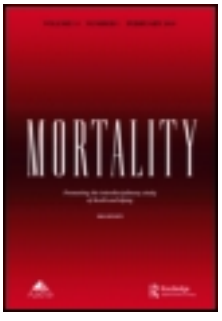

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Post-traumatic growth and bereavement

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Post-traumatic growth and bereavement

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ABSTRACT *There is no uniform response to death, and the range of initial responses may run from delighted, satisfied and relieved, through to distraught, depressed and traumatised. This variability in initial response means that the subsequent course of bereavement is likely to be equally varied – with final outcomes often dependent upon what has preceded them. Where some subset of final outcomes is of research interest, it is essential that the antecedents of, or preconditions for, the final outcome are of at least equal interest. This appears in some cases to have become less of a focus in the bereavement research on post-traumatic growth (PTG). Without at least attempting to distinguish normal mourning from depression, and traumatic from other pathological responses to bereavement, it is unlikely that PTG will be consistently associated with adjustment or distress. In this review, we outline some of the conceptual distinctions that may be important in increasing our understanding of responses to death and conclude that making such distinctions, where possible, can enhance our treatment approaches in terms of ensuring they are tailored to accommodate particular psychiatric syndrome(s) that can follow bereavement, but are also aimed at facilitating PTG in certain individuals.*

KEYWORDS: post-traumatic growth; major depressive disorder; post-traumatic stress disorder; prolonged grief disorder; grief

Introduction

In thinking about the consequences of exposure to trauma and adversity, what first comes to mind are the powerful negative affects experienced during the event itself (intense fear or horror), the pathological post-trauma syndromes that may subsequently develop (i.e., post-traumatic stress disorder or PTSD), and the secondary mood, substance use and other disorders that so frequently come to accompany these syndromes (American Psychiatric Association, 1994). If we think about positive outcomes subsequent to a traumatic or aversive event, it will typically be in the context of *recovery*, of returning to the psychological state that was enjoyed prior to the event. But the concept of post-traumatic growth (PTG) implies a positive outcome of another kind in which a person is, in some sense, left in a better psychological state as a result of struggling with the adversity

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(Calhoun & Tedeschi, 1998a; Christopher, 2004; Linley & Joseph, 2004; Tedeschi & Calhoun, 2004). The question is: how, and in whom, can trauma result in the enhancement of a person's psychological state?

In this article, we offer one approach that can be applied to the experience of major stressful life events to assist in determining how and in which individuals PTG will be most likely to occur, and when it does, what it might look like. We focus on PTG that is thought to follow bereavement to illustrate what conceptual distinctions may be important in increasing our understanding of this phenomenon. We chose the bereavement literature because the choice of this population by PTG researchers in some cases reflects what we see as a potential limitation to understanding PTG: paying less attention to which persons or groups of persons might satisfy the preconditions for experiencing PTG. Such discussion appears to be warranted given comprehensive models that account for the mediating and moderating variables involved in PTG continue to remain somewhat limited (Linley & Joseph, 2004).

Post-traumatic growth

There are many reports of individuals who have experienced 'growth' or positive change of some kind following trauma and/or bereavement (Braun & Berg, 1994; Calhoun & Tedeschi, 1998b; Frantz, Farrell, & Trolley, 2001; Rosenblatt, 2000; Swanson, Pearsall-Jones, & Hay, 2002). Positive change has been defined as personal transformation (Schneider, 1994), post-traumatic growth (Calhoun & Tedeschi, 2001), thriving (Massey, Cameron, Ouellette, & Fine, 1998), resilience (Nolen-Hoeksema & Larson, 1999), benefit-finding (Davis, Nolen-Hoeksema, & Larson, 1998), positive life change (Lehman, Wortman, Bluck, Mandel, & Ellard, 1993) stress-related growth (Armeli, Gunthert, & Cohen, 2001) and meaning reconstruction (Neimeyer, 2004). Persons who have experienced positive change may be more compassionate (Talbot, 1998–1999), live life more fully (Miles & Crandall, 1983), be wiser and more accepting of life's paradoxes (Calhoun & Tedeschi, 1998b), be more mature and have enhanced self-esteem (Schaefer & Moos, 2001), be more patient, tolerant, empathic and courageous (Affleck, Tennen, & Rowe, 1991), be more spiritual and religious (Edmonds & Hooker, 1992) and have heightened existential awareness (Yalom & Lieberman, 1991).

Many of these accounts of positive change in the wake of adversity are based on individuals subjective or 'perceived' accounts of positive change, and as such offer important and meaningful data. For example, research demonstrates that perceptions of having 'grown' following adversity having coping benefits, such as the alleviation of distress (Taylor, 1983). However, Park and Helgeson (2006) argue that if researchers want to understand actual, or what they term 'veridical growth', then what is required are conceptual models that seek to describe the processes and mechanisms that underlie such growth. Given the consistently variable relationship found between many positive change constructs and psychological adjustment (Linley & Joseph, 2004), attempting to describe such processes appears warranted, as 'with time one would expect actual growth

to have positive consequences for mental health' (Helgeson, Reynolds, & Tomich, 2006, p. 22).

We begin this analysis by asking: which people can be expected to experience PTG? From our perspective, there are two possible ways to begin resolving this issue. The first way, which is the focus of the next section, involves distinguishing sub-groups of bereaved persons on the basis of their different responses to another person's death. We need to consider what is the typical, or characteristic response, to death, what might be considered an atypical response to death, and whether such atypical responses could be considered maladaptive. Where a group's response is maladaptive and where it corresponds to, or overlaps substantially with, the characteristics of psychological disorder, then we might speculate that the psychological mechanisms thought to account for the disorder in non-bereaved persons may also be accounting for the maladaptive response in bereaved persons. The second way, which is the focus of a subsequent section, involves reviewing definitions of PTG in order to identify mechanisms or processes that articulate to the mechanisms/processes that are affected in bereaved persons who are responding maladaptively.

Normal and pathological responses to death

Grieving and major depressive disorder (MDD)

Normal grieving or mourning, in the sense of usual or typical grief, bears a close resemblance to many of the symptoms of MDD, as defined by DSM-IV. In line with this, research has consistently revealed a strong correlation between symptoms of MDD and symptoms of grief (Bonanno & Kaltman, 2001; Hogan, Worden, & Scmidt, 2003/2004). From Freud (1915) onwards, this similarity has prompted theorists to emphasise the importance of perceived losses in causing MDD (e.g., Arieti & Bemporad, 1980; Beck, 1967). Also beginning with Freud (1915, p. 244), the characteristic that was thought to distinguish normal from pathological grief was whether there was a 'disturbance of self-regard'; in normal grieving there is no 'lowering of the self-regarding feelings to a degree that finds utterance in self-reproaches and self-revilings, and culminates in a delusional expectation of punishment'. This distinction continues to be drawn by DSM-IV, which indicates that 'even if depressive symptoms are of sufficient duration and number to meet criteria for a Major Depressive Episode, they should be attributed to bereavement' unless other conditions are met (American Psychiatric Association, 1994, p. 326). These other conditions include marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms and psychomotor retardation.

Unless distress following the death of another person is itself defined as a pathological response, researchers interested in pathological responses to death need to *at least attempt* to distinguish responses that are abnormal from ones that are not. But in research concerning bereavement and PTG, some researchers have been less inclined to question whether a bereaved person has a negative view of

self, is psychotic, or is suicidal. Instead, research on the prevalence of MDD in bereaved persons has tended to focus on the proportion of bereaved persons who demonstrate *symptoms of depression.* For example, Bruce, Kim, Leaf, and Jacobs (1990, p. 609; see also Zisook & Shuchter, 1991) conducted a prospective study of depression during the first year of conjugal bereavement, but did not attend to specific diagnostic criteria for identifying depression in bereaved persons 'in order to assess the nature and extent of depression in the newly bereaved'. While both Swanson *et al.* (2002) and Moskowitz, Folkman, and Acree (2003) determined the severity of depression symptoms among their research participants, they did not consider whether the specific symptoms needed to diagnose MDD in bereaved persons (e.g., morbid preoccupation with worthlessness, suicidal ideation) were also present.

While making such decisions may be a necessity to accommodate certain research objectives, it is worthy to consider that when key symptoms like worthlessness and hopelessness are assessed in samples of bereaved persons they have been shown to be unrelated to other grief/depression symptoms (Prigerson *et al.*, 1995). In other words, this bereavement research indicates that the pattern of covariation among symptoms of MDD in bereaved persons may differ from that observed in persons with MDD (see Beck, Brown, Steer, Eidelson, & Riskind, 1987; Beck, Riskind, Brown, & Steer, 1988; Dobson & Shaw, 1986), and the difference is consistent with how the DSM-IV defines the difference between MDD and grief.

In our view, making the distinction between normal mourning and MDD is important if one is to attempt to distinguish *resolution of grief* from *recovery from depression.* This does not imply that both cannot occur concurrently, however, attempting to make distinctions where they exist can assist in understanding the outcomes that follow. For example, among bereaved persons who are suicidal and who revile themselves, can the otherwise normal symptoms of grief and mourning be expected to dissipate as a function of time as they would in non-depressed bereaved persons (Ringdal, Jordhoy, Ringdal, & Kaasa, 2001)? Or is it the case that because a person is self-reviling and suicidal, their other symptoms are more intense and more enduring than is typically the case (Horowitz *et al.*, 1993)? Unless a baseline of normal grief resolution is defined, it becomes difficult to identify 'pathological' deviations from the norm, or to identify the unusually positive changes of the kind that could be regarded as PTG following bereavement.

Death and PTSD

Death and trauma are explicitly linked in the DSM-IV definition of PTSD. The first requirement for diagnosing PTSD is that a 'person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others' (American Psychiatric Association, 1994, p. 427) or learns 'about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member

or close associate' (American Psychiatric Association, 1994, p. 424). Depending how the term *confronted* is understood, all people who experience bereavement have satisfied a precondition for diagnosing PTSD. If a person's response to the event(s) also involved 'intense fear, helplessness, or horror', then two of the main preconditions for diagnosing PTSD will have been met. Because the experience of helplessness in the face of death is to be expected (Rubinstein, 2004), a large proportion of bereaved persons experience the kind of event that is defined as a 'traumatic death'. What then needs to be assessed is whether these persons have the *re-experiencing*, *avoidance and numbing*, and *arousal* symptoms that characterise PTSD and whether/how such symptoms differ from those associated with normal grieving (Kaltman & Bonanno, 2003; Raphael & Martinek, 1997).

In some studies of bereavement, including those that have sought to assess responses to traumatic deaths, researchers have been less inclined to apply such comprehensive diagnostic procedures in order to attempt to identify participants who may have developed PTSD as a consequence of another person's death (Green, 2000). This is despite using highly diverse research samples that include different types of death (e.g., violent vs. non-violent) and different types of relationship loss (e.g., the death of a child vs. the death of an elderly grandparent); variables that are known to have differential impacts on bereavement outcomes, including PTSD (Matthews & Marwitt, 2003/2004; Silverman, Johnson, & Prigerson, 2001). While it is not the purpose of this article to argue that a diagnostic category such as PTSD provides the only basis for determining whether a bereavement is traumatic or not; in our view, to not *at least attempt* to comprehensively assess for the impact of these differences and to establish baselines accordingly may have the potential to undermine our understanding of the processes that mediate bereavement outcomes.

Death and prolonged grief disorder

While much of the research on pathological syndromes that can follow bereavement has focused on PTSD and Adjustment Disorder (Horowitz, 1999; Tedeschi & Calhoun, 1995; Thompson, Kaye, Tang, & Gallagher-Thompson, 2004), MDD (Zistook & Shuchter, 2001), and the panic and generalised anxiety disorders that can follow bereavement (Onrust & Cuijpers, 2006), recent empirical research has provided support for a new mental disorder specific to bereavement; termed prolonged grief disorder (Goldsmith, Morrison, Vanderwerker, & Prigerson, 2008). Previously known as complicated grief disorder (Prigerson & Maciejewski, 2005–2006) or traumatic grief (Jacobs, Mazure, & Prigerson, 2000), there remains ongoing debate about whether this syndrome should have its own diagnostic category in DSM-V (Stroebe & Schut, 2005–2006). However, evidence supporting its distinct aetiology, course, prognosis, and treatment requirements when compared to other psychiatric disorders (Lichtental, Cruess, & Prigerson, 2004; Simon *et al.*, 2007; Vanderwerker, Jacobs, Parkes, &

Prigerson, 2006), suggests that at minimum, PGD should be recognised as another type of pathological response to bereavement.

Assumptive worlds and pathological responses to bereavement

While there is no consensus on the specific mechanisms that cause MDD, PTSD or PGD, there is growing evidence that how an event impacts upon certain key beliefs about autonomy, competence, predictability, control, trust, safety and protection, has important implications for the development of such disorders (Ebert & Dyck, 2004; Joseph & Linley, 2005; Neimeyer, Prigerson, & Davies, 2002). Among the cognitive theorists, Parkes (1971, 1988) was one of the first to argue that individuals developed relatively enduring expectations or 'schemas' about themselves and the world that allowed them to act and respond with some degree of predictability to life experiences. Janoff-Bulman (1989, 1992) subsequently expanded this theory and described how these beliefs and expectations were reflected in the 'assumptive worlds' used by individuals to find meaning in their experiences. Three major categories of these assumptions include: the world as benevolent, the world as meaningful (understandable, therefore predictable and controllable) and the self as worthy (Brewin & Holmes, 2003; Schwartzberg & Janoff-Bulman, 1991).

Drawing on the work of various attachment, personality and object relations theorists (Bowlby, 1969; Erikson, 1950, Sullivan, 1940), Janoff-Bulman (1989) argues that many of these assumptions are first developed in early childhood through relationship experiences with primary attachment figures. While more detailed accounts of how certain attachment experiences relate to the development of particular relationship and personality styles can be found elsewhere (see Bowlby, 1973; Parkes, 2006), in broad terms, childhood experiences that included safe, secure, supportive and predictable interactions with caregivers and the environment resulted in the development of beliefs and assumptions about the self and world that were consistent with these experiences (e.g., the world is a good place, it is predictable and therefore controllable, and I am a decent person and so can avoid being harmed by it). In contrast, for those individuals who did not receive adequate protection, support, and care from primary attachment figures during childhood, they could be left thinking 'the world is a bad place where random [and] bad things happen and there is nothing I can do about it' (Joseph & Linley, 2005, p. 10). In the following section, we outline how deaths can directly impact upon these assumptive worlds of bereaved individuals.

Shattered assumptions and PTSD

Janoff-Bulman (1989) argued that perceiving the world to be benevolent and meaningful, and the self as worthy, was adaptive in the sense it facilitated healthy personality development throughout childhood. However, such beliefs could also contribute to the development of an 'illusion of invulnerability'; a sense that one was immune to any form of harm or adversity (Janoff-Bulman, 1989, p. 116). Described by Rando (2002) as the 'curse' of too good a childhood, these types of

assumptions typically remained untested and so unexamined over time. Should the death of a loved one present information that was radically inconsistent with these assumptions, then they were prone to shattering, with potentially devastating consequences. In such cases, if the bereaved individual was unable 'to alter the new information and assimilate it or to change [their] underlying assumptions to allow accommodation of the new information', then PTSD could be the result (Newman, 2002, p. 28).

Perhaps the clearest examples of how events can shatter fundamental assumptions resulting in a state of traumatisation come from the survivors of torture, whose experience demonstrates that the world is unjust, that other people are untrustworthy and cruel, that they are helpless in the face of their adversity and that they are objects of no worth (Ebert & Dyck, 2004). In contrast to this, in many bereavements the death is not experienced as traumatic in the sense that it does not shatter, or even challenge, the bereaved person's most basic and fundamental assumptions (Matthews & Marwitt, 2003/2004). For these bereaved individuals, the world remains benevolent and meaningful, and their sense of self-worth is not altered. The assimilation of the loss experience within their assumptive world may for some individuals ensure that they experience nothing further than a normal grieving process.

But this does not mean that bereavement cannot reach shattering proportions and in doing so, become traumatic. In general terms, the fact of death confirms that as individuals we are vulnerable, reminds us that our own death is inevitable and, unless we suicide, unpredictable and uncontrollable, and demonstrates that ours is a world of sorrow. More specifically, it has frequently been demonstrated that beliefs about the benevolence of the world or about its predictability and controllability can be shattered by unexpected deaths, especially if they are violent in nature, and by the suffering and death of children from any cause (Linley & Joseph, 2004; Matthews & Marwitt, 2003/2004; Middleton, Raphael, Burnett, & Martinek, 1997).

In summary, certain deaths can *directly shatter* illusionary-based assumptions held by an individual about themselves and their world, leaving them at risk of developing PTSD. However, such findings do not explain how another individual, one who experiences an equally horrific event, is not traumatised by it (Basoglu *et al.*, 1997, Nice, Garland, Hilton, Baggett, & Mitchell, 1996). Or, why another person who experiences a less horrific event that does not meet DSM-IV criteria for a traumatic event, does develop symptoms of PTSD (and/or symptoms of another pathological syndrome). In combination, what these findings suggest is that other mechanisms and processes may be underlying the responses of individuals to stressful life events. In particular, a disorder(s) may already be present before the death, which is then *activated* by the death. For these individuals, traumatic and other pathological reactions and associated disorders can develop as a consequence of the 'interplay between a specific external event [i.e., loss] and a specific vulnerability of the individual' (Bemporad, 1999, p. 605). The possible mechanisms via which these pre-bereavement histories can contribute to the development of pathological post-bereavement syndromes, including PTSD, MDD and PGD, are now addressed.

Pre-bereavement disorder(s) and pathological responses to death

Among persons who experience bereavement, some will meet the diagnostic criteria for MDD, some for PTSD, and some for the proposed diagnostic criteria of PGD, although when disorder does follow bereavement, concurrent diagnoses may be more likely (Stroebe & Schut, 2005–2006). Of those bereaved individuals who meet the diagnostic criteria for MDD, almost 40% will have had a prior history of MDD (Zisook & Shuchter, 1991). Of those who meet the diagnostic criteria for PTSD, it is likely that they have previously experienced other traumatic events, and there is about a 50% chance in the case of women and a 75% chance in the case of men that their PTSD developed as a function of one or more other traumatic events (Norris *et al.*, 2003). For example, in one particular study, Norris and colleagues observed that among persons who experience 'traumatic bereavement' (death due to homicide, suicide or accident), the percentage of persons who had PTSD related to the death ranged from 2.7% of men to 10.5% of women. They also observed that, due to the likelihood of being exposed to more than one traumatic event over one's lifetime, the proportion of persons who experienced traumatic bereavement who had PTSD related *either* to traumatic bereavement *or* to some other traumatic event (e.g., sexual assault, non-sexual violence) ranged from 10.1% among men to 21.4% among women.

Of those bereaved individuals who meet the proposed diagnostic criteria for PGD, it is likely that many will have experienced major disturbances in primary attachment relationships with significant caregivers during their childhood years, with such experiences leaving them vulnerable to separation and traumatic distress reactions should a loved one die (Bowlby, 1973; Neimeyer *et al.*, 2002; Neimeyer, Baldwin, & Gillies, 2006; Field, 2006). Some researchers have suggested such disturbances in attachment relationships might be captured in DSM-IV Axis II Personality Disorder diagnoses (Jacobs *et al.* 2000).

In sum, what these results confirm is while post-bereavement syndromes can develop as a result of bereavement, the simple presence of a post-bereavement syndrome, or one or more symptoms of such a syndrome, does not necessarily indicate that the symptom/syndrome is functionally related to the bereavement. What these pre-bereavement histories indicate is that in many cases the mechanisms responsible for pathological reactions and syndromes that develop during bereavement may already be present before the death, and are activated by the death. In seeking to develop a more comprehensive understanding of pathological and more favourable responses to death such as PTG, it is necessary to seek to discriminate these earlier activated mechanisms (which may or may not interact with mechanisms activated by loss) from those activated by the loss itself.

Psychological mechanisms underlying MDD

There is increasing convergence across major psychological theories of MDD that certain beliefs about the conditions of self-worth predispose a person to become depressed when certain events occur (Frewen & Dozois, 2006). For example,

Arieti and Bemporad (1980) suggest that in some individuals, belief systems that operate to maintain self-esteem, life meaning, personal gratification and optimal functioning are almost entirely derived from maintaining an ongoing relationship with a dominant and esteemed other, or through pursuit of a dominant (grandiose) goal, or through rigid compliance with strict moral and/or cultural standards.

The death of an 'esteemed other' has the potential to shatter and invalidate the value of these individuals' self-worth, leaving them to suffer not only the normal grief associated with the loss of a significant other, 'but the sole means of feeling worthwhile or fulfilled'(Bemporad, 1999, p. 606). In the absence of a capacity to generate an alternative ideology to regain esteem, helplessness, hopelessness and MDD can ensue (Arieti & Bemporad, 1980). In such cases, normal grieving can be complicated by MDD because the death impinges on a specific vulnerability of the individual – dependence on the deceased for self-esteem. In such cases, the major depressive episode is *occasioned* by the loss, but is functionally related to the bereaved person's vulnerability, which entails that the death causes a loss of personal meaning and value additional to the loss of the person/relationship *per se* (Bemporad, 1999). For individuals who derive self-worth from pursuing a dominant life goal or by complying with a moral code, self-worth may be less likely to be threatened by the death of a significant other, with the death of a significant other expected to occasion typical sadness and grief, but not depression.

This pattern suggests that bereavement is not only an event that interacts with specific vulnerabilities to occasion depression, but one which *reactivates* a broader range of depressogenic mechanisms in people whose vulnerabilities have interacted with earlier and different kinds of events to cause depression. For people whose self-worth has been brought into doubt by previous experience, the magnitude of the loss entailed by bereavement may be great enough to prompt them again to doubt their worth.

Psychological mechanisms underlying PTSD

Similar lines of argument apply to the development of PTSD in some bereaved individuals. For these individuals, a maladaptive system of beliefs may already be in place as a consequence of a trauma experienced earlier in life, and it is this system of beliefs which is re-activated by the death (Sewell, 1996). Typically, these re-activated schemata are ones in which the world is viewed as unsafe, hostile and threatening, and so the person re-experiences similar distressing reactions associated with that schematic memory, and may subsequently develop PTSD. The argument is that this can occur when previous traumatic experiences were not followed by successful processing and integration of the new information into revised assumptions and hence the re-establishment of a stable and secure inner assumptive world failed to occur. In such cases, the person re-experiences trauma-related cognitions and emotions that are triggered by the loss, but in fact pre-existed the loss, and hence, the death itself is not the cause of the symptoms of PTSD. Should this person then develop PTSD, this would be consistent with

research suggesting that the experience of previous trauma is a major risk factor for developing PTSD.

In contrast, in another individual, despite previous experiences of horrific trauma, the death of a loved one does not result in PTSD (McNally, 2003). This is assumed to be because in response to an earlier traumatic event(s), the person was able to alter and/or widen their cognitive system and integrate the new information into stable and integrated higher order schemata, and so is less prone to developing PTSD. Consistent with this argument is the idea that trauma does not have to shatter assumptions when they have been shattered already (Brewin & Holmes, 2003). In such cases, there is 'psychological preparedness' for the death experience – possibly a pre-existing realisation that 'this could always happen again to me one day' (McNally, 2003, p. 4), or an acceptance that 'there is nothing one can do or be that will serve to protect an individual from negative outcomes' (Janoff-Bulman, 1989, p. 119). While the death may provoke painful emotional states, a normal process of mourning and recovery would be expected.

Psychological mechanisms underlying prolonged grief disorder

Neria & Litz (2003) state: 'in the bereavement field, the nature and quality of the attachment relationship is one of the most important determinants of the psychological impact of any type of loss' (p. 83). The significance of early attachment relationships in contributing to the development of pathological responses to death has been extensively researched by Holly Prigerson and her associates, and others (see Parkes, 2006). In a recent study by Vanderwerker *et al.* (2006), childhood attachment disturbances were found to be significantly associated with PGD, but were not significantly associated with MDD, PTSD or generalised anxiety disorder. However, while this and other studies (Goldsmith *et al.*, 2008; Prigerson & Maciejewski, 2005–2006; Silverman *et al.*, 2001) support a distinct relationship between childhood attachment disturbances (e.g., separation anxiety) and PGD, it remains unclear as to the specific processes behind these associations.

In support of how Janoff-Bulman's theory of assumptive worlds might account for these processes, Parkes (2006) states that 'different patterns of attachment give rise to different basic assumptions about the world' (p. 145), which in turn have implications for responses to loss. However, empirical research specifically examining associations between core beliefs and assumptions, attachment styles and psychopathology, is currently limited (Wearden, Peters, Berry, Barrowclough, & Liversidge, 2008). Some of the specific types of assumptions affected by attachment disturbances might be drawn from the documented risk factors for PGD, including defensive separation anxiety, compulsive caregiving, excessive dependence and disorganised attachment styles (Neimeyer *et al.*, 2002). Examples of assumptions relating to each of these risk factors respectively, might include: 'The world is safe only if I am near you', 'When I look after you I am worthy', 'Without you in the world I cannot function', and 'I need you, but will you help me or harm me'? Based on the preceding discussions of this article, it seems likely that many of the

assumptions that might arise out of negative childhood attachment experiences would also be associated with the development of PTSD and MDD. For example, Parkes (2006) suggests that individuals who experienced disorganised attachments in childhood would be likely to possess negative assumptions about safety, trust and self-regard. In addition, with reference to the work of Seligman (1975) and Beck (1967), Parkes (2006) suggests that the 'the assumption of helplessness' (p. 107) may lie at the root of disorganised attachment patterns, providing a possible link to a range of post-bereavement disorders, including depression. Indeed, such similarities would support the documented overlap that does occur between PGD, PTSD and PGD (Silverman *et al.*, 2001). However, regardless of the need for further research aimed at exploring pathways between particular attachment-related core beliefs and assumptions and PGD, it remains the case that the death of a significant other can activate vulnerabilities rooted in early childhood that predispose a bereaved person to developing PGD.

In sum, the overall argument we have presented above is that individuals who hold certain unexamined and often illusionary beliefs that the world is benevolent, meaningful and that they can 'escape harm' by being good, moral, decent and well-meaning individuals, are most at risk of experiencing traumatic reactions and PTSD as a *direct result* of certain deaths. But in many cases, a death becomes traumatic because it activates pre-existing traumatic beliefs and assumptions that were already present prior to the death. In other cases, the death activates pre-existing beliefs and assumptions of a different type; those that predispose the bereaved individual to MDD and/or PGD. In the following section, we argue that there is something about the cognitive processes and mechanisms that underlie these responses to death, whether brought about by an event itself and/or because of the shattering and/or activation of pre-existing maladaptive systems of beliefs, that while causing and/or maintaining psychological disorder in the past and/or present, also has the potential to precipitate enhanced development in the future. An analogy is a landscape scarred by fire where, despite the destruction caused by the fire, conditions that facilitate rapid re-growth – including nutrient-rich soil and increased exposure to direct sunlight – have also been created.

Theories of post-traumatic growth

The processes that have been proposed to account for PTG are many and varied. In the simplest accounts, bereaved persons' increased awareness of the preciousness and fragility of life leads them to live life to the full (Miles & Crandall, 1983), to be more compassionate vis-à-vis the suffering of others (Talbot, 1998–1999) or to more fully embrace religious and spiritual values (Edmonds & Hooker, 1992). In other accounts, post-bereavement enhancements are accounted for by the mediating and moderating effects of personality (Hoorens, 1996), including dispositional hope and optimism, extraversion and an open and complex cognitive style (Tennen & Affleck, 1998). In still other accounts, PTG reflects the use of self-enhancing appraisals to cope with trauma (Taylor, 1983). Positive coping strategies might involve comparisons with less

fortunate others in order to find something positive in their own experience (Nolen-Hoeksema & Larson, 1999). Whatever is identified as a positive may well be illusory (Calhoun & Tedeschi, 1998b), but the identification of a benefit is thought to facilitate subsequent effective coping (Affleck *et al.*, 1991). In our view, explanations of these kinds while offering important and meaningful data are not always sufficient to account for the PTG that we are attempting to define, given they do not articulate closely to the mechanisms associated with changes in assumptive worlds.

In the case of PTSD, if traumatisation equates to the shattering of assumptions, then recovery will entail some process in which a new assumptive world is constructed (Janoff-Bulman & Mcpherson Frantz, 1997). This is also how some models of PTG define PTG, namely, as a process of revision and reconstruction of shattered beliefs that results in the development of new beliefs and assumptions that can accommodate the traumatic experience. These adaptive assumptions take the form of changed schemas: 'growth *is* change in schemas' (Tedeschi & Calhoun, 1995, p. 81). Models of PTG that emphasise the development of new assumptive worlds clearly articulate to a mechanism that is thought to underlie the aetiology of PTSD (Joseph & Linley, 2005). However, the development of a more adaptive assumptive world is not something that is specific to people who have been traumatised and/or developed PTSD.

For people who were vulnerable to MDD following the death of a person because their self-worth depended on the deceased, the process of recovering from MDD will overlap with the process of recovering from PTSD. As part of the recovery, the depressed bereaved person will adopt a new perspective on the conditions of their worth—hopefully, a perspective which accepts their unconditional worth—which will leave them in a better psychological state than they were prior to their loss. This process would constitute a form of 'growth' that resembles PTG, but differs from it insofar as the depressed person's assumptions have not themselves been shattered by the death and so do not have to be reconstructed.

In the case of PGD, adaptive changes of the kind that would constitute a form of PTG would involve a person revising their mental schema of attachment in ways that facilitated a new and more adaptive perspective on their relationship to the deceased – hopefully one that would then transfer to their subsequent relationships with others (Horowitz, 1990, 1991). Klass, Silverman, and Nickman (1996; see also Klass, 1999, 2001) have written extensively about the importance of an ongoing psychological (rather than physical) relationship to the deceased in facilitating adaptive adjustment to loss. Whether this continuing attachment to the deceased is adaptive or not has been found to be dependent 'on the form that it takes' (Field, Nichols, Holen, & Horowitz, 1999, p. 212). Perhaps most importantly, an adaptive ongoing relationship to the deceased must involve a recognition and acceptance that the loved one is truly dead (Field, 2006). For the bereaved individual suffering from PGD, this strikes at the very core of their assumptive world – namely, their belief that they are only safe and secure if they are in the physical proximity of their loved one (Bowlby, 1980). In such cases, adaptive revision of their beliefs and assumptions might include developing new

beliefs about being safe and secure, even when they are alone. For these individuals, making such adaptive changes to their assumptive worlds might begin with relearning their attachment relationship to the deceased (Attig, 1996). That is, the individual's task is to develop a new and internal representation of the deceased in which they still provide a 'secure base' (e.g., imagining their viewpoint when making important decisions) – but one in which their entire sense of safety and security is no longer (as it cannot be) derived from the deceased's physical presence (Field, Gao, & Paderna, 2005).

In terms of other possible adaptive revision of assumptions, the person with PGD might make changes to their beliefs across other domains known to characterise the attachment styles of individuals prone to PGD – excessive dependence, compulsive care-giving and unstable attachment patterns that oscillate between approach and avoidance (Neimeyer *et al.*, 2002). For example, new perspectives might include the belief that one is capable of being independent and self-reliant, that caring for oneself is as important as caring for others and that one can be intimate with someone else and at the same time, not lose their sense of identity.

Conclusions and clinical implications

It has increasingly been established that while the objective circumstances of a loss must be considered, the bereaved individuals' subjective interpretation of the loss is more influential in determining the response(s) that follow (Currier, Holland, & Neimeyer, 2006). One prominent approach to understanding the subjective response of an individual is examining how the death has impacted upon their assumptive world. Trauma and bereavement researchers interested in the area of assumptive world changes in the aftermath of crisis, have demonstrated that deaths that impact upon higher order assumptions (e.g., trust, self-worth) are most likely to result in PTG and/or pathological post-bereavement outcomes (Tedeschi & Calhoun, 1995), that the greater the incongruence between prior assumptions and the event-related information, the greater the potential for PTG and/or pathological outcomes, that certain types of deaths shatter specific assumptions (Matthews & Marwitt, 2003/2004), that what assumptions are affected by a death will influence what form PTG and/or pathological syndromes might take (Tedeschi & Calhoun, 1995), that the timing of when these assumptions are affected (e.g., childhood vs. adulthood) has implications for the types of post-bereavement disorders that can develop (Silverman *et al.*, 2001) and that the shattering of multiple and different types of assumptions (e.g., in cases of torture) can lead to the greatest levels of PTG and/or psychopathology (Irish *et al.*, 2008).

In drawing on these empirical findings and also the conceptual ideas presented in this discussion, it is hoped that clinicians will be able to gain a better understanding of the distinctions that can be made between PTSD, MDD and the proposed criteria for PGD, and how the mechanisms and processes that underlie the development of these disorders can articulate to the mechanisms and processes that underlie adaptive responses to bereavement. In terms of further clinical applications, it is hoped clinicians are better positioned to recognise when

PTG is unlikely to occur – as is often the case when a normal process of grieving is unfolding with an expected return to baseline levels of functioning (Calhoun & Tedeschi, 2001). Second, when the conditions of a loss are such that PTG is likely to occur, that they are better equipped to sensitively facilitate PTG using specific clinical recommendations such as those outlined by Calhoun & Tedeschi (1999). We say sensitively, because as Calhoun and Tedeschi (2001) state: 'the very idea that anything that was in any way positive could have emerged from the loss may be repellent to some people' (p. 167). Third, we hope that clinicians are better able to identify situations where beliefs have been significantly affected by a loss, and where, in an attempt to reduce distress quickly by maintaining their pre-bereavement assumptions, a client may seek to end therapy prematurely. In such cases, a client might be encouraged to stay in treatment longer, given retaining such assumptions can leave them more vulnerable to the effects of subsequent adverse events (Joseph & Linley, 2005; Payne, Joseph, & Tudway, 2007).

Future research

In terms of future research, further empirical studies are required that seek to assess how an individual's assumptions are affected directly by a death, how they are *uniquely affected* by other past major life event(s) (Rando, 2002), how they are affected by childhood attachment experiences and how this relates to PTG. Towards this aim, changes in assumptions might be assessed using the World Assumptions Scale (Janoff-Bulman, 1989) or the Brief Core Schema Scales (Fowler *et al.*, 2006). Trauma histories can be comprehensively assessed using existing diagnostic categories (e.g., DSM-IV-based assessment of PTSD) and other measures, such as the Traumatic Stress Schedule (Norris, 1990). Building on the work of Vanderwerker *et al.* (2006) and their objective assessment of separation anxiety using certain items from the Panic Agoraphobia Spectrum Questionnaire (Shear *et al.*, 2002), semi-structured interview formats such as the Adult Attachment Interview (Main, Goldwyn, & Hesse, 2002) might also be used to assess in detail the attachment histories of bereaved individuals. PTG is now widely assessed using measures such as the Post-Traumatic Growth Inventory (Tedeschi & Calhoun, 1996). Such research will hopefully assist in making constructs such as PTG more understandable.

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