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Positive Adaptation to Trauma: Wisdom as Both Process and Outcome

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Positive adaptation to psychological trauma and wisdom both have a rich history in European literature and philosophy. Although the literature on posttraumatic growth has recognized the possibility of wisdom as an outcome of adaptation, its role in the process of adaptation has been neglected. A theoretical framework is presented that conceptualizes three dimensions of wisdom as crucial to an understanding of the role it can play in posttraumatic positive adaptation. These dimensions are the recognition and management of uncertainty; the integration of affect and cognition; and the recognition and acceptance of human limitation. The role of these dimensions in the process and outcome of traumatic adaptation is considered, together with limitations of the framework and directions for future research.

KEY WORDS: trauma; positive adaptation; wisdom.

Introduction

Europe has been home to some of the worst human excesses of the nineteenth and twentieth centuries, but it has harvested the fruits of positive adaptations to these traumas. The rich traditions of European philosophy and literature provide a foundation from which to construct an understanding of adaptation to trauma that moves one closer towards fulfilment, so recognizing the potential for positive change that is inherent in traumatic devastation (Valent, 1998, 1999).

Calhoun and Tedeschi (1998, p. 234) recommended that their edited volume about posttraumatic growth (Tedeschi, Park, & Calhoun, 1998) be read in conjunction with the wisdom literature. This paper takes that recommendation to the next stage and proposes how positive adaptation to trauma can be usefully conceptualized within a wisdom framework. Drawing on the basic philosophical tenets of Hegel, and the Berlin Wisdom Paradigm (Baltes & Staudinger, 2000), a theoretical exploration of wisdom as both process and outcome of positive adaptation to trauma is presented.

The remit of psychotraumatology spans all levels of human functioning, "from physiology to the soul" (Valent, 1998, p. ix). It cuts across the disciplines of psychology, psychiatry, medicine, sociology, and philosophy, influencing the minutiae of biology as it simultaneously challenges the most profound concerns of human existence. Donovan (1993) emphasized the triad on which trauma impacted, namely, the biological, psychological, and social. On this basis, Valent (1998, 1999) developed a "wholist framework" within which trauma and its impact could be conceptualized triaxially, in terms of process (the nature of the trauma); parameters (the context of the trauma); and depth (the effect of the trauma on fulfilment). This paper restricts its attention to Valent's "depth axis"; that is, the impact of trauma on fulfilment, and the resolution of the life-trauma dialectic (Valent, 1998, 1999). Fulfilment is here understood as a fundamental human motivation. People seek to grow and develop beyond the satisfaction of their basic physiological and security needs (e.g., food, water, warmth, safety). They aspire to have loving and productive relationships, and to develop and use their abilities as fully as they are able, as well as

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helping others important to them to do the same. This understanding is consistent with Rogers' view of the actualizing tendency (Rogers, 1961) and Maslow's view of self-actualization (Maslow, 1954).

The disruption of motivations toward growth and fulfilment has been implicated in the negative appraisals that can lead to persistent PTSD (Ehlers & Clark, 2000). However, the potential for reevaluation that this disruption affords has also been recognized (Joseph, Williams, & Yule, 1993). The sublimation of trauma into "supreme acts of artistic transformation and political action" (McFarlane & van der Kolk, 1996, p. 573) has a rich tradition in European history: Russia, for example, boasts Fyodor Dostoevsky and Aleksandr Solzhenitsyn.

Positive Adaptation to Psychological Trauma in European Perspective

Positive adaptations represent more than simply a homeostatic return to a baseline of pretrauma functioning, or resilience against the negative effects of a traumatic event. Rather, positive adaptations may be likened to a springboard that propels the survivor to a higher level of functioning than that which they held previously. Positive adaptation hence reflects that something has been gained following the trauma, rather than that something was lost but recovered (i.e., a homeostatic return to baseline), or that nothing was lost despite the trauma (i.e., resilience). However, it is important to recognize that this understanding of positive adaptation should not be taken to imply that nothing has been lost. Positive adaptation may only be found in some domains, and losses may still occur in others. As such, positive and negative changes following trauma appear to be bivariate rather than bipolar constructs, and hence may have a range of associations (Cacioppo & Berntson, 1994). These concepts are illustrated graphically by Carver (1998).

Positive adaptations can be identified throughout European history. In Russian literature, Dostoevsky drew deeply upon the experience of his own mock execution (Mochulsky, 1967) to produce novels of profound insight into the human condition—in which the value of suffering was consistently implicit. Russian politics saw the horrors of the Gulag transformed into the political witnessing and voice of moral dissent of Solzhenitsyn (1974).

The Second World War and the annihilation brought by the Nazi holocaust produced innumerable accounts of human transcendence of pervasive suffering. In the crucible of these experiences, new approaches to psychological therapy were forged and tested—for example, logotherapy (Frankl, 1984), and trauma and fulfilment therapy (Valent, 1999). Antonovsky's development of salutogenesis and the sense of coherence concept (Antonovsky, 1987) was inspired by his studies of Jewish women who he found had not only survived, but in some cases thrived, following the holocaust. The experience of witnessing the resilience of his Italian compatriots prompted Csikszentmihalyi towards his quest to understand optimal human functioning (Seligman & Csikszentmihalyi, 2000).

Within psychology and psychiatry, interest in positive adaptation to trauma reemerged at the beginning of the 1990s (Lyons, 1991). It developed through recognition of the coexistence of positive and negative adaptation (Joseph et al., 1993) to perspectives that were explicitly positive in their focus (Tedeschi et al., 1998; Tedeschi & Calhoun, 1996). Recent advances transcend any such dichotomies and offer profound integrations of these positive and negative polarities (Valent, 1998, 1999), thereby presenting models of adaptation that comprehensively span the biopsychosocial range. However, despite the rich European history of positive adaptation to trauma, it has tended to be American research that has monopolized the area. The reevaluation of values, priorities, and interpersonal relationships has been reported subsequent to a range of traumatic stressors (see Tedeschi et al., 1998, for a review).

Consistently implicated in the development of posttraumatic positive adaptation is wisdom (e.g., Calhoun & Tedeschi, 1998), which has been the subject of the sustained research efforts of Paul Baltes and his colleagues in the Berlin Aging Study (Baltes & Staudinger, 2000). Wisdom here refers to a person's expertise in the fundamental pragmatics of life. That is, high level abilities of knowledge and judgment about the essence of the human condition, and the ways and means of planning for, managing, and understanding how people might best lead their lives, within the context of whatever values they may hold to be important (Baltes & Staudinger, 2000).

Although wisdom may be developed through the experience of trauma, it need not be so, and hence can be differentiated from such concepts as posttraumatic growth (Tedeschi & Calhoun, 1996), stress-related growth (Park, Cohen, & Murch, 1996), and transformational coping (Aldwin, 1994). Wisdom is a far broader concept that may be found across the life span of human development, and is not restricted only to posttraumatic situations. However, the associations between posttraumatic growth, stress-related growth, transformational coping, and wisdom have not been empirically considered. Within the Baltes' paradigm (e.g., Baltes & Staudinger, 2000), explicit domains of wisdom-related knowledge include (1) rich factual knowledge about the fundamental pragmatics

of life; (2) rich procedural knowledge about the fundamental pragmatics of life; (3) life span contextualism, that is, knowledge about the many themes and contexts of life, including, for example, education, family, and work; (4) the recognition and tolerance of differences in beliefs and values; and (5) the recognition and management of uncertainty.

As with posttraumatic positive adaptation more generally, wisdom has a rich European tradition—the Platonic dialogues of classical Greece being ". . . the earliest record of a sustained analysis of the concept of wisdom" (Robinson, 1990, p. 14). Below is presented a theoretical exploration of how wisdom can be conceptualized as both process and outcome of posttrauma adaptation, thus propelling trauma survivors towards fulfilment. This exploration draws on these rich European traditions of positive adaptation to trauma, the dialectical philosophy of Hegel, and the extensive research corpus of the Berlin Wisdom Paradigm (Baltes & Staudinger, 2000), together with the edited volume of Sternberg (1990).

Hegel and the Life-Trauma Dialectic

Hegel's dialectical method is founded on the process of development from "thesis" through "antithesis" to "synthesis" (which may subsequently become the "thesis" of the next stage). The "thesis" may refer to any idea, belief, or set of arguments. Conflicting and contradictory views are contained within the "antithesis." The resolution of these contradictions—typically through dialectical integration—leads to the development of "synthesis" (Hegel, 1807/1931).

For present purposes, let us assume that one's normative life perspective constitutes the thesis. On this basis, trauma would be the antithesis—the set of arguments that contradicts the existing position and hence forces its revision—threatening "everything from the satisfactions of the body to the fulfillment of the soul" (Valent, 1998, p. 1). Synthesis would be achieved through the resolution of processing of the trauma, together with the recognition that, contrary to prior beliefs, ". . . bad things do happen to good people." In circumstances of positive, growth-oriented resolutions toward fulfilment, wisdom would be one possible outcome.

Hence a basic Hegelian conceptualization of positive adaptation to trauma could be proposed as life (thesis) shattered by trauma (antithesis) and regenerated through and towards wisdom (synthesis). It is this dual nature of wisdom, as both process and outcome of positive adaptation to trauma that informs the theoretical explorations below.

Theories of Human Adaptation to Stress and Trauma

Several theories of human adaptation have been suggested that have particular relevance to posttraumatic positive adaptation (Tedeschi & Calhoun, 1995). These include dispositional optimism (Carver & Scheier, 1999), an internal locus of control (Rotter, 1966), self-efficacy (Bandura, 1982), hardiness (Kobasa, 1979), and a sense of coherence (Antonovsky, 1987).

Dispositional optimism has been shown to be consistently and positively related to better coping and adjustment, and predicts adaptation independently of other mediating factors such as an internal locus of control (Carver & Scheier, 1999). Optimism positively influenced perceptions of personal efficacy (cf. Bandura, 1982), thereby supporting the use of problem-focused coping strategies, and prompting benefit finding in adversity. This can lead to an acceptance of, but not resignation to, the harsh reality of the posttrauma environment (Carver & Scheier, 1999; see also Tennen & Affleck, 1998, for a review of the role of optimism in posttraumatic growth).

Rotter's concept of locus of control (Rotter, 1966) refers to the extent to which a person believes that the outcome of an event is contingent upon his or her behavior. Persons with an "internal" locus of control see a strong contingency between their behavior and the event outcomes, and therefore are likely to act in order to influence outcomes in the direction they desire. These internal control contingencies predict problem-focused coping and efforts at resolving the situation, which have both been implicated as probable foundations of positive adaptation to trauma (Tedeschi & Calhoun, 1995).

Whereas locus of control refers to the contingency between behavior and outcome, Bandura's (1982) self-efficacy theory refers to beliefs about one's behavioral capacities. With respect to posttraumatic adaptation, the belief that one can cope with the situation and its aftermath promotes a tendency towards action, identified by Calhoun and Tedeschi (1998) as a key variable associated with posttraumatic growth. Persons high in self-efficacy perceive themselves as having the behavioral resources to cope with the situation, and so take active steps to cope and adapt (cf. Antonovsky's "manageability" component discussed below).

Kobasa's theory of hardiness (Kobasa, 1979) comprises three elements that lend themselves well to theories of posttraumatic growth. "*Commitment*" is the extent to which one believes in and invests oneself in the task at hand, the extent of one's engagement with the situation. "*Challenge*" is defined as the way in which the stressful life event or trauma is perceived as a positive opportunity for personal change and growth, characterized

by openness to experience, and cognitive flexibility and complexity. Finally, "control" refers to one's beliefs in one's efficacy (cf. Bandura, 1982) and the contingency between one's behavior and event outcomes (cf. Rotter, 1966). However, the integration of these three components in a single, unified concept of hardiness has been questioned on both theoretical and empirical grounds (Orr & Westman, 1990); hence any treatment of the concept as unitary should be made with caution.

The sense of coherence (SOC) concept, developed by Antonovsky (1987), similarly has three components. Comprising comprehensibility, manageability, and meaningfulness, the SOC has substantial empirical and theoretical support for its nature as a unitary construct (Antonovsky, 1987, 1993), which is only to be expected given the way in which the SOC scale was developed (Antonovsky, 1987). More importantly, a high SOC has consistently been shown to be associated with better adaptation to life stress and trauma (Flannery & Flannery, 1990).

Antonovsky (1987, p. 19) defined the *sense of coherence* as ". . . a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable [comprehensibility]; (2) the resources are available to one to meet the demands posed by these stimuli [manageability]; and (3) these demands are challenges, worthy of investment and engagement [meaningfulness]."

Antonovsky (1987, pp. 19–22) further describes the interrelationships among the three components of the SOC. Meaningfulness holds the highest place in the hierarchy, because it is through meaningfulness that motivation is mediated (see Korotkov, 1998.) In turn, high manageability is contingent upon comprehensibility, which is thus next in the hierarchy. It is possible, even on cursory examination, to see the concordance between Antonovsky's sense of coherence and various aspects of the other theories of human adaptation presented above. The SOC includes all the elements of hardiness, self-efficacy, and locus of control, and integrates and expands on them. For a more detailed consideration of these relationships, there are excellent reviews by Antonovsky (1987, chap. 3, 1991).

The relationships between Antonovsky's SOC and the three-dimensional wisdom theory developed herein are explored below. The SOC is selected for comparison with the three dimensions of wisdom because it has been presented as a metaconcept that integrates and expands on the models of hardiness, self-efficacy, and locus of control in adaptation to stress and trauma (Antonovsky, 1991). The SOC provides a more rigorous comparison for the three dimensions of posttraumatic wisdom proposed, although space limitations preclude an individual comparison of the wisdom theory with each of the models discussed.

The Nature of Wisdom

Research into the nature of wisdom over the last 15 years has tended to focus on either implicit or explicit theories of wisdom (Sternberg, 1990). Implicit theories investigate folk conceptions of what constitutes wisdom, and what it means to be wise. It has been consistently demonstrated that wisdom is a distinct construct (Baltes & Smith, 1990); and one which positively correlates with experience of life, with the wise person learning from their own mistakes and also the mistakes of others (Chandler with Holliday, 1990). The role of nonnormative life events has been emphasized as facilitative in the development of wisdom (Baltes, 1987), thus supporting the view that "tragedy is a substrate of experience from which wisdom can arise" (Birren & Fisher, 1990, p. 323).

Appropriate occupations, which provide exposure to issues of life management (e.g., clinical psychology), have been demonstrated to be fertile ground for the development of wisdom (Smith, Staudinger, & Baltes, 1994). Equally, however, the wisdom measures employed are not specific to such populations, and have been proven effective with other groups (Baltes, Staudinger, Maercker, & Smith, 1995). It should also be noted that, contrary to popular conceptions (Heckhausen, Dixon, & Baltes, 1989), wisdom is possessed by the young as well as the old (Baltes et al., 1995; Smith et al., 1994). When a young person is considered wise, the role of nonnormative life events is often implicated as facilitating the experience and insight necessary for the development of wisdom (Baltes, 1987).

Three fundamental dimensions of wisdom were identified from a review of the psychological research literature on wisdom. These dimensions have direct implications for the role of wisdom as both a process and an outcome of positive adaptation to trauma: (1) recognition and management of uncertainty; (2) integration of affect and cognition; (3) recognition and acceptance of human limitation. A summary of these dimensions of wisdom and their associations with posttraumatic positive adaptation is presented in Table 1.

Dimension 1: Recognition and Management of Uncertainty

The recognition and management of uncertainty is at the heart of Kitchener and Brenner's conception of

Table 1. Dimensions of Wisdom as Both Process and Outcome of Positive Adaptation to Trauma

Wisdom dimension	Trauma process and outcome
Recognition and management of uncertainty (Kitchener & Brenner, 1990; Baltes & Staudinger, 2000)	Schemas shattered (Janoff-Bulman, 1992), leading to: Uncertain and sustained threat (Ehlers & Clark, 2000; Foa et al., 1992).
	Recognition of uncertainty leads to positive adaptation; renders posttraumatic chaos explicable (cf. Antonovsky, 1987: comprehensibility component of SOC).
Also "openness to change" (Arlin, 1990)	"Openness to experience" associated with posttraumatic growth (Tennen & Affleck, 1998).
Integration of affect and cognition (Kramer, 1990)	Trauma disrupts memory, dissociates affect and cognition (Ehlers & Clark, 2000; van der Kolk, 1996). Narrative development (Amir et al., 1998) breaks the nexus of fragmentation allowing integration (Valent, 1999).
	The world makes both cognitive sense (SOC: comprehensibility) and affective sense (SOC: meaningfulness; Antonovsky, 1987).
Recognition and acceptance of human limitation (Taranto, 1989)	
Knowledge (Meacham, 1990)	Trauma forces the acceptance that not everything can be known; acceptance leads to the tolerance of uncertainty.
Personal finitude (Orwoll & Perlmutter, 1990; Pascual-Leone, 1990)	Trauma forces the recognition of personal finitude (Shay, 1994). Generativity (Erikson, 1968) and altruism may be developed through self-transcendence.
	Antonovsky's "boundaries" reflect recognition and management of human limitation (Antonovsky, 1987).

Note. SOC, sense of coherence.

wisdom (Kitchener & Brenner, 1990); it is also one of the five criteria employed in the Berlin Wisdom Paradigm (Baltes & Staudinger, 2000). Janoff-Bulman (1992) has described how trauma shatters our fundamental assumptions about the world. The nature of uncertain sustained threat has been implicated in the development and maintenance of persistent PTSD (Ehlers & Clark, 2000). Animal models of PTSD (Foa, Zinbarg, & Rothbaum, 1992) have similarly emphasized the role of the uncontrollability and unpredictability of events in the development of PTSD.

The wise individual recognizes that the world is uncertain, and has learned how to manage this uncertainty effectively. Such a person acknowledges the constant nature of change, and so is able to develop with change rather than working against it. Such individuals possess a characteristic *openness to change* (Arlin, 1990) that allows their recognition of, and receptivity to the uncertainty of the world (cf., *openness to experience* as a personality dimension implicated in posttraumatic growth; Tennen & Affleck, 1998).

Dimension 2: Integration of Affect and Cognition

The integration of affect and cognition is central to Kramer's theory of wisdom (Kramer, 1990). Neither affect (emotion) nor cognition has primacy over the other, because both are integral to higher human functioning. Problems arise when affect becomes split off from cognition, leading to the nexus of fragmented, unintegrated memories that have been implicated in the symptomatology of PTSD (Ehlers & Clark, 2000; Valent, 1999).

The wise individual (and also the positively adapted trauma survivor, it is argued) develop a sense of connected detachment: they recognize and own their somatic sensations, but are not at the mercy of them. This connected detachment entails recognizing and understanding one's emotions, and being guided by them appropriately rather than blindly. This integration allows the development of a wisdom borne of connected detachment that avoids the compulsion to reenact the earlier trauma (cf. van der Kolk, 1996).

The breaking of the nexus of fragmentary memories allows the integration and processing of the traumatic experience at the level of both emotion and cognition, thus facilitating, and being facilitated by, the process of narrative development (Amir, Stafford, Freshman, & Foa, 1998). This sense of connected detachment is also fundamental for therapists providing therapy "To recognize the most heinous traumas, one needs to be open to, but in control of one's own traumas" (Valent, 1999, p. 143).

Dimension 3: Recognition and Acceptance of Human Limitation

The recognition and management of limitation has been described as *sine qua non* to the acquisition of wisdom (Taranto, 1989). The recognition and acceptance of limitation can be applied to the boundaries of human knowledge, where, like Socrates (Robinson, 1990), the wise individual acknowledges how much he or she does not know (Meacham, 1990). More pertinent to psychotraumatology, however, is the recognition and acceptance of the ultimate human limitation: the finitude of life. It was this knowledge described by Shay (1994) when he wrote of the existential authority of trauma survivors: having witnessed the measuring of their own existence in the scales of

life and death, they now truly appreciate the worth, value, and finitude of the human condition. This existential acceptance has been likened to Heidegger's conception of when "thinking becomes thanking" (Pascual-Leone, 1990, p. 263)—that is, a true appreciation of life in full recognition of its fragility and finitude.

This existential acceptance has been suggested to lead to a change in the personal life project (Pascual-Leone, 1990), with a shift towards the wisdom of generativity, as the means for survival is passed on to succeeding generations (Erikson, 1968). This reconciliation with one's finitude leads to a transcendence of those concerns that are related exclusively to the self (Orwoll & Perlmutter, 1990), and to an increased investment in the well-being of others (Erikson, 1968). For survivors of trauma, this altruism may in itself lead to an improvement in adaptation (Kishon-Barash, Midlarsky, & Johnson, 1999).

Relations Between the Three Dimensional Wisdom Theory and Antonovsky's SOC

There is no immediate one-to-one correspondence between the three dimensions of the wisdom theory and the three components of the SOC; however, a closer examination reveals a consistency of approach between the two constructs. The comprehensibility component of the SOC is concerned to define stimuli as both structured and predictable and also explicable. The chaos and devastation left in the wake of trauma can hardly be described as structured and predictable. However, the recognition and management of uncertainty (dimension 1 of the wisdom theory) at least permits this chaos to be recognized as explicable, when informed by the recognition of uncertainty which trauma provokes.

The integration of affect and cognition (dimension 2 of the wisdom theory) is reflected in both the comprehensibility component and the meaningfulness component of the SOC. Antonovsky (1987, p. 157) wrote that for the person with a high SOC, the world made sense both cognitively (with regard to comprehensibility) and affectively (with regard to meaningfulness). This conceptualization is mirrored in the integration of affect and cognition proposed in the wisdom theory through the development of the sense of connected detachment (as described above).

The third dimension of the wisdom theory developed herein, the recognition and acceptance of human limitation, does not have a direct correspondence with any one of the three components of the SOC. However, Antonovsky (1987, pp. 22–24) also discussed the role of boundaries with respect to the SOC, and it is here where the similarities between the third wisdom dimension and the SOC are to be found. Antonovsky described how flexibility of boundaries (cf. the roles of cognitive and self-complexity in adaptation to trauma; Tennen & Affleck, 1998) could lead to the maintenance of a strong SOC in the face of damaging circumstances beyond one's control. By defining the forces impacting negatively on the SOC as beyond the circumference of one's interest or concern, no negative effect ensues on the SOC.

However, Antonovsky (1987, p. 23) also noted that inner feelings and existential issues (among others) could not be defined as beyond this circumference. The third dimension of the wisdom theory makes this explicit, and posits the recognition and acceptance of such human limitation as a fundamental factor in the development and maintenance of posttraumatic wisdom. It is also instructive to note that the recognition of human limitation, the sense that ". . . given the facts of the situation, one is handling it as well as is possible, [is the] specific sense of well-being . . . to which the SOC is directly relevant" (Antonovsky, 1987, pp. 181–182). The perception that one is doing one's best in the circumstances (acceptance of limitation) is reflected in both theoretical and empirical research which demonstrates one's perception of trauma symptoms to be a critical variable influencing successful adaptation (Ehlers & Clark, 2000).

Wisdom, SOC, and Morality

Ancient philosophers typically regarded wisdom as a highly desirable good (Robinson, 1990), and this is the position adopted by Baltes in his more recent work (Baltes & Staudinger, 2000), and also Sternberg (1998). On the other hand, Antonovsky (1991, p. 87) explicitly stated that ". . . there is no relationship between the SOC and morality." However, the study of psychological trauma is of necessity value-laden, and hence it is appropriate to state explicitly that a further defining characteristic of posttraumatic wisdom should be its moral goodness. Moral goodness refers to a person's determination to pursue the course of life that is important to them despite the difficulties that they will encounter. Such people would live in a way that is fulfilling to them and potentially also contributes to the fulfilment of others, but that, at the very least, does not detract from the well-being and fulfilment of others (Kekes, 1995). Posttraumatic wisdom transforms tragedy positively through self-understanding and the living of a positive and fulfilling life; it is not reflected in the lack of wisdom seen in the compulsion to reenact the trauma that has been described above.

Wisdom as Both Process and Outcome of Posttraumatic Positive Adaptation

The contradictory nature of wisdom as both an intervening process and a desirable outcome of positive adaptation to trauma requires explanation. Drawing on the principles of Hegelian dialectical integration described above, it was argued that the synthesis of the life-trauma dialectic was wisdom. However, wisdom is not an absolute construct, which is either possessed or not. It is fluid and interactive, and hence can be developed as a positive outcome of trauma, while simultaneously influencing the nature and course of subsequent posttraumatic development.

There are two main processes which mediate the development of wisdom following trauma, and impact across the three dimensions of posttraumatic wisdom described above. These processes are dialectical integration and the development of self-knowledge. Dialectical integration is achieved through the attainment of synthesis from the contradictions of thesis and antithesis. It is neo-Piagetian in outlook, and hence subsumes the traditional dichotomy of assimilation (fitting the world to the person) and accommodation (fitting the person to the world) used by such trauma researchers as Janoff-Bulman (1992). Dialectical integration transcends these polarities, and allows the recognition and simultaneous holding in mind of two opposite positions on the basis that they are but part of a wider picture in which this opposition is subsumed (Basseches, 1980). In keeping with the wisdom framework proposed, it is not necessary that this broader picture is ever seen in totality (cf. the limitations of human knowledge), simply that the possibility of its existence is acknowledged (cf. the recognition of uncertainty).

Self-knowledge is borne of hard fought experience, in which the trauma survivor is rich. The integration of affect and cognition has allowed a holistic understanding of the self (cf. Valent, 1998, 1999), leading to the connected detachment that is a prerequisite for the development of wisdom. This self-knowledge also breeds greater resilience (Beardslee, 1989) leading to improved self-affect (Baumgardner, 1990). The development of coherent life narratives facilitates recovery and positive adaptation (Amir et al., 1998; Valent, 1999) through the integration of fragmented memories (Ehlers & Clark, 2000). The development of narrative in positive adaptation to trauma is the milestone that records the distance traveled since the event: simultaneously recording the trauma, but also accepting that life has moved on, is at the core of adaptation (cf., the sense of connected detachment). Repetition of the past (cf., reenactment of the trauma) cannot be avoided without its acknowledgement; neither can reparation be made in the absence of acceptance. The development of narrative facilitates both these processes through giving voice to that which was often nameless.

These processes are mediated by complex circuits of rumination (Calhoun & Tedeschi, 1998); appraisals and attributions (Joseph, Williams, & Yule, 1997); social supports (Joseph et al., 1997); and meaning-making (Janoff-Bulman & Frantz, 1997).

Rumination develops from being fairly automatic and uncontrolled in the early stages to a more deliberate and conscious process as adaptation advances (Calhoun & Tedeschi, 1998). Attributional search is triggered following the disconfirmation of expectancies (Wong & Weiner, 1981), and is focused on explanations of the locus and control dimensions of causality. Trauma survivors seek to define cause, and thereby ascribe blame, the appraisal and attribution of which in turn may precipitate shame, guilt, anger, or despair. These attributions can influence social support seeking behavior; trauma survivors blaming themselves for the event will likely feel guilty and so feel unable to seek out the support of family and friends, thereby reducing their resource networks (Joseph et al., 1997).

The role of meaning in adaptation to trauma is a critical factor in positive adaptation (cf. Frankl, 1984), for the allocation of meaning allows a state of comprehension to be returned in the place of existential chaos (Janoff-Bulman & Frantz, 1997). The role of emotion has been emphasized in the creation of personal meaning (Greenberg & Pascual-Leone, 1997), through the active, conscious determination which individuals make of their conduct, as opposed to being simply information-processing automatons. As emotion and cognition are integrated in the development of meaning following the trauma, so is wisdom able to develop (cf. dimension 2 of the wisdom theory, and Antonovsky's cognitive aspect of comprehensibility and affective [emotional] aspect of meaningfulness, both discussed above.

Limitations and Future Research Directions

In a field as diverse and profound as psychotraumatology, the pervasive limitation is that the vast extent of the field does not permit a detailed consideration of all the factors that interplay in trauma reactions. Any research must therefore accept the inherent risk that a crucial variable has been omitted from consideration. That is certainly the case here. The wisdom framework described above as a theoretical conceptualization for understanding the life-trauma dialectic is but a single factor in a vastly more complex web of interactions. However, it is hoped that

this complexity notwithstanding, the wisdom framework will provide a useful conceptual tool for advancing our knowledge of posttraumatic adaptation, especially positive adaptation towards the goal of human fulfilment.

It should also be noted that the wisdom framework is at this stage theoretical in its conception. Although it does enjoy the support of empirical studies from the diverse literatures of psychotraumatology, wisdom, and life span developmental psychology, direct empirical evidence is required for it to be adopted with confidence. Further exploration of the correspondences between posttraumatic growth, stress-related growth, transformational coping and wisdom would lead to the potential for the integration of the diverse research literatures discussed above. Theoretical work suggests that there may be some overlap between these constructs, but that they also contribute unique variance. Empirical work should be directed at the exploration of exactly what is shared and what is distinct across these constructs.

An important first step in testing the theory as a whole is the identification of existing measures, or the development of new measures, that assess the constructs contained within the wisdom theory. The work of Baltes and Staudinger (2000) employs a qualitative methodology for coding think-aloud protocols, whereas there is only one self-report questionnaire measure of wisdom (Self-Assessed Wisdom Scale; Webster, 2003), and this is yet to receive empirical scrutiny. There is a small literature that deals with the measurement of uncertainty (Buhr & Dugas, 2002; Greco & Roger, 2001), but there are no questionnaire measures that assess the integration of affect and cognition, or the recognition and acceptance of human limitation, at least as conceptualized within the wisdom theory. Indeed, it may be more appropriate that researchers employed the qualitative methodologies favored by Baltes and his group.

Research strategies to test the hypotheses generated by the wisdom theory centre on the investigation of the role of each aspect of wisdom in their associations with, and prediction of positive adaptation. The role of posttraumatic wisdom as an *outcome* of positive adaptation can be investigated with post hoc methodologies. The hypothesis would be that those persons who appeared to be high in posttraumatic wisdom would also report more posttraumatic growth, as well as higher levels of functioning in areas such as mental and physical health, global functioning, and psychological well-being.

The role of posttraumatic wisdom as a *process* in positive adaptation to trauma can only be reliably established through prospective longitudinal designs, where measures were compared from sampling both pre- and postevent. The wisdom theory generates the hypothesis that persons high in posttraumatic wisdom would adapt better to traumatic exposure than would persons low in posttraumatic wisdom. Having established an appropriate method of assessing posttraumatic wisdom, measures of adaptation may include instruments that assess mental and physical health, global functioning, and psychological well-being. If this hypothesis was supported, it leads to the further hypothesis that persons who developed posttraumatic wisdom following trauma would be better equipped to deal positively with subsequent traumas in their lives. However, the pragmatic constraints of conducting prospective longitudinal trauma research restrict the ease with which this hypothesis could be fully investigated. An analogous approach could be the investigation of these research questions in groups where traumatic exposure could be expected, for example, emergency service personnel, disaster response workers, and trauma therapists.

The SOC concept is also deserving of further empirical attention, as a possible analogue to the posttraumatic wisdom theory. Recent evidence suggests that lay trauma counselors with a high SOC reported less compassion fatigue and more compassion satisfaction than did counselors with a low SOC (Ortlepp & Friedman, 2002). Future empirical work should consider the associations between SOC and posttraumatic growth, since the role of SOC within the context of the wisdom theory generates the hypothesis that persons with a higher SOC would be more likely to report posttraumatic growth, and less likely to report negative changes following trauma.

Conclusions

European philosophy and literature provides a rich historical tradition within which the role of wisdom as both a process and an outcome of posttraumatic positive adaptation can be conceptualized. Hegel's dialectical method and the empirical research literature of the Berlin Aging Study (Baltes & Staudinger, 2000) provided a structure that informed the development of a three-dimensional view of wisdom and its role in positive adaptation to trauma. The three dimensions identified were the recognition and management of uncertainty; the integration of affect and cognition; and the recognition and acceptance of human limitation. Each dimension was shown to relate to the empirical trauma literature, and to provide a metaheuristic for a theoretical understanding of the processes and outcomes of posttraumatic positive adaptation. The ". . . struggle to transcend the effects of trauma is among the noblest aspects of human history" (McFarlane & van der Kolk, 1996, p. 574). Wisdom is not simply an outcome, but a facilitator of the positive resolution of this struggle.

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