 – .8 = substantial; and .81 – 1.0 = almost perfect. Fleiss & Cohen (1973) describe the strength of scores as the following: below .4 = poor; .40 - .75 = good; and .75 and above = excellent. All Kappas were found to be satisfactory (range for initial check = .45 to .80; range for final check = .58 to .86); therefore no further revisions were necessary. See below for a description of each final scoring system (see Appendix for full version).

Scoring Systems Developed for Life Chapters

Adverse events

This scoring system captured events mentioned within individuals' Life Chapters that had the potential for significant distress. Events mentioned such as divorce, arrest, and motor vehicle crash were scored as an adverse event. Three scores were generated from this system: the first was the total number of adverse events mentioned within the Life Chapters; the second captured the narrator's tendency to write about adverse events in a positive manner, with possible scores of 0 (neutral), 1 (slight tendency to describe adverse events in positive manner), or 2 (strong tendency to describe adverse events in positive manner); the third score defined the narrator's tendency to write about adverse events in a negative manner, with possible scores again of 0 to 2 (neutral – strong tendency). All narratives were scored on these three dimensions , such that a single narrative could be scored, for example, as both having a tendency toward positivity and negativity.

Altruism and Generativity

This scoring system captured narrators' tendency to mention altruistic/generative values within their Life Chapters, with altruism defined as prioritizing others' needs above one's own and generativity defined as a component of adult personality development wherein the individual works to create a legacy of self by caring for and improving the lives of younger and future generations. Therefore, for this system, examples of altruism/generativity included such acts as parenting, coaching, teaching, and volunteering. Possible scores were 0 (no indication or only passing mention of one altruistic/generative event) or 1 (mentioning more than one brief event or one account that is more involved).

Religion/Faith

In this scoring system, the number of times a narrator mentioned religion within the Life Chapters was counted. Only when two (or more) different statements reflected two (or more) distinct thoughts was a score of more than one considered. Statements such as “I strongly believe in God,” and “I turned to my faith” were counted in this system. Narrators received one score reflecting the total number of different statements about religion/faith.

Scoring Systems developed for Alternative Futures

Altruism/Generativity

This scoring system captured narrators’ tendency to mention altruistic/generative values within their Positive Futures, with altruism defined as prioritizing others’ needs above one’s own and generativity defined as a component of adult personality development wherein the individual works to create a legacy of self by caring for and improving the lives of younger and future generations. Therefore, for this system, examples of altruism/generativity included such acts as parenting, coaching, teaching, and volunteering. Possible scores were 0 (no indication or only passing mention of one altruistic/generative event) or 1 (mentioning more than one brief event or one account that is more involved).

Clarity of Futures

Clarity within individuals’ positive and negative futures referred to the degree of coherence or incoherence within the narrative. Coherence was determined by assessing

the authors' tendency to remain focused on the question and the degree to which one thought logically flowed to the next. Possible scores were -2 (very difficult to follow; ideas presented illogically; thoughts very tangential), -1 (frequently difficult to follow; ideas presented slightly illogically; thoughts somewhat tangential), 1 (relatively easy to follow; some ideas presented logically; thoughts well-focused), or 2 (very easy to follow; thoughts presented logically and coherently).

Future as Continuation of Present

In this scoring system, positive and negative future narratives were scored for the degree to which they described a future as a continuation of or deviation from the authors' current lifestyle. Possible scores were 0 (future is distinct from present), 1 (future is, in part, a continuation of present), or 2 (future is, in entirety, described as a continuation of narrator's present).

Tone of Imagined Futures

This system captured narrators' overall tone within their imagined positive and negative futures. Tone reflected authors' attitudes and outlooks on life, self, and others. Objectively negative events mentioned (e.g., divorce, injury) were only considered indicative of negative tone if the authors talked about the events in a negative manner. Possible scores were -2 (entire narrative very self-loathing and negative perception of life, self, others), -1 (narrative hints at negativity), 1 (narrative hints at positivity), or 2 (entire narrative very affirming and positive perception of life, self, others). See Appendix B for the complete scoring system.

Results

Descriptive Statistics and Group Differences

The mean age of participants was 60 (*SD* = 10.27). Ninety-one percent was Caucasian, 5% African American, 2% Native American, and 2% other. The average length of time since injury was 23.31 years (*SD* = 12.75 years). Forty-three percent of the sample was service connected, a status indicating a degree of financial government assistance for medical costs related to one's injury. Fifty-one percent of those who were service connected received full financial assistance for their injuries. Participants had a mean of 13.64 years of education (*SD* = 2.48). Eleven percent of the sample was employed. The mean household income was 36,967 dollars (*SD* = 35,857 dollars). Forty-one percent of the sample was currently in a relationship, 50% was divorced or single, and 9% other (i.e., widowed, separated). Forty-eight percent lived alone. Descriptive information for demographic variables is summarized in Table 1.

The mean anxiety score of the present sample was 6.24 (*SD* = 3.87), while the mean depression score was 5.84 (*SD* = 3.74). These scores reflect functioning within the normal range (Snaith, 2003). Past work shows that individuals with chronic illness and severe injury tend to report higher levels of anxiety and depression, compared to individuals without illness or injury (e.g., Costanzo et al., 2009). Depression rates in a spinal cord injury sample, specifically, have been shown to range from 31% to 71%, depending on success of rehabilitation (Chapin & Holbert, 2009). These rates are much higher than the 7% prevalence rate in the U.S. adult population (Kessler, Chiu, Demler, & Walters, 2005). Given that most individuals in the present sample were more than 20 years post-injury, this period of time may have allowed for anxiety and depression scores

to return to baseline, which would be consistent with past work that demonstrates improvements in mental health outcomes with greater time post-injury in spinal cord injury samples (Chapin, Miller, Ferrin, Chan, & Rubin, 2004; McColl, Stirling, Walker, & Wilkins, 1999).

The mean score for personal well-being was 84.07 (*SD* = 12.56), while the mean for social well-being was 60.44 (*SD* = 12.52). Given that the total possible scores were 108 (PWB) and 90 (SWB) and that higher scores reflected greater well-being, participants in the present sample seemed to demonstrate high levels of personal well-being and moderate levels of social well-being (although formal descriptions and cut-off scores do not exist to the authors' knowledge). In a recent study of cancer survivors in which the same well-being measures were utilized, participants demonstrated declining levels of personal well-being in three of four domains assessed but increasing levels of social well-being over time. However, total well-being scores were not assessed (Costanzo et al., 2009). A summary of means and standard deviations for main variables of interest is summarized in Table 2.

The largest percentage of missing data for any theme variable was 11% and 3% for main outcome variables. Reasons for missing data included participants choosing not to respond to a question (most common), encountering technical problems with the recording device, and participants ending the interview before completion due to fatigue. This was not unexpected, considering the extended nature of the interview, the poor physical condition of many of the participants, and the lack of compensation offered for participation. For all analyses, the option of excluding cases pairwise was chosen to avoid omitting many participants from all analyses run. For the quantitative measures

(excluding the measure of disability due to the nature of questions), mean replacement was used for those variables with less than 10% missing data (1 item missing).

Checks of normality were conducted to examine skewness, kurtosis, outliers, and linearity. Normality was violated with regard to the following outcome variables: social well-being, anxiety, and depression. Upon closer examination of social well-being, the 5% trimmed mean and mean values were similar (60.59 and 60.12, respectively); therefore, outlying cases were retained in the data file. Extreme cases were also retained for anxiety, since 5% trimmed mean and mean values were again not very different (6.20 and 6.32, respectively). Outliers were retained for depression, with a 5% trimmed mean of 5.76 and mean value of 5.94. Normality was also violated for coded variables (i.e., tendency toward positivity and negativity when describing adverse events; clarity of positive and negative futures; positive and negative futures as continuation of present; tone of positive and negative futures; and faith). Upon closer examination of these variables, it was determined that, again, the 5% trimmed means and mean values were similar and did not warrant deletion of outlying cases from the data file. One outlying case was excluded that was shown to be an outlier for two main outcome variables (positive well-being and overall wellness). All other group data was within the bounds of normality. See Table 3 for a summary of cases per cell for coded variables.

To determine whether certain variables needed to be controlled for in subsequent analyses, group differences were examined across time since injury, age, relationship status, level of education, income, level of disability, occupational status, service connection status, and living situation. Group differences could not be calculated for gender or ethnicity due to the predominately Caucasian male sample. Pearson

correlations were conducted using time since injury, age, education, income, and disability due to the nature of the data, while a series of MANOVAs were conducted to examine group differences in relationship status, occupational status, service connection status, and living situation.

Age was found to be significantly related to anxiety (r = -.29, p < .01), indicating that older individuals tended to demonstrate lower levels of anxiety. Age was unrelated to personal well-being, social well-being, or depression. Education was found to be significantly related to personal well-being (r = .24, p < .05) and social well-being (r = .28, p < .01), indicating that individuals with higher levels of education tended to report greater levels of personal and social well-being. Education was not significantly related to other variables of interest. Disability was significantly related to personal well-being (r = .21, p < .05), social well-being (r = .30, p < .01), and depression (r = -.22, p < .05), indicating that individuals with less disability tended to report greater personal and social well-being and lower levels of depression. Disability was not significantly related to anxiety. Time since injury and income were not found to be significantly related to any of the main variables of interest.

Pearson correlations were also conducted with the noted participant variables and overall wellness. Level of education was found to be significantly related to overall wellness (r = .26, p < . 05), indicating that individuals with higher levels of education tended to demonstrate higher levels of wellness. Degree of handicap was also found to be significantly related to overall wellness (r = .24, p < .05), indicating that individuals with less handicap tended to have higher levels of wellness.

Relationship status originally consisted of six groups: single, dating, committed relationship, married, divorced, and other. In the "other" category, five participants had described their relationship status as widowed and four as separated. Due to the low sample size of some of these groups, the six groups were collapsed into two: in a relationship (including committed relationship and married) and not in a relationship (dating, single, divorced, widowed, and separated). Assumption testing was conducted, and no violations were discovered. A one-way MANOVA was conducted to examine differences regarding relationship status across the four main variables of interest. No significant difference was found between groups for relationship status on the combined dependent variables: Wilks' Lambda = .69, $p > .05$. An independent samples t-test was conducted to compare the overall wellness scores for individuals in a relationship and not in a relationship. There was no significant difference in scores for those in a relationship (M = -.15; SD = 3.16) and not in a relationship (M = .07; SD = 3.24); $t(88) = .31$, $p > .05$.

Assumption testing was conducted for occupational status (employed/not employed). The assumption of equality of variance was violated for anxiety; therefore, Pillai's trace was used as a more conservative multivariate test. No significant difference was found between groups for occupational status on the combined dependent variables: Pillai's trace = 1.03, $p > .05$. An independent samples t-test was conducted to compare the overall wellness scores for individuals who were employed and not employed. There was no significant difference in scores for employed individuals (M = .75; SD = 2.56) and unemployed individuals (M = -.10; SD = 3.27); $t(88) = -.80$, $p > .05$.

Assumption testing was conducted for service connection status (service connected/not service connected), and no violations were found. No significant difference

was found between groups for service connection status on the combined dependent variables: Wilks' Lambda = 1.08, $p > .05$. An independent samples t-test was conducted to compare the overall wellness scores for individuals who were service connected and not service connected. There was no significant difference in scores for service connected individuals ($M = -.12$; $SD = 3.38$) and non-service connected individuals ($M = -.00$; $SD = 3.05$); $t(87) = .17$, $p > .05$.

Finally, assumption testing was conducted for living situation (live alone/live with others), and no violations were found. No significant difference was found between groups for living situation on the combined dependent variables: Wilks' Lambda = 1.37, $p > .05$. An independent samples t-test was conducted to compare the overall wellness scores for individuals who lived alone and lived with others. There was no significant difference in scores for individuals living alone ($M = .35$; $SD = 3.18$) and individuals living with others ($M = -.33$; $SD = 3.21$); $t(88) = 1.02$, $p > .05$.

Pearson correlations were used to determine if independent relationships existed between main variables of interest (social well-being, personal well-being, anxiety, and depression) before conducting regression analyses. As was expected, correlations revealed related but independent constructs. Findings revealed significant relationships between personal well-being and social well-being ($r = .55$. $p < .01$), anxiety ($r = -.49$, $p < .01$), and depression ($r = -.63$, $p < .01$). Significant relationships were also found between social well-being and anxiety ($r = -.35$, $p < .01$) and depression ($r = -.43$, $p < .01$). A significant relationship was also found between anxiety and depression ($r = .47$, $p < .01$). See Tables 4 and 5 for a summary of Pearson correlations.

Evaluating Relationships between Emergent Themes and Overall Wellness

Specific hypotheses were determined once all emergent themes were identified and considered final. These hypotheses are listed below, along with the statistical findings.

Hypothesis 1

Individuals who tend to describe adverse events within their narratives using positive language will show higher overall wellness scores. Those who describe adverse events using negative language will show lower overall wellness scores. To evaluate this hypothesis, a hierarchical multiple regression was used. Due to the significant relationships between level of education and degree of handicap with the outcome variable, both variables were controlled for. Preliminary analyses revealed that nonsignificant relationships existed between the two main independent variables (tendency toward positivity; tendency toward negativity) and the dependent variable (overall wellness). While this typically would indicate that the regression should not be carried out, the analysis was still run in order to completely test this hypothesis. Level of education and degree of handicap were entered in Step 1, explaining 7.4% of the variance in overall wellness. After entry of the total scores for tendency toward positivity and tendency toward negativity when describing adverse events in Step 2, the total variance explained by the model was 5.4%, $F(4, 77) = 2.16$, $p > .05$. The two variables of interest explained less than 1% additional variance in overall wellness, after controlling for education and handicap, R squared change = .004, F change$(2, 77) = .16$, $p > .05$. See Table 6.

Hypothesis 2

Individuals who author their narratives in such a way as to demonstrate altruism and generativity will show significantly higher overall wellness than those who do not. To evaluate this hypothesis, two independent-samples t-tests were used, one examining this theme within imagined future narratives and the other within the life chapters. In comparing the overall wellness scores, a significant difference was found for individuals who describe a tendency toward altruism and generativity in their positive future narratives (M = 1.37, SD = 2.40) and those without such tendency (M = -.40, SD = 3.24); t(46.31) = -2.67, p = .01. The effect size was moderate to large (eta squared = .08). In comparing the overall wellness scores, a significant difference was also found for individuals who describe a tendency toward altruism and generativity in their life chapters (M = 1.26, SD = 2.47) and those without such tendency (M = -.86, SD = 3.29); t(85.17) = -3.45, $p < .01$. The effect size was large (eta squared = .12).

Independent-samples t-tests were conducted to determine whether those who tended to receive scores reflecting presence of altruism/generativity had a higher mean number of words in their narratives, with the idea being that the scorer may be more likely to pick up on altruism/generativity simply because some participants are more verbose in narrating their stories. It seems logical that this may be more likely to occur in themes scored *present* or *absent*, versus those scored on a continuum. In comparing the number of words within positive future narratives, a non-significant difference was found for those who received a score of present (M = 356.95, SD = 173.67) and absent (M = 337.81, SD = 310.78), t(62.28) = -.35, $p > .05$. In comparing the number of words within the life chapters, a significant difference was found for those who received a score of

present (M = 2909.41, SD = 1772.75) and absent (M = 2061.17, SD = 1506.50), $t(85) = -2.41$, $p < .05$. The effect size was moderate (eta squared = .06).

Hypothesis 3

Narratives with a greater mention of religion/faith will be authored by individuals who show higher levels of overall wellness. To evaluate this hypothesis, a hierarchical multiple regression was used, controlling for level of education and degree of handicap. Level of education and degree of handicap were entered in Step 1, explaining 7.4% of the variance in overall wellness. After entry of faith in Step 2, the total variance explained by the model was 12.7%, $F(3, 78) = 4.92$, $p < .01$. The two variables of interest explained an additional 6% of the variance in overall wellness, after controlling for education and handicap, R squared change = .06, F change$(1, 78) = 5.74$, $p < .05$. In the final model, faith was shown to contribute the most unique variance (beta = .26, $p < .05$). Disability and level of handicap did not significantly contribute to the model. See Table 7.

Hypothesis 4

Individuals who author their imagined positive and negative futures in such a way that demonstrates greater clarity and cohesion will show higher levels of overall wellness. To evaluate this hypothesis, a hierarchical multiple regression was used. Level of education and degree of handicap were again controlled for, due to their significant relationships with the outcome variable. Preliminary analyses revealed that nonsignificant relationships existed between clarity of positive future and overall wellness and between clarity of negative future and overall wellness. Again, the analysis was still run in order

to completely test this hypothesis. Level of education and degree of handicap were entered in Step 1, explaining 7.2% of the variance in overall wellness. After entry of the total scores for clarity of imagined positive and negative futures in Step 2, the total variance explained by the model was 7.5%, $F(4, 71) = 2.52$, $p < .05$. The two variables of interest explained an additional .3% of the variance in overall wellness, after controlling for education and handicap, R squared change = .03, F change$(2, 71) = 1.11$, $p > .05$. Evaluation of the unique contribution of each variable reveals that none of the four variables entered into the model make a statistically significant contribution. See Table 8.

Hypothesis 5

Individuals who narrate their positive futures in such a way that describes a continuation of their present situation will show higher levels of overall wellness. Those who narrate their negative futures in such a way that describes a continuation of the present will show lower levels of overall wellness. To evaluate this hypothesis, a hierarchical multiple regression was used, controlling for level of education and degree of handicap. Preliminary analyses revealed that nonsignificant relationships existed between the two main independent variables and the dependent variable; however, the analysis was still run in order to completely test this hypothesis. Level of education and degree of handicap were entered in Step 1, explaining 9.7% of the variance in overall wellness. After entry of the total scores for positive and negative future as continuation of present in Step 2, the total variance explained by the model was 10%, $F(4, 74) = 2.06$, $p > .05$. The two variables of interest explained less than 1% additional variance in overall wellness, after controlling for education and handicap, R squared change = .00, F change$(2, 74) = .13$, $p > .05$. See Table 9.

Hypothesis 6

Narratives with imagined positive and negative futures that reflect a more affirming tone will be authored by individuals who show higher levels of overall wellness. To evaluate this hypothesis, a hierarchical multiple regression was used, controlling for level of education and degree of handicap. Preliminary analyses showed no violation of assumptions. Level of education and degree of handicap were entered in Step 1, explaining 7% of the variance in overall wellness. After entry of the total scores for tone of positive and negative futures in Step 2, the total variance explained by the model was 24%, $F(4, 75) = 7.06$, $p < .01$. The two variables of interest explained an additional 18% of the variance in overall wellness, after controlling for education and handicap, R squared change = .18, F change$(2, 75) = 9.10$, $p < .01$. In the final model, tone of negative future was shown to contribute the most unique variance (beta = .30, $p < .01$), followed by tone of positive future (beta = .26, $p < .05$) and level of education (beta = .25, $p < .05$). Level of handicap did not significantly contribute to the model. See Table 10.

Discussion

The present study revealed seven themes within two specific sections of the life story interview in a sample of SCI survivors. The following themes were identified within the Life Chapters: 1) Adverse events; 2) Altruism/Generativity; and 3) Religion/Faith. Themes identified within Alternative Futures were the following: 1) Altruism/Generativity; 2) Clarity; 3) Future as Continuation of Present; and 4) Tone. Hypotheses were generated based on these themes and how they predicted an indicator of

post-trauma wellness, and several hypotheses were supported. Findings revealed that individuals who author their life narratives in such a way as to demonstrate altruism and generativity show significantly higher overall wellness. Further, narratives with a greater mention of religion/faith as well as those with imagined futures that reflect a more affirming tone tended to be authored by individuals with higher levels of overall wellness.

Generativity reflects a way by which adults achieve a lasting legacy and symbolic immortality, accomplished through caring for future generations. Similarly, altruism reflects a value of caring for others and a motivation to improve the lives of others. As one participant stated, "I would like to see that book that I'm working on finished up and being positive enough that people from any place would really enjoy reading it." Such characteristics have been shown in past literature with normal adult samples to predict greater well-being (Cheng, 2009; Post, 2005; Rothrauff & Cooney, 2008). It seems logical, however, that possessing such qualities as a traumatically injured individual may have even greater (unintended) benefit. The fact that the theme of altruism and generativity emerged in both the Life Chapters and Alternative Futures and was the only theme in which this was the case reflects its significance for this population. One natural consequence of SCI is limitations in physical functioning. Often, such limitations hinder one's ability to engage in valued work-related and leisure activities. The extent of such changes may negatively impact one's perception of meaning and purpose in life and well-being. However, altruistic and generative acts, which necessitate looking outside of oneself in consideration for the lives of others, present an opportunity to make one's life about much more than what an individual is (or is not) able to do. A spinal cord injury

survivor who volunteers his time with humanitarian organizations or who adopts and parents a young child has created an avenue by which his limitations are no longer so limiting, as others' lives are now symbolically an extension of his own.

In thinking about how these findings relate to COR theory, resources lost following SCI include physical resources and often social and financial resources. Individuals may also lose certain conditions, such as positive feelings about the self. Such losses may make an individual quite vulnerable and at risk of experiencing a loss spiral (Hobfoll, 1996, 2001), making it necessary to regain resources in order to regain psychological health. Perhaps engaging in altruistic and generative acts serves as an important way in which SCI survivors can gather resources, regaining that which was lost as a result of the injury but also perhaps gaining new resources not possessed pre-injury. When this occurs, perhaps it may also generate post-traumatic growth.

The finding regarding faith's relationship to wellness is also consistent with past work (White, Driver, & Warren, 2010). Faith was conceptualized here as any reference to religion, spirituality, or higher being. One participant stated the following in reference to faith:

> My relationship with God through Jesus enables me to kinda slow my life down a little bit better and especially as my body is not workin' right… But in this chapter I think I'd talk about um, how to deal with the breakdown of my physical self and yet keep my spiritual self uh growing and allow my spiritual self to grow more as my physical body is breaking down.

Past work suggests that religion and spirituality are predictive of positive post-trauma adjustment, with spirituality showing greater predictive power (Matheis et al., 2006; Valvano, de St. Aubin, deRoon-Cassini, Hastings, & Horn, under review). A common belief for those who did mention faith within their narratives was that the injury was

God's plan. Recall that past work in narrative psychology promotes the idea that cohesion and continuity within a life story generates a sense that one's life has meaning and purpose (Polkinghorne, 1988). Thus, believing that incurring a spinal cord injury was actually an intended event may allow the individual to more easily maintain a cohesive life story and therefore maintain a sense of purpose in life. When one believes that the injury was simply a random event, it may be challenging to find a way to weave the event into prior experiences and may therefore more easily disrupt the continuity of the life story. It may also be that appraising the meaning of a SCI as God's plan might allow for less discrepancy between global and situational meaning (Park, 2010) and therefore less posttrauma distress. For example, a SCI survivor whose global beliefs include that one's life experiences are pre-determined by God may appraise the situational meaning as part of God's plan for him – that he was *meant* to acquire a spinal cord injury, perhaps to serve a particular purpose (e.g., to help others who experience challenging life events). On the other hand, a SCI survivor whose global beliefs include that one's life experiences are self-determined may be more inclined to appraise the meaning of his SCI as a random event or in some other way that may be perceived as incongruent with his global beliefs, therefore leading to greater distress.

Narrative tone was found to explain a significant portion of the variance in wellness, above and beyond control variables in the present study. Specifically, tone of negative future was shown to contribute most to the overall model. The following participant statement reflects negative tone: "I fear the future that's in store for me… I mean everything that I worked for all my life is gone. Now that I finally, uh, got where I

wanted to be, it's more or less ended." This is in contrast to the following participant statement that reflects a positive tone:

> And you know, you're paralyzed, you gotta learn to live with it. Learn something, you know. I mean it's difficult to do a lot of things. I used to read the newspaper every day, now I gotta do it online, ah. Books are okay, I got this thing that OT here fixed up and it's almost like a hand, do a lot of things with it.

Tone has been described as a defining feature of life story narratives and has been hypothesized to be predicted by early environmental factors (McAdams, 1993). Therefore, it may be that narrative tone is established early on and that, while the content of the story changes, tone remains constant. One may argue that such a phenomenon is related to cognitive explanatory style, which refers to the manner in which an individual tends to explain the cause of different events, with some individuals tending toward an optimistic style and others toward a pessimistic explanatory style. Some past work demonstrates consistency in one's explanatory style for negative events (not positive) across the life span (Burns & Seligman, 1989). However, other work has found that explanatory style does change over one's life, with the acquisition of life experiences, including traumatic events (Wise & Rosqvist, 2006). Therefore, it is also plausible that the way in which one perceives self and others (as either positive and affirming or negative and self-loathing, as described in the scoring system for narrative tone in the present study) may change with the acquisition of a spinal cord injury that necessarily changes one's experience of relationships with others. Because one's life story is situated within a cultural context, and because discrimination in the form of microaggressions against disabled individuals is pervasive in Western culture (Keller & Galgay, 2010) it seems likely that tone could easily change from pre- to post-injury. This may be especially true for Caucasian males, who may experience the greatest decline in social

status and therefore may be especially salient in the present study, since the vast majority of the sample was comprised of White males. As a result, it seems logical that an injury that impacts social relationships could be all the more devastating and impactful on the structure and color of one's storied self. This line of thought is consistent with McAdams's (1996) assertion that events experienced which cause one to envision the future differently may result in altered narrative tone.

Perhaps a change in narrative tone is related to changes in global belief system. It has been argued that global beliefs are altered less frequently than are situational beliefs and reserved only for events experienced that are so powerful that assimilation with existing global beliefs is not possible (Janoff-Bulman, 1992, as cited by Park, 2010). After experiencing traumatic injury, if one adopts an entirely new way of viewing the world, it seems logical that his narrative tone would also necessarily change. Further, it is important to note that situational appraisals can also be discrepant with one's goals and not just with one's beliefs (Lazarus, 1991). Given that Western culture highly values productivity and that one's ability to be productive in the same way and to the same extent is often challenged post-injury, discrepancies between global and situational meaning systems may be significant, in turn causing greater distress and making the meaning-making process all the more important in reducing the discrepancy.

In this study, the theme of clarity was unrelated to wellness. This was unexpected, given that this theme reflected coherence within the narrative and given the importance of cohesion posited in life narrative literature. Past work using spinal cord injury samples has demonstrated that greater cohesion predicts psychological well-being in both cross-sectional (deRoon-Cassini, de St. Aubin, Valvano, Hastings, & Horn, in press) and

longitudinal (Kennedy, Lude, Elfstrom, & Smithson, 2010) studies. It may be that by only examining clarity within two sections of the life story, cohesion of events was not adequately captured and may be more accurately examined by, instead, scoring clarity for the entire life narrative. Further, the scoring system directed scorers to judge whether *ideas* (versus *events*) presented within the narrative seemed to flow naturally or whether they seemed to be presented in an illogical fashion. Again, such a system may be capturing a slightly different pattern within the life story than that which has been described in past work.

Alternatively, if the present scoring system did in fact capture coherence adequately, this may suggest that coherence is not as significant a quality within a life story of a traumatically injured individual. Although the life story model of identity asserts that the goal of a life story is to create unity and cohesion, it may be that the goal or function of a life story is different for those who are typically and atypically functioning (recall that the life story model of identity is based on healthy adults). The results of the present study suggest that individuals who demonstrate positive adjustment following disabling trauma have been able to adjust without necessarily perceiving their lives as continuous. Chandler (2000) offered that an individual has multiple levels of the self, arguing that while aspects of identity change over time, other aspects must remain constant; however, perhaps there are some events, a spinal cord injury being one, that are severe enough to disrupt even that underlying sense of self. It may be, though, that individuals who demonstrate full acknowledgement and acceptance of their injuries, qualities consistent with what King (2001) and Pals (2006) contend allow individuals to positively adjust following challenging life events and qualities also thought to be

necessary for post-traumatic growth (Tedeschi et al., 2007), are also accepting of this disruption and are able to go on and create meaningful lives, despite the incoherence. Perhaps a cohesive story is *one* way of creating meaning in life but not the *only* way. Given the current findings, perhaps altruism, generativity, and faith are other avenues by which one who has sustained a traumatic injury may create or maintain meaning in life, even if he has been unable to maintain a unified self story.

It seems likely that one's pre-injury perception of one's body would have a substantial impact on his post-injury identity. For example, a SCI survivor who was an athlete, pre-injury, and who therefore heavily relied on his physical capabilities to complete valued activities, may have more difficulty with post-injury adjustment and the reconstructing of post-injury identity. For such an individual, he may have viewed his body as an integral part of the self. Others who do not rely on their bodies or physical capabilities to such an extent may have less difficulty adjusting, as they may not tend to view their bodies as a significant part of their identities. As past research suggests that those who acquire SCIs tend to be more sensation-seeking and risk-taking (Mawson et al., 1996; Woodbury, 1978), it seems likely that pre-injury identities in this population do tend to include a valued relationship with one's body, the implication being that reconstructing identity after SCI may be especially difficult, compared to other injury and illness populations. In the same vein, a strength of this study was the type of sample utilized. Past work examining how individuals incorporate challenging events into their life stories has tended to use samples of healthy adults who were asked to reference difficult moments in their lives. While typically functioning adults may very well have experienced potentially traumatic events over the course of their lives, such narratives

may differ in important ways from those who live every day with a traumatic injury and who have had to adjust to a disabling condition, potentially due to severity and irreversibility of injury, as well as pre-morbid personality variables.

In the present work, the richest data was discovered within the Life Chapters and Alternative Futures sections of the Life Story Interview. It seems logical that one's imagined positive and negative futures would yield such richness, given the population under investigation. In populations with serious illness or injury, the future can be quite threatening. As Bury (1982) argues, departures from normal routine, such as with the onset of illness, implicate a perceived change or delay in one's future. Individuals with spinal cord injuries, specifically, need to remain vigilant in order to prevent the onset of life-threatening conditions that may occur secondary to the spinal injury. The following excerpts from negative future narratives reflect such a threat to one's physical health:

> [My imagined negative future is] where I kind of give up pushing and become content just to lay back and become institutionalized…not contribute anything anymore…[end up in] a long-term nursing home or assisted living…just stare at the wall for the next twenty years…all it takes is probably one more thing.

> [My imagined negative future is when] it gets to the point where I'm not able to transfer or do anything… I don't wanna be a vegetable stuck in a bed…no way, no how. It's hard enough this way. I don't want it any harder.

> I made it 33 years [without needing to be admitted to the hospital]… I had an abscess on my bottom side. I didn't even know it was there, but it burst so I had to have a rotation flap done on it… [since then] I never had any problems with it, but I just fear ending up having to come back in as a patient for long-term.

An important variable to consider here is the context in which the interview occurred. One's life narrative can be different at any given point, since one is constantly incorporating newly experienced events into his existing story. The story is also likely to change as a function of the context in which the life story is told, which includes the

space in which the narrator is telling his story and the person to whom the story is being told. In the present study, the narrators were patients in a medical center, some having been admitted for a lengthy stay and dealing with significant health concerns. Further, the narrators also knew that the injury was being conducted only with spinal cord injury survivors. Therefore, their physical health concerns may have been more salient at the time, perhaps making participants more cognizant of their SCI as a part of their identity than would typically be experienced outside of the hospital setting. Additionally, there were four total interviewers for the current study, all of whom were young graduate or advanced undergraduate students. Two of the four interviewers were Caucasian female, one interviewer was Caucasian male, and one interviewer was of middle eastern descent and male. The way in which participants perceived the interviewers would have influenced the content of their story and the manner of their story telling. For example, interviewers may have reminded participants of their own children (given the average age of participants) and therefore may have been more inclined to engage in advice-giving or adopt other transference-related attitudes or behaviors. Further, interviews were conducted in private rooms when available but often were conducted in larger wards with other patients in close proximity. Attempts were made to allow participants to feel most comfortable (e.g., drawing privacy curtain shut), but participants were likely making judgments regarding what to include or exclude from their stories based on who else may have been present. These are not necessarily limitations of the study but rather an inherent part of life narrative work (recall Polkinghorne's (1996) distinction between the public and private self), of which the researcher needs to remain mindful.

Limitations

There are several limitations of the current study. First, this study is a cross-sectional design, preventing examination of causal relationships. Therefore, we must be mindful of the issue of directionality between variables and of the possibility that third variables may be influencing findings. Second, this sample utilized in this study was predominately Caucasian male, limiting the generalizability of results and the opportunity to examine potential group differences between ethnic groups or gender. The experience of spinal cord injury is less clearly understood with female survivors, given that males tend to be injured with greater frequency. The injury experience may pose unique challenges for women, however, and is therefore an important area of examination. Likewise, the injury experience may look significantly different for individuals belonging to different cultural and ethnic groups. For example, expectations regarding the role of caregiver may vary, which may have a direct impact on post-trauma adjustment for the injured individual.

Trauma history was not gathered as part of the interview in the present study; however, past work suggests that previous trauma may play a significant role in adjustment. For example, Ben-Ezra and colleagues (2011) demonstrated that individuals diagnosed with cancer who also report previous trauma exposure show lower future life satisfaction and higher rates of depression than those without a trauma history. Likewise, Nightingale and colleagues (2011) found individuals diagnosed with HIV who experienced prior trauma tended to perceive their HIV diagnosis as traumatic and had lower levels of health-related quality of life. Previous trauma may also impact the tone of one’s narrative.

There are inherent limitations in conducting a data analytic approach based on grounded theory, since nuances in the language used by the participant during the face-to-face interview can be lost in the process of transcription. Past work suggests that subjective well-being in spinal cord injury samples is predicted by sense of humor (Smedema, Catalano, & Ebener, 2010) and positive affect (Kortte, Gilbert, Gorman, & Wegener, 2010), qualities that could not be adequately discerned via interview transcription. Therefore, we may be missing important predictors of overall wellness.

Further, we must be mindful of potential order effects in this study. All participants completed the life story interview prior to completing questionnaire items. Although this order is typical in mixed methods narrative work, the interview items may potentially affect the manner in which participants respond to questionnaire items. The work of Pennebaker (2009; 1997*a*; 1997*b*) and others (see Baikie & Wilhelm, 2005 for review) supports the idea that both talking and writing about traumatic or emotional experiences predicts positive report of physical and psychological health. Therefore, it is possible that the sample appeared to be more psychologically and physically healthy than otherwise may have been reported. On the other hand, it is possible that a one-time interview would not have been sufficient to demonstrate similar effects, since the expressive writing paradigms tend to require that participants engage in expressive writing over the course of several days (Baikie & Wilhelm, 2005). However, the work of Burton and King (2008) demonstrates that even a brief writing exercise (two minutes per day for two days) can have beneficial effects.

Future Directions

An important question for future research is whether similar themes might emerge pre- and post-injury. As has previously been discussed, the content and perhaps the tone of a story change over time; however, emergent themes may or may not remain similar over time. If we consider SCI to be potentially severely disruptive of a life story, then perhaps changes in content, tone, and themes would be seen. If one manages to maintain cohesion within the life story following SCI, then perhaps themes look similar over time, even as content changes. Prospective, longitudinal designs would be needed to address this issue.

One emergent theme, Relationships with Others, was unable to be examined in the present study, due to challenges with establishing adequate inter-rater reliability. It may be important to discern how the dynamics of interpersonal relationships may contribute to sense of wellness in a traumatically injured sample, especially given that a significant portion of the spinal cord injury population must rely on such relationships to complete basic activities of daily living. Past work has consistently demonstrated the importance of social support in injury and illness populations (e.g., Jetten, Haslam, & Haslam, 2012; Hampton, 2004; Rintala, Young, Hart, Clearman, & Fuhrer, 1992). The literature in this area would be furthered by a greater understanding of the ways in which social support contributes to one's sense of wellness.

Mechanism of injury may relate in important ways to post-trauma adjustment and reconstruction of life narrative and therefore should be examined in future research. Past work tends to show that causal attribution is a significant predictor of post-traumatic stress, with those who perceive that they are to blame for the event functioning better than those who perceive that others are to blame (Bulman & Wortman, 1977; Hall,

French & Marteau, 2003). Given these findings, one may expect to see differences in narrative quality between those who perceive differences in injury causality.

While this study allows for a better understanding of life narratives following traumatic injury and what factors predict better psychological health, still missing is *how* one engages in the narrative reconstruction process and what mediating or moderating variables might predict successful reconstruction. Factors that determine a successfully constructed self story also needs further attention, as it remains unclear whether and to what extent a cohesive life story is needed for positive post-injury adjustment. It has been argued here that cohesion may be a less important quality of life narratives in a traumatically injured sample than in healthy samples and that other qualities, such as degree to which one includes altruism and generativity as a salient feature of the life story, may also serve to create meaning following SCI. Further work would be needed to clarify these relationships.

It would be prudent to clarify to what extent narrative reconstruction should be considered a meaning-making process (as described by Murray, 2000) or end result of meaning-making efforts (as described by Park, 2010). This would have important clinical implications, since if it is more of a process of meaning-making, then it may warrant more attention paid to helping survivors of traumatic injury construct self stories which can grant them greater perceived meaning in life. If, on the other hand, it is more of an outcome of meaning-making efforts, then more attention paid to those processes that allow for narrative reconstruction would be warranted.

Finally, this study may inform clinical advancements for trauma survivors. Cognitive processing therapy (CPT) is a newer form of cognitive behavioral therapy

developed by Resick, Monson, and Chard to treat posttraumatic stress (Medical University of South Carolina, 2009). It includes a written narrative component (related to the specific trauma event), helps the individual to understand changes in beliefs pre- to post-trauma, and helps the individual learn to challenge and reframe negative automatic thoughts (U.S. Department of Veteran Affairs, 2011). CPT is well established as one of the most effective and empirically supported treatments for PTSD. It seems that it may be effective, however, to merge CPT with life narrative work in helping survivors with posttrauma adjustment – to not only focus on the trauma narrative but on the life narrative, as a whole, and the impact of the trauma on the authoring of one's story.

Summary

This project aimed to identify emergent themes within the life story narratives of those who experienced traumatic injury and to both generate and test hypotheses regarding how emergent themes related to an indicator of post-trauma wellness. Seven themes were revealed within two specific sections of the life story interview. Findings suggest that those who construct life stories incorporating altruism and generativity tend to be better adjusted following traumatic injury. They also suggest that those whose narratives more often mention faith and demonstrate a positive, affirming tone tend to be better adjusted. Results further our understanding of post-injury identity reconstruction and predictors of positive adjustment. Further research is needed to clarify and confirm these relationships, including the role of cohesion within a post-injury self story. Clarifying narrative reconstruction as a meaning-making process versus outcome is also warranted and would be clinically useful.

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Appendix A

Interview Protocol

Demographic Characteristics

1. Date _____

2. Gender male female

Before we begin with questions regarding your spinal cord condition, I would like to get some general information about you.

3. **How old are you?** _____

4. **What is your relationship status?**

   Single Dating Committed Relationship Married Divorced Other_____

5. **What do you consider your ethnicity to be?**

   African American Asian American Caucasian Non-White/Latino Native American Other_____

6. **Do you have children?** N Y If so, **How many?** _____

7. **Are you employed?** N Y If so**, what do you do for a living?** _____
   _____
   _____

8. **Are you service connected?** N Y If so, at what percentage?_____

9. **What is your annual income?** _____

10. **Do you live alone or do you live with someone else**? Alone Others

    If you live with someone else, who do you live with?
_____

11. **Where do you live?** Private home Rehab facility SCI unit

12. **What is your highest level of education?** _____

13. **What years were you enlisted in the U.S. military?**_____

14. **What was the date of your spinal cord injury?** _____ (month/year)

The Life Story Interview – Revised

Introductory Comments

This is an interview about the story of your life. We are asking you to play the role of storyteller about your own life – to construct for us the story of your own past, present, and what you see as your own future. People's lives vary tremendously, and people make sense of their own lives in a tremendous variety of ways. As social scientists, our goal is to collect as many different life stories as we can in order to begin the process of making sense of how people make sense of their own lives. Therefore, we are collecting and analyzing life stories of adults from all walks of life, with a wide range of life experiences, and we are looking for significant commonalities and significant differences in those life stories that people tell us.

In telling us a story about your own life, you do not need to tell us everything that has ever happened to you. A story is selective. It may focus on a few key events, a few key relationships, a few key themes which recur in the narrative. In telling your own life story, you should concentrate on material in your own life that you believe to be important in some fundamental way – information about yourself and your life which says something significant about you and how you have come to be who you are. Your story should tell how you are similar to other people as well as how you are unique. *Though we are currently talking with veterans who have been spinal cord injured, please do not feel that you necessarily have to talk about your spinal cord injury. If you wish to respond to parts of this interview in a way that incorporates your injury, please feel free to do so, but keep in mind that we are not necessarily asking you specifically about your injury.* Our purpose in these interviews is to catalogue people's life stories so that we may eventually arrive at some fundamental principles of life-storytelling as well as ways if categorizing and making sense of life stories constructed by adults living at this time in history and in this place. The interview should not be seen as a "therapy session." This interview is for research purposes only, and its sole purpose is the collection of data concerning people's life stories.

The interview is divided into a number of sections. In order to complete the interview in a timely manner, it is important that we not get bogged down in the early sections, especially the first one in which I will ask you to provide an overall outline of your story. The interview starts with general things and moves to the particular. Therefore, do not feel compelled to provide a lot of detail in the first section in which I ask for this outline. The detail will come later. I will guide you through the interview so that we can finish it in good time. I think that you will enjoy the interview. Most people do.

Questions?

I. Life Chapters

We would like you to begin by thinking about your life as a story. All stories have characters, scenes, plots, and so forth. There are high points and low points in the story, good times and bad times, heroes and villains, and so on. A long story may even have chapters. Think about your life story as having at least a few different chapters. What might those chapters be? I would like you to describe for me each of the main chapters of your life story. You may have as many or as few chapters as you like, but I would suggest dividing your story into at least 2 or 3 chapters and at most about 7. If you can, give each chapter a name and describe briefly the overall contents in each chapter. As a storyteller here, think of yourself as giving a plot summary for each chapter. This first part of the interview can expand forever, so I would like you to keep it relatively brief, say, within 20-25 minutes. Therefore, you don't want to tell me "the whole story" now. Just give me a sense of the story's outline – the major chapters in your life.

[The interviewer may wish to ask for clarifications and elaborations at any point in this section, though there is significant danger of interrupting too much. If the participant finishes in under 10 minutes, then he/she has not said enough, and the interviewer should probe for more detail. If the participant looks as if he/she is going to continue beyond half an hour, then the interviewer should try (gently) to speed things along somewhat. Yet, you don't want the participant to feel "rushed." (It is inevitable, therefore, that some participants will run on too long.) This is the most open-ended part of the interview. It has the most projective potential. Thus, we are quite interested in how the participant organizes the response on his or her own. Be careful not to organize it for the participant.]

II. Critical Events

Now that you have given us an outline of the chapters in your story, we would like you to concentrate on a few key events that may stand out in bold print in the story. A key event should be a specific happening, a critical incident, a significant episode in your past set in a particular time and place. It is helpful to think of such an event as constituting a specific moment in your life story which stands out for some reason. Thus, a particular conversation you may have had with your mother when you were 12 years old or a particular decision you made one afternoon last summer might qualify as a key event in your life story. These are particular moments set in a particular time and place, complete with particular characters, actions, thoughts, and feelings. An entire summer vacation – be it very happy or very sad or very important in some way – or a difficult year in high school, on the other hand, would not qualify as key events because these take place over an extended period of time. (They are more like life chapters.)

I am going to ask you about 4 specific life events. For each event, describe in detail what happened, where you were, who was involved, what you did, and what you were thinking and feeling in the event. Also, try to convey what impact this key event has had in your

life story and what this event says about who you are or were as a person. Please be very specific here.

Questions?

Event #1: Earliest Memory

Think back now to your childhood, as far back as you can go. Please choose a relatively clear memory from your earliest years and describe it in some detail. The memory need not seem especially significant in your life today. Rather, what makes it significant is that it is the first or one of the first memories you have, one of the first scenes in your life story. The memory should be detailed enough to qualify as an "event." This is to say that you should choose the earliest (childhood) memory for which you are able to identify what happened, who was involved, and what you were thinking and feeling. Give us the best guess of your age at the time of the event.

Event #2: Peak Experience

A peak experience would be a high point in your life story – perhaps the high point. It would be a moment or episode in the story in which you experienced extremely positive emotions, like joy, excitement, great happiness, uplifting, or even deep inner peace. Today, the episode would stand out in your memory as one of the best, highest, most wonderful scenes or moments in your life story. Please describe in some detail a peak experience, or something like it, that you have experienced some time in your past. Tell me exactly what happened, where it happened, who was involved, what you did, what you were thinking and feeling, what impact this experience may have had upon you, and what this experience says about who you were or who you are. [Interviewer should make sure that the participant addresses all of these questions, especially ones about impact and what the experience says about the person. Do not interrupt the description of the event. Rather ask for extra detail, if necessary, after the participant has finished initial description of the event.]

Event #3: Nadir Experience

A “nadir” is a low point. A nadir experience, therefore, is the opposite of a peak experience. It is a low point in your life story. Thinking back over your life, try to remember a specific experience in which you felt extremely negative emotions, such as despair, disillusionment, terror, guilt, etc. You should consider this experience to represent one of the “low points” in your life story. Even though this memory is unpleasant, I would still appreciate an attempt on your part to be as honest and detailed as you can be. Please remember to be specific. What happened? When? Who was involved? What did you do? What were you thinking and feeling? What impact has the event had on you? What does the event say about who you are or who you were?

Event #4: Turning Point

In looking back on one's life, it is often possible to identify certain key "turning points" -- episodes through which a person undergoes substantial change. Turning points can occur in many different spheres of a person's life -- in relationships with other people, in work and school, in outside interests, etc. I am especially interested in a turning point in your understanding of yourself. Please identify a particular episode in your life story that you now see as a turning point. If you feel that your life story contains no turning points, then describe a particular episode in your life that comes closer than any other to qualifying as a turning point. [Note: If subject repeats an earlier event (e.g., peak experience, nadir) ask him or her to choose another one. Each of the 4 critical events in this section should be independent. We want 4 separate events. If the subject already mentioned an event under the section of "Life Chapters," it may be necessary to go over it again here. This kind of redundancy in inevitable.]

III. Influences on the Life Story: Positive and Negative

Positive
Looking back over your life story, please identify the single person, group of persons, or organization/institution that has had the greatest positive influence on your story. Please describe this person, group, or organization and the way in which he, she, it, or they have had a positive impact on your story.

Negative
Looking back over your life story, please identify the single person, group of persons, or organization/institution that has had the greatest negative influence on your story. Please describe this person, group, or organization and the way in which he, she, it, or they have had a negative impact on your story.

IV. Alternative Futures for the Life Story

Now that you have told me a little bit about your past, I would like you to consider the future. I would like you to imagine two different futures for your life story.

Positive Future
First, please describe a positive future. That is, please describe what you would like to happen in the future for your life story, including what goals and dreams you might accomplish or realize in the future. Please try to be realistic in doing this. In other words, I would like you to give me a picture of what you would realistically like to see happen in the future chapters and scenes of your life story.

Negative Future
Now, please describe a negative future. That is, please describe a highly undesirable future for yourself, one that you fear could happen to you but that you hope does not happen. Again, try to be pretty realistic. In other words, I would like you to give me a picture of a negative future for your life story that could possibly happen but that you hope will not happen.

[Note to interviewers: Try to get as much concrete detail as possible.]

V. Personal Ideology

Now I would like to ask a few questions about your fundamental beliefs and values and about questions of meaning and spirituality in your life. Please give some thought to each of these questions.

Consider for a moment the religious or spiritual dimensions of your life. Please describe in a nutshell your religious beliefs or the ways in which you approach life in a spiritual sense. Please also describe whether/how these beliefs have changed over time.

Is there anything else regarding your basic values or beliefs that we should know about?

VI. Life Theme

Looking back over your entire life story as a story with chapters and scenes, extending into the past as well as the imagined future, can you discern a central theme, message, or idea that runs throughout the story? What is the major theme of your life story? Explain.

VII. SCI Event

[If participant has not already described an experience centered around his/her injury:]

Now I'd like you to think of a scene in your life since becoming spinal cord injured. Describe
the scene or one of the scenes that stands out among the others that centers around your spinal cord injury. It may be positive or negative, but describe whichever scene stands out for you.

[If participant has already described an experience centered around his/her injury:]

Though you have already described an event(s) that centered around your spinal cord injury, I would like you to think of another scene in your life story since becoming spinal cord injured. Describe the scene or one of the scenes that stands out among the others that centers around your spinal cord injury. It may be positive or negative, but describe whichever scene stands out for you.

[Ask the following, regardless of whether participant has previously described an SCI event:]

In thinking back over your life story, how does your spinal cord injury fit into that story?

How have you coped with everything that you have been faced with since your injury?
How confident are you in your ability to cope?

VIII. Other

What else should I know to understand your life story?

CHART Rating Form

WHAT ASSISTANCE DO YOU NEED?

People with disabilities often need assistance. We would like to differentiate between personal care for physical
disabilities and supervision for cognitive problems. First, focus on physical "hands on" assistance: This includes
help with eating, grooming, bathing, dressing, management of a ventilator or other equipment, transfers etc.
Keeping in mind these daily activities...

1. How many hours in a typical 24-hour day do you have someone with you to provide physical assistance for
personal care activities such as eating, bathing, dressing, toileting and mobility?
_____ hours paid assistance
_____ hours unpaid (family, others)

Now, focus on supervision for cognitive problems instead of physical assistance. This includes remembering,
decision making, judgment, etc..

2. How much time is someone with you in your home to assist you with activities that require remembering,
decision making, or judgment?
[1] _____ Someone else is always with me to observe or supervise.
[2] _____ Someone else is always around, but they only check on me now and then.
[3] _____ Sometimes I am left alone for an hour or two.
[4] _____ Sometimes I am left alone for most of the day
[5] _____ I have been left alone all day and all night, but someone checks in on me.
[6] _____ I am left alone without anyone checking on me.

3. How much of the time is someone with you to help you with remembering, decision making, or judgment
when you go away from your home?
[1] _____ I am restricted from leaving, even with someone else.
[2] _____ Someone is always with me to help with remembering, decision making or judgment when I go anywhere.
[3] _____ I go to places on my own as long as they are familiar.
[4] _____ I do not need help going anywhere.

Now, I have a series of questions about your typical activities.
ARE YOU UP AND ABOUT REGULARLY?

4. On a typical day, how many hours are you out of bed? _____hours

5. In a typical week, how many days do you get out of your house and go somewhere? ____days

6. In the last year, how many nights have you spent away from your home (excluding hospitalizations?)
[0]_____ none [1]_____ 1-2 [3]_____3-4 [5]_____5 or more

HOW DO YOU SPEND YOUR TIME?

7. How many hours per week do you spend working in a job for which you get paid? hours _____
(occupation: _____)

8. How many hours per week do you spend in school working toward a degree or in an accredited technical

training program (including hours in class and studying)? _____Hours

9. How many hours per week do you spend in active homemaking including parenting, housekeeping, and food preparation? _____Hours

10. How many hours per week do you spend in home maintenance activities such as gardening, house repairs
or home improvement? _____Hours
11. How many hours per week do you spend in recreational activities such as sports, exercise, playing cards, or
going to movies? Please do not include time spent watching TV or listening to the radio.
_____Hours

WITH WHOM DO YOU SPEND TIME?

12. How many people do you live with? ____

13. Is one of them your spouse or significant other? [1]____Yes [0]____No [9]____Not applicable (subject lives alone)

14. Of the people you live with how many are relatives? ____

15. How many business or organizational associates do you visit, phone, or write to at least once a month? _____ associates

16. How many friends (non-relatives contacted outside business or organizational settings) do you visit, phone,
or write to at least once a month? _____friends

17. With how many strangers have you initiated a conversation in the last month (for example, to ask information or place an order)?
[0]_____none [1]_____ 1-2_____ [3] _____3-5 [6]_____ 6 or more

WHAT FINANCIAL RESOURCES DO YOU HAVE?

18. Approximately what was the combined annual income, in the last year, of all family members in your household? (consider all sources including wages and earnings, disability benefits, pensions and retirement income, income from court settlements, investments and trust funds, child support and alimony, contributions from relatives, and any other source.)
a. Less than 25,000 - If no ask e; if yes ask b
b. Less than 20,000 - If no code 22500; if yes ask c
c. Less than 15,000 - If no code 17500; if yes ask d
d. Less than 10,000 - If no code 12500; if yes code 5000
e. Less than 35,000 - If no ask f; if yes code 30000
f. Less than 50,000 - If no ask g; if yes code 42500
g. Less than 75,000 - If no code h; if yes code 62500
h. 75,000 or more code 80000

19. Approximately how much did you pay last year for medical care expenses? (Consider any amounts paid by yourself or the family members in your household and not reimbursed by insurance or benefits.)
"Would you say your unreimbursed medical expenses are...."
a. Less than 1000 if "no" ask b if "yes" code 500.
b. Less than 2500 if "no" ask c if "yes" code 1750.
c. Less than 5000 if "no" ask d if "yes" code 3750.
d. Less than 10000 if "no" code e if "yes" code 7500.
e. 10000 or more code 15000

Please read each statement below and circle the number that best corresponds to the degree to which you agree with the statement as self-descriptive for you.

PWB

Circle the number that best describes your present agreement or disagreement with each statement.	Strongly Disagree	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Strongly Agree
1. I like most parts of my personality.	1	2	3	4	5	6
2. For me, life has been a continuous process of learning, changing, and growth.	1	2	3	4	5	6
3. Some people wander aimlessly through life, I am not one of them.	1	2	3	4	5	6
4. The demands of life often get me down.	1	2	3	4	5	6
5. I tend to be influenced by people with strong opinions.	1	2	3	4	5	6
6. Maintaining close relationships has been difficult and frustrating for me.	1	2	3	4	5	6
7. When I look at my life story, I am pleased with how things have turned out so far.	1	2	3	4	5	6
8. I think it is important to have new experiences that challenge how I think about myself and the world.	1	2	3	4	5	6
9. I live one day at a time and don't really think about the future.	1	2	3	4	5	6
10. In general, I feel I am in charge of the situation in which I live.	1	2	3	4	5	6
11. I have confidence in my own opinions, even if they are different from the way most people think.	1	2	3	4	5	6
12. People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6
13. In many ways I feel disappointed about my achievements in life.	1	2	3	4	5	6
14. I gave up trying to make big improvements in my life a long time ago.	1	2	3	4	5	6

Circle the number that best describes your present agreement or disagreement with each statement.	Strongly Disagree	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Strongly Agree
15. I sometimes feel as if I've done all there is to do in my life.	1	2	3	4	5	6
16. I am good at managing the responsibilities of daily life.	1	2	3	4	5	6
17. I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6
18. I have not experienced many warm and trusting relationships with others.	1	2	3	4	5	6
*19. People who do a favor expect nothing in return.	1	2	3	4	5	6
20. The world is becoming a better place for everyone.	1	2	3	4	5	6
21. I have something valuable to give to the world.	1	2	3	4	5	6
22. The world is too complex for me.	1	2	3	4	5	6
23. I don't feel I belong to anything I'd call a community.	1	2	3	4	5	6
24. People do not care about other people's problems.	1	2	3	4	5	6
25. Society has stopped making progress.	1	2	3	4	5	6
26. My daily activities do not produce anything worthwhile for my community.	1	2	3	4	5	6
27. I cannot make sense of what's going on in the world.	1	2	3	4	5	6
28. I feel close to other people in my community.	1	2	3	4	5	6
29. I believe that people are kind.	1	2	3	4	5	6
30. Society isn't improving for people like me.	1	2	3	4	5	6
31. I have nothing important to contribute to society.	1	2	3	4	5	6

*Note: #19 is the start of the SWB.

Circle the number that best describes your present agreement or disagreement with each statement.	Strongly Disagree	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Strongly Agree
32. I find it easy to predict what will happen next in society.	1	2	3	4	5	6
33. My community is a source of comfort.	1	2	3	4	5	6

HADS

A	D	I feel tense and "wound up"
3		Most of the time
2		A lot of the time
1		From time to time, occasionally
0		Not at all
		I still enjoy the things I used to enjoy
	0	Definitely as much
	1	Not quite so much
	2	Only a little
	3	Hardly at all
		I get a sort of frightened feeling, as if something awful is about to happen
3		Very definitely and quite badly
2		Yes, but not too badly
1		Yes, but doesn't worry me
0		Not at all
		I can laugh and see the funny side of things
	0	As much as I always could
	1	Not quite so much now
	2	Definitely not so much now
	3	Not at all
		Worrying thoughts go through my mind
3		A great deal of the time
2		A lot of the time
1		Not too often
0		Very little
		I feel cheerful
	0	Most of the time
	1	Sometimes
	2	Not often
	3	Never
		I can sit at ease and feel relaxed
0		Definitely
1		Usually
2		Sometimes
3		Not at all
		I feel as if I am slowed down
	3	Nearly all the time
	2	Very often
	1	Sometimes
	0	Not at all
		I get sort of frightened feeling like "butterflies" in the stomach
3		Very often
2		Quite often
1		Occasionally
0		Not at all
		I have lost interest in my appearance
	3	Definitely
	2	I don't take as much care as I should
	1	I may not take quite as much care
	0	I take just as much care as ever

		I feel restless as if I have been on the move
3		Very much indeed
2		Quite a lot
1		Not very much
0		Not at all
		I look forward with enjoyment at things
	0	As much as I did
	1	Rather less than I used to
	2	Definitely less than I used to
	3	Hardly ever
		I get sudden feelings of panic
3		Very often indeed
2		Quite often
1		Not very often
0		Not at all
		I can enjoy a good book or radio or TV program
	0	Often
	1	Sometimes
	2	Not often
	3	Very seldom

Appendix B

Complete Scoring System

Scoring **Adverse Events** in *Life Chapters*

Within his or her Life Chapters, the narrator may report experiencing adverse or difficult life events. An **adverse event** is one that has *potential* for distress or suffering – events that, for many humans, could lead to severe or extended distress. Such events may include, but are not limited to, divorce (or ending of a committed relationship), arrest, motor vehicle crash, serious injury, getting drafted, and getting robbed, etc. (please note that if the narrator specifically *chose* to be a part of that event, for example enlisting in the army, then it does not count as an adverse event). In scoring this theme, read the entire life chapters, then provide three scores. Provide a score for number of adverse events mentioned. If the narrator mentions the same event more than once, only count this as one. Count "sub-events" as separate events; for instance, if a narrator states, "I was in a car crash and broke my neck," this would count as two events. In addition, if the narrator mentions the event but never explicitly states what the event is, count it as one. Only count events that have the potential to affect the narrator, personally; in other words, global events, such as "the war broke out," would not count. Then provide two global scores. The first reflects how **positive** the author interprets the episode or how positive his lens is when writing about the event. The second reflects how **negative** this lens is or how negative he interprets the episode. Note that there may be many inconsistencies in a narrator's response; he may describe the same event in both positive and negative terms. It is your job as the scorer to balance the preponderance of evidence and score appropriately. It may be helpful to imagine a scale in your mind and, given the evidence provided within the chapters, determine whether the scale tips more to one side or the other.

Tendency toward Positivity

Using the scale below, score the narrator's tendency toward writing about the episode in a positive manner. Look for positive terms. Examples would include statements such as, "We got divorced, and it was the best decision we could have made. We got along much better after that;" and "I fell off the roof and broke my neck…but I'm a better person since I've been injured."

I----------I----------I
0 1 2

Narrative is **neutral**; adverse events not interpreted in a positive manner

Narrator has a **slight** tendency to describe adverse events in a positive manner

Narrator has a **strong** tendency to describe adverse events in a positive manner

Tendency toward Negativity

Using the scale below, score the narrator's tendency toward writing about the adverse event in negative terms. Examples would include statements such as, "We got divorced, and it was a terrible time in my life. I never wanted to pursue another relationship after that;" and "I fell off the roof and broke my neck…my life has gone to hell since that day."

I----------I----------I
0 1 2

Narrative is **neutral**; adverse events not interpreted in a negative manner

Narrator has a **slight** tendency to describe adverse events in a negative manner

Narrator has a **strong** tendency to describe adverse events in a negative manner

Scoring **ALTRUISM/GENERATIVITY** in *Life Chapters*

Definition: **Altruism** is prioritizing others' needs above one's own. It is when we help another with no obvious gain to ourselves. It is promoted as a preferred mode in almost every religion, seen as a core virtue in various systems of philosophy, and theorized to have an evolutionary undergirding. **Generativity** is a component of adult personality development wherein the midlifer works to create a legacy of self by caring for and improving the lives of younger and future generations. Parenting is an obvious example but it is much wider in scope and includes the maintenance of rituals as well as creating products (art, businesses) that will outlive one's physical existence and enhance the quality of life for future humans.

Scoring the life chapters scripts from the Life Story Interviews for Altruism/Generativity (ALTGEN) results in either a score for present (1) or absent (0).

First read the entire script of the life chapters. If there is no mention of ALTGEN *or* if the narrator mentions only one very brief account of ALTGEN, score a zero (0). If the narrator mentions more than one brief account *or* if he articulates at least one account that is a more involved and lengthier manner, score a one (1). For instance, if the narrator mentions in passing that he once gave someone five dollars who needed it but then went on without mentioning another instance of ALTGEN, this case would be scored zero (0). If, however, the narrator mentions more than one such event or if he describes in some detail, for example, how he values volunteering his time to help struggling youth and how much satisfaction it gives him, this case would be scored one (1).

Scoring **Faith** in *Life Chapters*

Within the Life Chapters, a narrator may mention the role of religion or spirituality in his life. These may include statements regarding a higher power, church attendance, a shift in faith following the SCI, or any other mention of faith/religion/spirituality in one's life. Score one point each time the narrator mentions faith/religion/spirituality in a different way and in a different portion of the narrative.

Mentions of faith would include such statements as: "My father's a minister"; "I went to Catholic High School"; "I strongly believe in God"; "I turned to my faith."

Mentions of other people's faith would NOT count here: "She was from a real Christian family"; "He was a holy roller."

Making the same statement about faith at different points in the interview would not count as a 2 points but would count as a one.

Statements of mere "belief" do not necessarily count for a faith score. To say, "I strongly believe that she was smarter than I was" is not a religious statement, versus the following statement about faith (which is a religious statement): "I believe he is watching me from Heaven."

Scoring **ALTRUISM/GENERATIVITY** in *Positive Future* narratives

Definition: **Altruism** is prioritizing others' needs above one's own. It is when we help another with no obvious gain to ourselves. It is promoted as a preferred mode in almost every religion, seen as a core virtue in various systems of philosophy, and theorized to have an evolutionary undergirding. **Generativity** is a component of adult personality development wherein the midlifer works to create a legacy of self by caring for and improving the lives of younger and future generations. Parenting is an obvious example but it is much wider in scope and includes the maintenance of rituals as well as creating products (art, businesses) that will outlive one's physical existence and enhance the quality of life for future humans.

Scoring the Positive Future scripts from the Life Story Interviews for Altruism/Generativity (ALTGEN) results in either a score for **present (1)** or **absent (0)**.

First read the entire script of the positive future. If there is no ALTGEN whatsoever, simply score it a "0." Likewise, if there is only a very brief mention of ALTGEN that appears to be stated in passing, this would also be scored "0." For instance, some participants respond with a list of items, and if "spend more time with my children" is one of 4 things mentioned, the response would NOT receive a "1" for this theme.

If, however, there is some mention of helping others or creating products that might benefit others, and it is not just mentioned in passing but contributes more meaningfully to the response, score this as "1." Specific examples of what would constitute ALTGEN include but are not limited to: a desire to raise children; a desire to pass along skills (e.g., coaching, teaching); and creating art for others to enjoy. Note that an individual may also provide a less specific response, such as, "I'd like to contribute in a productive way that benefits society," which would also count as ALTGEN.

Scoring **Clarity of Futures** in *Positive and Negative Future* narratives

For each positive and negative future, rate the narrator's clarity on a scale from negative two (-2) to positive two (+2), using the scale below. Clarity refers to how coherent or incoherent a response is, the author's tendency to remain focused or to be tangential, and the author's understanding or lack of understanding of the question asked of him. Clarity also refers to the authors flow throughout the response. How natural does the response flow together into a complete structured thought. Responses that are fantastical or unrealistic are considered illogical because it fails to answer the question. In scoring participants' imagined futures, use the scale below to score the clarity of participants' responses. Note that a response that is very clear is not necessarily very short; likewise, a response that is very unclear is not necessarily very lengthy.

Read to the end of the positive future section before scoring for clarity of positive future. Likewise, read to the end of the negative future section before scoring for clarity of negative future. Use the rating scale below to determine the appropriate score for each imagined future.

-2	-1	1	2
Entire narrative is difficult to follow; Ideas may be presented illogically or incoherently; thoughts are very tangential. The author gives a fantastical or unrealistic response	Narrative is frequently difficult to follow; ideas are. presented slightly illogically or incoherently; thoughts may be somewhat tangential. Frequently the author jumps from one idea to another	Narrative is relatively easy to follow. Some ideas are presented logically and coherently; thoughts are well-focused .At times the author jumps from one idea to another interrupting the flow of the response	Narrative is very easy to follow; ideas are presented very logically and coherently; there is a natural flow to the response

Scoring **Future as Continuation of Present** in *Positive and Negative Future* narratives

After prompted to imagine his positive future, the narrator may describe his future as one in which he continues to do many of the same activities or in which he continues to have many of the same experiences as he currently does. The positive future may be described as one that consists entirely of one's current activities or experiences or only in part. Coders should read the entire response through first to gather the context before scoring. Coders should look for language such as "I'd like to continue doing [X]," or "I'd like to go on doing [X]."

Scorer should take note of specific goals or expectations the narrator describes and then examine whether that goal/expectation is something that deviates from the author's present lifestyle or it is something that is a continuation of an aspect of the author's life.

Score of Zero (0): Provide a score of 0 if narrator describes a positive future that is distinct from his present situation (i.e., he does not indicate that his positive future is a continuation of the present). The author describes a complete change from his current lifestyle or experiences. This includes a change in current health (i.e. from bad to good), losing weight, spending time a project he has been neglecting, and other things that do not characterize his life in the present.

(e.g., I'd like to see the government get a little smarter. Stay outta these conflicts…we'd put the money that we've been foolin with other people into cancer research and other medical research…)

Score of One (1): Provide a score of 1 if narrator indicates that his positive future is, only in part, a continuation of his present situation. His positive future is also described as partly distinct from one's present situation.

The author describes some events that are a change of lifestyle, yet some are a continuation of his current situation. If the author describes 2 goals that are changes, and 2 that are continuations of the present, he would receive a score of 1.
The author may also describe something that he'd like to continue happening, yet would like to see some minor changes (continue with a current caretaker, yet hopes they will be able to visit him more). Another description that would get a score of a 1 would be an ambiguous event that is a continuation of a current event that changes in frequency or intensity (wanting continued health but to get into even better shape, or to continue working on cars but every day instead of twice a week).

(e.g., I'd like to get a decent caregiver…I'd like to go on raisin' horses. And, eventually, I'd like to get quadriplegic saddle and start ridin' horses again."

(e.g., I would like to be in a position where I could help people out…that is down in their luck…I do help out as much as I can now…but I wish I was in the position where I could help more people.)

Score of Two (2): Provide a score of 2 if narrator indicates that his positive future is a continuation of his present situation, without mention of any other positive future outcomes (i.e., positive future is, in entirety, described as a continuation of the narrator's present).

All events described as a hopeful future are continuations of the author's present life. Continuation of health, current projects, relationships, and other situations should be given a score of 2.

(e.g., I'd like to continue on helping other vets who might be going through some of the same stuff that I went through.)

(e.g., …continue to have the health I've had for the first 10 full years of my injury and to be able to continue working for a handful more years, retire with some health and putz in my garage.)

Negative Future as Continuation of Present

After prompted to imagine his negative future, the narrator may describe his future as one in which he continues to do many of the same activities or in which he continues to have many of the same experiences as he currently does. The negative future may be described as one that consists entirely of one's current activities or experiences or only in part. Coders should read the entire response through first to gather the context before scoring. Coders should look for language such as "I fear continuing to be [X]," or "My situation as it is now is my negative future."

Scorer should take note of specific goals or expectations the narrator describes and then examine whether that goal/expectation is something that deviates from the author's present lifestyle or it is something that is a continuation of an aspect of the author's life.

Score of Zero (0): Provide a score of 0 if narrator describes a negative future that is distinct from his present situation (i.e., he does not indicate that his negative future is a continuation of the present). The author describes a complete change from his current lifestyle or experiences. This includes a change in current health (i.e. from good to bad), gaining weight, neglecting a project he is currently working on, and other things negatively appraised events that do not characterize his life in the present.

(e.g., "…where I kind of give up pushing…and become content just to lay back and become institutionalized…and not contribute anything anymore.")

Score of One (1): Provide a score of 1 if narrator indicates that his negative future is, in part, a continuation of his present situation. The author describes some events that are a change of lifestyle, yet some are a continuation of his current situation. If the author describes 2 possible negative events that are changes, and 2 that are continuations of the present, he would receive a score of 1.

Another description that would get a score of a 1 would be an ambiguous event that is a continuation of a current event that changes in frequency or intensity. If a current negative situation continues, yet it's continuing results in a negative consequence the author isn't currently experiencing, they would receive a score of 1 (i.e., Continuing decline in health with a new loss of independence).

(e.g., "I'm afraid that I'll be stuck here in the VA for a lot longer and that my health will continue to fail. I fear losing more functioning than I have now.")

Score of Two (2): Provide a score of 2 if narrator indicates that his negative future is a continuation of his present situation, without mention of any other negative future outcomes.

All events described as a negative future are continuations of the author's present life. Continual lack of health, continued unhealthy relationships, and other situations should be given a score of 2.

(e.g., "My negative future is what I'm living right now. This is my negative future.")

(e.g., "Things really can't get much worse.")

Scoring **Tone of Imagined Futures** in *Positive and Negative Future* narratives

For each positive and negative future, rate the narrator's overall tone on a scale from negative two (-2) to positive two (+2), where a -2 would be given to an imagined future that reflects a very negative attitude and outlook on life, self, and others, and a +2 would be given to an imagined future that reflects a very positive attitude and outlook on life, self, and others. A score of zero (0) or neutral tone is not an option. The scorer is to focus on the proportion of negative to positive within the narrative. The scorer must determine whether the narrative appears more positive or negative based on expression of emotions, attitude, outlook on life, self, and others, and overall tone within the narrative. Note that events mentioned by the author which may seem negative to most people only reflect negative tone if the author describes them in such a way (e.g., A mention of "divorce" or "spinal cord injury" does not automatically indicate negative tone. Rather it is important *how* the author talks about these events.) Also note that when reading negative and positive futures, the interviewer has previously prompted the participant to describe both a positive and a negative future. Given this, if a participant is describing a positive future and they begin to display negativity or fade into their negative future, this should be taken into account when scoring the positive future and vice versa. This is important to note the negativity found within a positive response, and vice versa, especially when they have been prompted by the interviewer and know that they will be asked to describe an imagined realistic positive and negative future in two separate questions.

Read to the end of the positive future section before scoring for tone of positive future. Likewise, read to the end of the negative future section before scoring for tone of negative future. Use the rating scale below to determine the appropriate score for each imagined future.

-2	-1	1	2
Entire narrative is very self-loathing and negative toward self, others, and life.	Narrative hints at negativity. Portions may be somewhat positive but overall tone is negative.	Narrative hints at positivity. Portions may be somewhat negative but overall tone is positive.	Entire narrative is very affirming. Very positive perception of self and others

Examples may include, but are not limited to:

Score of Negative Two (-2):
Narrator's entire response concerns his disinterest in life and his inability to cope with what is ahead because he is a "screw-up." He describes others as being unsupportive and uncaring.

Score of Negative One (-1):
Narrator indicates that he generally does not find much enjoyment from life. He fears being unable to cope with what is ahead because, at times, he gets down on himself. Others are generally unsupportive, though he describes having a few people he might be able to count on if needed.

Score of Positive One (1):
Narrator indicates that he is generally looking forward to what is ahead and, despite a few concerns, feels able to cope with what might come up. He describes others as generally being supportive and available when he needs them. He describes activities he finds somewhat enjoyable and positive goals he has set for himself.

Score of Positive Two (2):
Narrator's entire response concerns the enjoyment he finds from life and how much he is looking forward to what lies ahead. He feels confident in his ability to cope with events that may arise because he knows he is strong and determined. He views others as very supportive and caring. He describes finding much joy in several activities and has set positive goals for himself.

Table 1

Summary of Demographic Information

Variable	N	%	**Variable**	M	SD
Gender			**Age**	60.3	10.3
Male	99	98	**Service connected (%)**	66.1	39.4
Female	2	2	**Income**	36,967	35,857
Ethnicity			**Time since injury (years)**	23.3	12.8
Caucasian	90	91	**Education**	13.6	2.5
African American	5	5			
Native American	2	2			
Other	2	2			
Relationship Status					
In a relationship	36	36			
Not in a relationship	63	64			
Employment Status					
Employed	11	11			
Not employed	88	89			
Service Connection Status					
Connected	42	43			
Not Connected	56	57			
Children					
Have children	73	74			
Do not have children	26	26			
Living Situation					
Live alone	47	48			
Live with others	52	53			

Table 2

Descriptive Information for Main Variables of Interest

Variable	M	SD
PWB	84.07	12.56
SWB	60.44	12.52
Anxiety	6.24	3.87
Depression	5.84	3.74
Disability	466.15	87.30

Note: Personal WB = Personal Well-Being; Social WB = Social Well-Being

Table 3

Cases per Cell for Coded Variables

Variable	Score = n (%)
Adverse Events - Positive	0 = 48 (41)
	1 = 23 (20)
	2 = 20 (17)
Adverse Events - Negative	0 = 48 (41)
	1 = 31 (26)
	2 = 12 (10)
Altruism/Generativity - Chapters	0 = 50 (42)
	1 = 40 (34)
Altrusim/Generativity - Futures	0 = 65 (55)
	1 = 21 (18)
Clarity - Positive	-2 = 7 (6)
	-1 = 16 (14)
	1 = 39 (33)
	2 = 25 (21)
Clarity - Negative	-2 = 1 (0.8)
	-1 = 22 (19)
	1 = 40 (34)
	2 = 23 (20)
Positive Future as Continuation	0 = 39 (33)
	1 = 28 (24)
	2 = 22 (19)

Negative Future as Continuation	0 = 42 (36)
	1 = 26 (22)
	2 = 19 (16)
Tone of Positive Future	-2 = 3 (3)
	-1 = 13 (11)
	1 = 28 (24)
	2 = 47 (40)
Tone of Negative Future	-2 = 18 (15)
	-1 = 55 (47)
	1 = 14 (12)
	2 = 2 (2)
Faith	0 = 61 (52)
	1 = 19 (16)
	2 = 7 (6)
	3 = 3 (3)
	8 = 1 (0.8)

Note: Percentages per cell shown in parentheses and do not add to 100% due to missing data; Adverse Events - Positive = Tendency toward positivity when describing adverse events in life chapters; Adverse Events - Negative = Tendency toward negativity when describing adverse events in life chapters; Clarity - Positive = Clarity within positive future; Clarity - Negative = Clarity within negative future; Positive Future as Continuation = Positive future as continuation of present; Negative Future as Continuation = Negative future as continuation of present; Faith = Mention of faith/religion/spirituality within life chapters

Table 4

Correlations Among Main Outcome Variables

	1.	2.	3.	4.	5.
1. Personal WB	--				
2. Social WB	.56**	--			
3. Anxiety	-.49**	-.34**	--		
4. Depression	-.63**	-.42**	.47**	--	
5. Wellness	.85**	.74**	-.74**	-.81**	--

Note: Personal WB = Personal Well-Being; Social WB = Social Well-Being
*$p < .05$ (2-tailed); **$p < .01$ (2-tailed)

Table 5

Correlations Among Theme Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Adverse Events - Positive	--									
2. Adverse Events - Negative	-.12	--								
3. Clarity - Positive	.02	-.05	--							
4. Clarity - Negative	.17	-.17	.43**	--						
5. Pos Future as Continuation	.12	-.23*	.20	.10	--					
6. Neg Future as Continuation	-.12	-.03	-.09	-.21	-.17	--				
7. Tone of Positive Future	.22*	-.16	.07	.08	.11	-.07	--			
8. Tone of Negative Future	-.11	-.24*	-.07	-.14	.06	.02	.26*	--		
9. Faith	.20	.01	.05	.05	.02	-.12	.16	.06	--	
10. Overall wellness	.09	-.05	.06	-.07	-.05	-.02	.35**	.37**	.27*	--

Note: Adverse Events - Positive = Tendency toward positivity when describing adverse events in life chapters; Adverse Events - Negative = Tendency toward negativity when describing adverse events in life chapters; Clarity - Positive = Clarity within positive future; Clarity - Negative = Clarity within negative future; Pos Future as Continuation = Positive future as continuation of present; Neg Future as Continuation = Negative future as continuation of present; Faith = Mention of faith/religion/spirituality within life chapters; Overall Wellness = Sum of well-being scores minus sum of anxiety and depression scores

*$p < .05$ (2-tailed); **$p < .01$ (2-tailed)

Table 6

Summary of Hierarchical Regression for Tendency toward Positivity and Negativity when describing Adverse Events Predicting Wellness

Variables	B	SE *B*	β	*R*	R^2	Adj R^2	ΔR^2
Step 1:				0.31	0.10	0.07	.10*
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.16				
Step 2:				0.32	0.10	0.05	.00
Education	0.26	0.14	0.21				
Handicap	0.01	0.00	0.16				
Tendency toward Positivity	0.22	0.41	0.06				
Tendency toward Negativity	-0.06	0.47	-0.01				

Note. Step 1: F (2, 79) = 4.25, $p < .05$; Step 2: F (4, 77) = 2.16, $p > .05$
*$p < .05$, **$p < .01$

Table 7

Summary of Hierarchical Regression for Faith Predicting Wellness

Variables	B	SE *B*	β	*R*	R^2	Adj R^2	ΔR^2
Step 1:				0.31	0.10	0.07	0.10*
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.16				
Step 2:				0.40	0.16	0.13	0.06*
Education	0.20	0.14	0.16				
Handicap	0.01	0.00	0.20				
Faith	0.70	0.29	0.26*				

Note. Step 1: F (2, 79) = 4.25, $p < .05$; Step 2: F (3, 78) = 4.92, $p < .01$
*$p < .05$, **$p < .01$

Table 8

Summary of Hierarchical Regression for Clarity of Positive and Negative Future Predicting Wellness

Variables	B	SE *B*	β	*R*	R^2	Adj R^2	ΔR^2
Step 1:				0.31	0.10	0.07	0.10*
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.16				
Step 2:				0.35	0.12	0.08	0.03
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.20				
Clarity of Positive Future	0.27	0.29	0.11				
Clarity of Negative Future	-0.49	0.34	-0.18				

Note. Step 1: F (2, 73) = 3.93, $p < .05$; Step 2: F (4, 71) = 2.52, $p < .05$
*$p < .05$, **$p < .01$

Table 9

Summary of Hierarchical Regression for Positive and Negative Future as Continuation of Present Predicting Wellness

Variables	B	SE *B*	β	*R*	R^2	Adj R^2	ΔR^2
Step 1:				0.31	0.10	0.07	0.10*
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.16				
Step 2:				0.32	0.10	0.05	0.00
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.16				
Positive Future as Continuation	-0.11	0.42	-0.03				
Negative Future as Continuation	-0.20	0.43	-0.05				

Note. Step 1: F (2, 76) = 4.09, $p < .05$; Step 2: F (4, 74) = 2.06, $p > .05$
*$p < .05$, **$p < .01$

Table 10

Summary of Hierarchical Regression for Tone of Positive and Negative Future Predicting Wellness

Variables	B	SE *B*	β	*R*	R^2	Adj R^2	ΔR^2
Step 1:				0.31	0.10	0.07	0.10*
Education	0.27	0.14	0.22				
Handicap	0.01	0.00	0.16				
Step 2:				0.52	0.27	0.24	0.18**
Education	0.30	0.13	0.25*				
Handicap	0.00	0.00	0.03				
Tone of Positive Future	0.67	0.28	0.26*				
Tone of Negative Future	0.90	0.31	0.30**				

Note. Step 1: F (2, 77) = 4.14, $p < .05$; Step 2: F (4, 75) = 7.06, $p < .01$
*$p < .05$, **$p < .01$