British Journal of Health Psychology (2009), 14, 343–378
© 2009 The British Psychological Society

The British Psychological Society

www.bpsjournals.co.uk

Post-traumatic growth and life threatening physical illness: A systematic review of the qualitative literature

Kate Hefferon[1]*, Madeleine Grealy[1] and Nanette Mutrie[2]

[1]Department of Psychology, University of Strathclyde, Scotland, UK
[2]Department of Sport, Culture and Arts, University of Strathclyde, Scotland, UK

Post-traumatic growth (PTG) is the phenomenon of positive change through the experience of trauma and adversity (O'Leary & Ickovics, 1995). Research suggests that the type of trauma sustained could have differing processes and outcomes from each other (Demark-wahnefried *et al.*, 2000; Sabiston, McDonough, and Crocker, 2007). The aim of this study was to synthesize qualitative data on PTG and illness related trauma. Fifty-seven published journal articles dating from before November 1st, 2007 in PsychINFO, MEDLINE, EMBASE, Web of Knowledge and from the authors own knowledge of the area were reviewed. Key words included PTG; benefit finding; thriving and positive changes. Key themes included: 'reappraisal of life and priorities'; 'trauma equals development of self'; 'existential re-evaluation'; and 'a new awareness of the body'. Findings suggest that there are unique elements to illness related PTG and a need for additional research into the processes and outcomes of physical illness related trauma.

Traumatic events such as wars, accidents, terrorism, and bereavement can create an anxiety-inducing environment in which people are faced with stressors that are outside of their own control. For some, this anxiety can produce long lasting psychological disorders and inhibit the return of normal functioning: the term posttraumatic stress has often been used to describe this phenomenon (Rothschild, 2000). However, numerous positive psychologists and philosophers have proposed that some people who undergo significant trauma and suffering cannot only recover from their episode but surpass the level of functioning they had before the traumatic event occurred, 'It is through this process of struggling with adversity that changes may arise that propel the individual to a higher level of functioning than which existed prior to the event' (Carver, 1998; Frankl, 1984; Linley & Joseph, 2004, p. 11; Nolen-Hoeksema & Davis, 2004; Widows, Jacobsen, Booth-Jones, & Fields, 2005).

*Correspondence should be addressed to Kate Hefferon, Department of Psychology, University of Strathclyde, Glasgow G11QE, Scotland, UK (e-mail: kate.hefferon@strath.ac.uk).

DOI:10.1348/135910708X332936

Previous quantitative and qualitative research in PTG following multiple traumatic situations (e.g. natural disaster, bereavement, war, etc.) have recorded only five main areas of growth: 'perceived changes in self; closer family relationships; changed philosophy in life; a better perspective on life; and a strengthened belief system' (Tedeschi & Calhoun, 1995, pp. 456–457, 2006). However, the unique positive benefits reported from survivors of physical life threatening illnesses have been neglected among post-traumatic growth (PTG) researchers and are absent from the current quantitative measurement tools (Park & Lechner, 2006). In theory, the process of growth resulting from the trauma of a natural disaster would not necessarily mimic the same process of growth as a cancer survivor due to the corporeal nature of the illness related trauma and the process of physical reconnection with the body.

Qualitative research is beneficial for exploring under developed areas of research due to the fact that its 'less structured research methods are better suited to eliciting patients detailed understandings and their perceptions of illness than quantitative studies' (Emslie, 2005, p. 384). However, no qualitative reviews of the PTG process arising from physical or life threatening illness could be found in the literature. Thus, the aim of this study was to synthesize qualitative data on PTG and life threatening illness related trauma. The paper assesses the current PTG research on physical related growth outcomes/processes of trauma and describes the key themes reported in the literature.

Methods

Inclusion criteria

Due to the ongoing debate of 'what constitutes qualitative research' it was decided that during the searching process all papers that were qualitative in nature were to be included but then reassessed at the appraisal stage of the review, a technique followed by other qualitative researchers (Dixon-Woods, Booth & Sutton, 2007; Emslie & Hunt, in press). The following specific inclusion criteria were then applied: journal articles reporting primary research in English before November 1st, 2007 (excluding theses, reviews, commentaries, books, and book chapters), studies which focused on PTG (benefit finding, positive changes, thriving) following the diagnosis of a life threatening illness (excluding studies which sampled respondents with PTG from a variety of other traumas[1] and second hand growth); unstructured or semi-structured interviews (excluding structured interviews); studies with men or women; any age.

Search strategy

To ensure that as many papers as possible were included search terms were widened to include specific words, a method which other researchers found to be necessary for certain databases (Dixon-Woods *et al.*, 2007; Emslie, 2005). Thus, the literature search strategy included the following: keywords related to PTG (benefit finding, thriving, positive changes); keywords related to qualitative methods (content analysis or discourse* or ethnography or grounded theory or narrative* or phenomenology* or qualitative* or interview*) and (depth* or open-ended* or semi-structured* or unstructured*) or focus group.

[1] *We argue that the nature of growth following physical illness (internal trauma) will be different to the process of growth following a trauma that is caused by an external force (e.g. road traffic accident).*

In addition to the search strategies mentioned above, Bates' (1989) strategy of 'berry picking' (as cited in Barroso *et al.*, 2003) was also employed and this involved citation searches, area scanning (electronically), author searching and abstracting, and indexing services. Eleven additional papers were added to the search from the researchers own knowledge of the area and discussion of the topic with a group of experts who meet regularly to discuss qualitative research.

Screening[2]

Searches in PsychINFO, MEDLINE, EMBASE, and WOK using keywords relate to PTG and the relevant research methods yielded 83 references. Following the screening of titles and reading electronic abstracts, papers were retrieved and reassessed in-depth to determine whether or not they fit the inclusion criteria. Those that did not fit were excluded. This has been commonly cited as a difficult component to the qualitative search strategies (Barosso, 2003; Emslie, 2005) due to the fact that many of the originally chosen papers had misleading abstracts and titles. Specifically, upon closer review it was found that eleven papers were actually quantitative in nature;[(1–11)] seven focused on the evaluation of interventions or techniques on PTG;[(12–18)] seven were reviews/editorials and abstracts;[(19–25)] five were focused on vicarious PTG;[(26–30)] five were structured interviews following questionnaires;[(31–35)] and two focused on different types of trauma (road traffic accidents and Lazarus syndrome).[(36,37)] In total, 37 were removed from the study at this stage leaving 57 papers which form the basis of this review.

Literature reviewing process

Stemming from the qualitative nature of these studies, the analysis follows Noblit and Hare's (1988) interpretive, seven step process of a meta-ethnography. Once the relevant papers were identified, the original authors, aims, data collection/analysis, and sample/inclusion criteria were extracted and placed into Table 2 for 'clarity upon analysis' as suggested by Britten *et al.* (2002).

The next component of the analysis was to determine how the studies were related (Britten *et al.*, 2002). This entailed the literal identification of key concepts or 'first order constructs' from the original text, followed by a more interpretive 'second order interpretation' (Britten *et al.*, 2002). An example of the process is outlined in Table 3, taken from an extract in Parry and Chesler (2005). The original theme was *psychological maturity*, which was literally identified as first order theme *cancer creates maturity.* From this, the author created an interpretive continuation (second order) grounded in the original data.

This process was completed for each study and then recorded in a chart/map to follow key concepts across the papers. Reciprocal translational analysis (RTA), which has been likened to content analysis (Dixon-Woods, Argarwal, Jones, Young, & Sutton, 2005) was then undertaken. This involves a thorough review and identification of the primary researchers' results and interpretations of each study and 'translating' the studies into one another (Britten *et al.*, 2002). The concepts were systematically compared across the group of studies to highlight relatedness, recurring themes, and also novel themes.

---

[2] *Omitted papers can be found in Table 1 (Appendix 1)*

The next stage of analysis was 'synthesizing translations' which enabled the researcher to identify key relationships or 'third order interpretations' (from second order interpretations) which then became 'key themes'. Table 4 (Appendix 3) demonstrates the entire synthesizing of translations for this study. For further detail on the process of synthesizing qualitative research please see Britten *et al.* (2002).

Once this process was completed for each individual paper, a line of argument (LOA) was created from both the original concepts of the original papers and the second order interpretations as well as in comparison to the existing PTG literature, (Britten *et al.*, 2002). Thus the LOA for this synthesis is that there is a unique PTG process within life threatening physical illness related trauma.

Validity/reliability

Though the systematic review attempts to follow the same rigorous structure as the traditional quantitative analysis, the difficulty in doing so arises from the near impossibility in replication of the search process and synthesizing (Dixon-Woods *et al.*, 2006). Therefore, reliability is not entirely applicable to the qualitative synthesis as it employs a more 'organic, creative and interpretive approach to conducting reviews of complex literature' (p. 39).

Although the majority of the analysis was completed by the primary author, attempts to be transparent and critical were achieved by presenting Tables 1–4 as well as employing triangulation methods in order to legitimize the results (Dixon-Woods *et al.*, 2006). The secondary author reviewed the proposed included (Table 2) and excluded (Table 1) papers according to the inclusion/exclusion criteria and concurred with the primary researcher's inventory. In addition, the secondary author reviewed the first and second order interpretations in order to confirm that the themes were grounded in the original data.

Results[3]

Fifty-seven studies used qualitative methods to elicit findings on PTG in illness. Table 2 includes the main aim of the studies and whether it was focused on the area of PTG, the format of data collection and analysis (when mentioned), the type of illness and their sampling criteria.

Twenty-seven rendered their data collection as purely 'semi-structured interviews' [(1–6,8–11,13–16,19,25,28,37,39,47,48,49,51–55,57)] with no other type of methodology with the remaining 25 using semi-structured and mixed methods for data collection[(17–23,26,29,31–36,40–46,50,56)]. Others fell into unstructured[(7,30)], conversational[(12)], open-ended question/written response[(18,27,38)], and unclear[(24)]. Only 17 of the 57 studies were specifically designed to understand the experience of PTG, benefit finding, and thriving[(2,7,11,17,18,23,27,29,31–33,41–43,45,49,50)] and of these 17, only four papers used purely qualitative methodologies[(2,7,11,49)]. The remaining 40 studies reported the phenomenon as a serendipitous result. This highlights the difficulties in searching for PTG, benefit finding, and thriving within the literature due to the fact that more than two-thirds of these researchers did not set out to study this phenomenon, therefore, their review of PTG might not have reported in the abstract or title and thus overlooked.

---

[3] *Due to the large volume of references, the numbers in brackets will indicate the corresponding references which can be found in Tables 2 and 4.*

Table 1. Omitted papers

#	Author, year, and country	Reason for omission
1	Low *et al.* (2006)	Quantitative focus
2	Klaur and Fillip (1997)	Quantitative focus
3	Courtens *et al.* (1996)	Quantitative focus
4	Cheng *et al.* (2006)	Quantitative focus
5	Laerum *et al.* (1991)	Quantitative focus
6	Greenwald and McCorkle (2007)	Quantitative focus
7	Pinquart *et al.* (2007)	Quantitative focus
8	Schwarzer *et al.* (2006)	Quantitative focus
9	Thornton and Perez (2006)	Quantitative focus
10	Chan *et al.* (2006)	Quantitative focus
11	Creswell *et al.* (2007)	Quantitative focus
12	Dannoff-burg *et al.* (2006)	Assessing intervention
13	Rivkin *et al.* (2006)	Assessing intervention
14	Hartke *et al.* (2007)	Assessing intervention
15	Reynolds and Lim (2007)	Assessing intervention
16	Wheelock (1998)	Practical benefits of surgery
17	Mohr *et al.* (1999)	Assessing instruments – quantitative focus
18	Zebrack *et al.* (2006)	Assessing instruments – quantitative focus
19	Affleck and Tennen (1996)	Review
20	Arman and Rehnsfeldt (2002)	Review
21	Massey *et al.* (1998)	Review
22	Bloom (2002)	Editorial
23	Jonas-Simpson (2005)	Review
24	Taylor (1983)	Review
25	Mols *et al.* (2007)	Poster presentation abstract
26	Bower *et al.* (2003)	2nd hand
27	Helgeson *et al.* (2004)	Quantitative focus and 2nd hand
28	Cadell and Sullivan (2006)	2nd hand
29	Cadell (2007)	2nd hand
30	Knafl *et al.* (1996)	Mixed data (2nd hand)
31	Tallman *et al.* (2007)	Quantitative interview
32	Sears *et al.* (2003)	Structured interview and quantitative focus
33	Brar *et al.* (2005)	Questionnaire interview
34	Cheng *et al.* (2006)	Structured and 2nd hand included
35	Updegraff *et al.* (2002)	Structured and quantitative focus
36	Turner and Cox (2004)	Motor accidents
37	Brashers *et al.* (1999)	Lazarus syndrome

Cancer was the leading illness studied (35 studies), specifically breast cancer (16), adolescent/childhood cancer (3), bone marrow (2), Hodgkin's disease (2), prostate (1) multiple myeloma (1), low grade glioma (1), colorectal (1), and mixed cancer populations (8). Other illnesses included HIV (8), myocardial infarction (MI) (4), rheumatoid arthritis (3), multiple sclerosis (MS) (3), stroke (1), kidney dialysis (1) diabetes (1), and arm lymphoedema (1). There was a large discrepancy between sample sizes, ranging from 1 case study[7] to 529[20] participants. The remainder included $N = 2$–10[11,15,39,49,55,57]; 11–19[1,5,6,9,16,24,25,28,30,37,43,48,51,54,56]; 20–30[1,3,4,8,12,26,34,46,47,53]; 31–40[42]; 41–50[2]; 51–60[10,13,19,27,35,40,45,52]; 71–80[14,44]; 80–100[29,33,38,41]; 101–150[17,18,22,23,31,32]; 151–200[36,50]; 201–300[21]. The majority

Table 2. Summary of qualitative synthesis papers on PTG and illness

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
1	Lam and Fielding (2003), (China)	Understand illness experience and meaning making in Chinese women	No	One semi-structured interview Phenomenology	Breast cancer	$N = 17$; Female >21
2	Parry and Chesler (2005), (USA)	Examine childhood cancer: Spiritual change and meaning making and provide explanation for thriving	Yes	One open-ended, semi-structured interview using questions derived from old studies and QOL-C instrument.	Childhood cancer	$N = 50$; >3 years post diagnosis; <18 years at time of diagnosis; 17–29 years
3	Parry (2003), (USA)	Examine uncertainty in the lives of childhood cancer survivors	No	One semi-structured interview focused on four domains	Childhood cancer	$N = 23$; >3 years post diagnosis; <18 years at time of diagnosis; 17–29 years
4	Luoma and Hakamies-Blomqvist (2004), (Finland)	Examine the meaning of advanced breast cancer on QOL	No	One semi-structured interview-based on QOL questionnaire Phenomenology	Breast cancer	$N = 25$; >18; <70
5	Winterling, Wasteson, Glimelius, Sjoden, and Nordin (2004), (Sweden)	Examine perceptions of newly diagnosed advanced cancer patients situations after diagnosis (and their spouses)	No	One semi-structured interview with a broad guideline Phenomenology	Advanced cancer	$N = 14$; Advanced cancer diagnosis; diagnosis of cancer; >1; <4 months
6	Fredette (1995), (USA)	Examine cancer surviving and coping concerns	No	One interview and follow-up phone call 1 week later 1st question was open-ended and then followed questionnaire (14 open-ended questions) Content analysis	Breast cancer	$N = 14$; Convenience sample
7	Hassin (1994), (USA)	Focus on one woman's ability to redefine her life and social identity via HIV diagnosis (negative to positive)	Yes	Case study from an already existing study Multiple unstructured and informal interviews Narrative discourse	HIV	One female; Hispanic; 30 years old

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
8	Fatone, Moadel, Foley, Fleming, and Jandorf (2007), (USA)	Understand the QOL experience after cancer of African-American and Hispanic women	No	One semi-structured telephone interview Open-ended with probes (from experience and literature) Content analysis	Breast cancer	$N = 20$; > 18 years; African-American and Hispanic
9	Curtin, Mapes, Petillo, and Oberley (1997), (USA)	Understand the process involved in kidney patients long term life experience on dialysis	No	One semi-structured interview Broad question to begin Probes (from panel of experts) and open-ended questions Content analysis	Kidney dialysis	$N = 18$; 38–63; Dialysis for > 15 months ($m = 21$)
10	Towsley, Beck, and Watkins (2007), (USA)	Examine coping experiences of elderly cancer patients	No	Two semi-structured interviews at 1 and 3 months Telephone interviews Approximately 50 open-ended questions (guideline) Open-ended coding approach	Cancer	$N = 55$; > 65; 65–81 ($m = 71.56$); Just completed chemotherapy, radio therapy or other
11	Salick and Auerbach (2006), (USA)	Understand the process of recovery and PTG	Yes	One semi-structured interview designed on the research from trauma process model and trauma literature Grounded theory	MS, below the knee amputations, visual impairment, spinal chord injuries	$N = 10$; > 18; 27–68 ($m = 45.2$)
12	Edvardsson, Pahlson, and Ahlstrom (2006), (Sweden)	Describe adult's experience of being diagnosed with low grade glioma	No	One interview conversational format Interview guide seven topics Inductive content analysis	Low grade glioma	$N = 27$; > 18
13	Arman, Rehnsfeldt, Carlsson, and Hamrin (2001), (Finland)	Understand women's perceived consequences and causes of breast cancer and areas of importance to these women	No	Semi-structured interview Open-ended questions from a guideline of themes Content analysis	Breast cancer	$N = 59$; Breast cancer (any stage); < 75; 28–75 ($m = 49$)

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
14	Arman *et al.* (2007), (Finland)	Examine experiences of life among women with breast cancer and look for diversity of profiles among women in anthroposophical/conventional care	No	Three Semi-structured interviews: Admission, 6 months and 1 year (telephone) Three open-ended questions Content analysis	Breast cancer	$N = 74$; Breast cancer (any stage); <75; 28–75 ($m = 48$)
15	Arman and Rehnsfeldt (2002), (Finland)	Understand the life perspective of women with breast cancer	No	Four Semi-structured interviews at admission, 3, 6, and 12 months) Open-ended questions from a guideline of themes (telephone) Multiple case method Phenomenology	Breast cancer	$N = 4$; Specifically chosen for contrasting data
16	Kyngas *et al.* (2001), (Finland)	To describe the coping strategies/resources of adolescents and young adults with cancer	No	Semi-structured interview with guide topics based on Lazarus and Folkmans' coping strategies and resources Content analysis	Cancer	$N = 14$; 16–22; Diagnosis for $>$2months
17	Danoff-Burg and Revenson (2005), (USA)	To identify and describe the positive effects of illness on relationship	Yes	Mixed methods Questionnaire with one open-ended question about the positive effects of RA on their relationship	Rheumatoid arthritis	$N = 136$; $m = 58$
18	Pakenham (2007), (Australia)	Examine adequacy of BFS for MS and explore nature of benefit finding in MS	Yes	Mixed methods Questionnaire with one open-ended question asking to describe other benefits experienced as a result of having MS not mentioned in the BFS Content analysis	MS	$N = 130$ (out of 404 at Time 2)

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
19	Carpenter, 1999, (USA)	To describe individual differences in self transformation among breast cancer survivors	No	Mixed methods One semi-structured interview with four open-ended questions Narrative analysis	Breast cancer	$N = 60$; >35; 35–77 ($m = 53.7$); First time diagnosis; >2 months post completion of treatment and <55 months
20	Manuel *et al.* (2007), (USA)	To examine younger women's coping strategies following breast cancer and to determine if coping strategies are represented in current coping scales	No	Mixed methods Postal survey with seven open-ended questions based in WOC-CA scale Based on coping Not mentioned	Breast cancer	$N = 529$ responses; $50 <$ at time of diagnosis; Stages I and II only; Within 3 years of diagnosis
21	Milne, Guilfoyle, Gordon, Wallman, and Courneya (2007), (Australia)	Examine breast cancer survivors perceptions exercise and their QOL	No	Mixed methods Survey on exercise attitudes, behaviour and QOL Two open-ended questions on perceptions of exercise and QOL throughout cancer experience Inductive/deductive content analysis	Breast cancer	$N = 289$; 33–94 ($m = 59.5$); Months since diagnosis 20–31 ($m = 24.4$)
22	Russell, White, and White (2006), (USA)	Summarize the beliefs of MS patients regarding the cause and timing of MS as well as understand patients attempts to make meaning of the experience of living with MS	No	Mixed methods Postal/telephone/internet MS QOL questionnaire Open-ended questions asking to reflect upon how they have attempted to make meaning of life with MS Content analysis	MS	$N = 146$

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
23	Petrie, Buick, Weinman, and Booth (1999), (New Zealand)	To examine the positive effects/changes in life following breast cancer	Yes	Mixed methods Multiple questionnaire assessments Written response: What positive effects do you feel may have occurred in your life due to your heart attack/cancer	MI and breast cancer	$N = 143$; $- < 65$ ($m = 54$); First diagnosis
24	Taleghani, Yekta, and Nasrabadi (2006), (Iran)	Explore how Iranian women coped with newly diagnosed breast cancer	No	One or two interviews depending on patients tolerance Interview type not stated Guideline used (topics not stated) Content analysis	Breast cancer	$N = 19$; Newly diagnosed
25	Johansson *et al.* (2003), (Sweden)	To explore employed women's experience of light-moderate arm lymphoedema following breast cancer	No	Semi-structured with interview guide (8 topics) derived from practice and literature Phenomenology	Arm lymphoedema	$N = 12$; Arm lymphoedema following Breast cancer treatment lasting > 1 year; Employed
26	Paterson, Thorne, Crawford, and Tarko (1999), (Canada)	Understand the processes of trans-formation from an inquiry into the experience of Type 1 diabetes	No	Mixed methods: Think aloud, formal interviews and focus groups Comparative data analysis	Type 1 diabetes	$N = 22$; > 18; Diagnosed with Type 1 diabetes > 15 years
27	Sodregen and Hyland (2000), (UK)	To report the positive consequences of illness	Yes	Interview and questionnaire with same open-ended questions in interview guide Stress related growth scale and literature used to create nine item open-ended interview schedule Thematic analysis	Cancer, depression, heart disease, chronic fatigue and arthritis	$N = 55$; 20–81 years ($m = 53$)

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
28	Dildy (1996), (USA)	To identify and describe the nature, meaning, and impact of suffering from the perspective of persons with rheumatoid arthritis	No	One semi-structured interview with two broad questions Used planned probes/questions from an interview guide Grounded theory	Rheumatoid arthritis (RA)	$N = 14$; 39–76 ($m = 59.5$); Time since diagnosis 6 months–35 years
29	Laerum, Johnsen, Smith, and Larsen (1987), (Norway)	To investigate the nature and frequency of possible positive effects after MI	Yes	Mixed methods One semi-structured interview asking about-patients experiences if changes in life in any direction	MI	$N = 81$ (males only); 34–65 ($m = 56.4$); 12–21 weeks after MI
30	Dunn *et al.* (2006), (Australia)	To add to the body of qualitative knowledge about colorectal cancer, e.g. QOL and psychosocial variables most salient to colorectal patients	No	Mixed methods (one unstructured interview and focus group) Opened ended questions about Colorectal cancer and QOL Then 2 focus groups on themes identified in interviews Thematic analysis	Colorectal cancer	$N = 11$ (interview); $N = 4$ (focus group); diagnosed within past 18 months; <80 years
31	Barakat, Alderfer, and Kazak (2006), (USA)	To describe PTG following childhood cancer	Yes	Mixed methods One semi-structured interview with 45 items included open-ended questions, dichotomous card sorts and Likert scales	Adolescent cancer	$N = 150$; <18 years; 1 year after treatment ($m = 14.7$)
32	Abraido-Lanza, Guier, and Colon (1998), (USA)	Explore the factors that promote thriving among Latinas facing multiple adversity	Yes	Mixed methods Open-ended interview focusing on the positive aspects gained from illness Insight note, memo writing then content analysis	RA; arteritis; osteo-porosis fibromyalgia	$N = 106$; Latina females 19–86 ($m = 50.6$)

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
33	Fromm, Andrykowski, and Hunt (1996), (USA)	Examine the relationship between positive effects and QOL	Yes	Mixed method One semi-structured telephone interview (four open-ended questions Postal questionnaire packet Thematic analysis	Bone marrow transplantation (BMT)	$N = 90$; >18; 1–10 years post-BMT
34	Daiter *et al.* (1988), (USA)	Examine the psychosocial and developmental impact of leukaemia and lymphoma on young adults	No	Mixed method One semi-structured interview (of planned longitudinal study) on developmental tasks, growth, and social roles	Hodgkin's disease	$N = 32$; >18 (18–36) Divided into favourable and less favourable prognosis groups (5 year survival rate)
35	Cella and Tross (1986), (USA)	Examine the psychological sequelae of successful cancer treatment	No	Mixed methods (self-report, projective testing, observer rating) One semi-structured interview focused on adjustment to illness (problems during treatment and present problems)	Hodgkin's disease	$N = 60$ (males); Off treatment for >6 months; Mean age (31.1)
36	Tompkins *et al.* (1999), (USA)	Examine family structuring and parenting challenges among ethnic minority mothers with HIV	No	Mixed methods (Likert scale, depression scales, etc.) Three semi-structured interviews (open-ended questions) Collection of excerpts from baseline, 6 and 12 months	HIV	$N = 199$; 19–62
37	Eide (2006), (USA)	Explore native Hawaiian women's experience of surviving breast cancer	No	One semi-structured interview with two main questions e.g. 'tell me about your breast cancer' Interpretive phenomenological analysis	Breast cancer	$N = 11$; Native Hawaiian diagnosis of breast cancer (no reoccurrence)

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
38	Gotay, Holup, Muraoka, and Carolyn Cook (2002), (USA)	Examine the positive aspects of QOL and psychosocial well-being in multi-ethnic prostate survivors	No	Open-ended question at end of questionnaires (Likert scale) Question based on perceived impact of prostate cancer on respondents' life	Prostate cancer	$N = 99$; $M = 69.3$; Diagnosis >18; <30 months; Hawaiian residency; >18 at time of diagnosis
39	Tandon and Mehrotra (2007), (India)	To articulate the process of psychological adaptation to cancer using case studies	No	Three semi-structured interviews over 3 months period Content analysis	Breast, Hodgkin's, and oesophageal	$N = 3$; $m = 36.6$ years; All undergoing chemotherapy at interview one
40	Heiland *et al.* (2002), (USA)	To describe the psychological impact that combination therapies have on HIV positive individuals	No	Mixed methods Semi-structured interview with open-ended questions pertaining to meaning Content analysis	HIV	$N = 58$; $m = 39.4$; AIDS diagnosis of >5 years; Homosexual male; Having been treated with combination therapies for >2 months
41	Laerum, Johnsen, Smith, and Larsen (1988), (Norway)	To examine the kind and frequency of positive effects after MI	Yes	Mixed methods Heavily quantitative Semi-structured interviews that were standardised after 10 Questions related to changes in any direction, QOL, etc. . .following MI	MI	$N = 84$; 34–65, $m = 56.4$
42	Tartaro *et al.* (2005), (UK)	Explore distress and adjustment and women's ability to find benefit after cancer	Yes	Mixed methods Multiple assessments at four separate times (baseline, 9 weeks post diagnosis, 9 months and 2/12 years) Semi-structured interview (16 questions) on adjustment to cancer and meaning attributed to the experience Coding	Breast cancer	$N = 39$

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
43	Gillen (2005), (USA)	Gain insight into psychological experiences of stroke survivors	Yes	One semi-structured interview focusing on ability to identify positive consequences related to stroke Any positive personal changes; positive thoughts; positive ideas? Four responses (yes, no, not sure, and no response) with Yes being followed up NUD*IST	Stroke	$N = 16$; $m = 61$; Had not received rehabilitation in past; Must not have presence of language disturbances; 5–7 days after admission
44	Taylor, Lichtman, and Wood (1984), (USA)	Examine the effects of each type of control on coping with cancer	No	Mixed methods One semi-structured interview with specific focus on control and attributions of cancer	Breast cancer	$N = 78$ females; 29–78, $m = 58$
45	Siegel and Schrimshaw (2000), (USA)	Describe positive changes/stress related growth in African American, Puerto Rican and white women with HIV/AIDS	Yes	Mixed methods (questionnaires) Two semi-structured interviews with interview guide/'conceptual road map' based on literature on AIDS/chronic illness Thematic analysis	HIV/AIDS	$N = 54$; HIV; >20, $45 <$; Latina, African-American, white; Not injected drugs for 6 months
46	Kennedy *et al.* (1976), (USA)	Examine psychological responses of survivors from advanced cancer	No	Mixed methods (psychological testing) Interview with 20 questions	Advanced cancer	$N = 22$; 22–69; Survivors of advanced cancer
47	O'Connor *et al.* (1990), (USA)	Explore how recently diagnosis cancer patients describe their search for meaning	No	One semi-structured interview with interview guide on 11 areas of possible concern	Breast, lung, or colo-rectal cancer	$N = 30$; <6 months since diagnosis; 36–67, $m = 55$

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
48	Schwartzberg (1993), (USA)	Examine if and how gay men with HIV ascribe meaning to their illness	No	One 'intensive' semi-structured interview with general guideline for all Phenomenological analysis	HIV	$N = 19$; HIV (not AIDS); >18 months <106 months; 27–50, $m = 39$
49	Schwartzberg (1994), (USA)	Examine vitality and growth in gay men with HIV	Yes	One 'intensive' semi-structured interview with general guideline for all Phenomenological analysis	HIV	$N = 7$ (from a larger study of 19); 27–48; HIV >18 <106 months
50	Affleck, Tennen, Croog, and Levine (1987) USA	Examine benefit finding/attributions with reoccurrence/morbidity rates	Yes	Mixed methods Two Semi-structured interviews at T1 (7 weeks after hearts attack) T2 8 years post attack Specific question on benefits and explain	MI	T1 $N = 287$; T2 $N = 176$; New admission with MI; 30–60
51	Coward and Kahn (2005), (USA)	To describe the experience of self-transcendence in women newly diagnosed with breast cancer	No	Three semi-structured interviews during 8 months period Generally to describe cancer experience Phenomenological analysis	Breast cancer	$N = 14$; 31–63, $m = 49$; Diagnosis of breast cancer $6 <$ months
52	Collins (1990), (USA)	To examine changes in perspectives following cancer diagnosis	No	One semi-structured interview In what ways, if any has having cancer changed your priorities/daily activities Content analysis	Cancer	$N = 55$; <5 years since diagnosis; >30, $70 <$; 30–66; $m = 54$
53	Sabiston *et al.* (2007), (Canada)	Explore the psychosocial experiences of breast cancer survivors involved in dragon boat racing	No	One semi-structured interview on experiences of dragon boat racing Minimal probes Grounded theory	Breast cancer	$N = 20$; $m = 58.69$; Involved in dragon boat program

Table 2. (*Continued*)

#	Author, year, and country	Main aim of study	Focus on PTG	Data collection	Illness	Sample and sampling criteria
54	Power *et al.* (2003), (UK)	Psychosocial impact of lipodystrophy on life-style of HIV on HARRT	No	One in-depth interview Grounded theory	HIV	$N = 14$; HIV patients with lipodystrophy
55	Coward and Lewis (1993), (USA)	Examine structure of self-transcendence in gay men	No	One semi-structured interview or written descriptions or own audio taping with focus on 'describing a situation in which you experienced transcendence' Phenomenology	HIV/AIDS	$N = 8$; Homosexual males; AIDS diagnosis
56	Belec (1992), (USA)	Examine QOL among BMT survivors	No	Mixed method One semi-structured interview with 11 questions based on literature and clinical work	BMT	$N = 18$; 20–50 ($M = 32.7$); >1 year post-BMT
57	Dahan and Auerbach (2006), (USA)	To understand the emotional impact of multiple myeloma	No	One semi-structured interview with probes about research concerns Grounded theory	Multiple myeloma	$N = 6$; 50–66; Undergone stem cell transplantation >3 months

Table 3. Qualitative synthesis process

Concepts	First order	Second order
Psychological maturity 'Cancer did make me more mature. . .it just made me grow up. I had to deal with things that other people didn't'	Cancer creates maturity	Patients believe that the trauma of cancer experience has potential to accelerate psychological and self development

of the studies used mixed gender populations(2,3,5,9,10,12,16,17,18,22,23,25,26–28,30–34,39,43,46,47,50,52,54,56,57) followed by female(1,4,6,7,8,13–15,19–21,24,36,37,42,44,45,51,53) and male(29,35,38,40,41,48,49,55) only sample populations.

Post-traumatic growth and illness

The majority of qualitative literature regarding PTG, following the diagnosis of a life threatening illness (35) was completed in the past 7 years (2000–2007) and published from researchers working in the United States (35). Eight of the studies reported PTG across minority populations(1,8,24,32,36–38,45). The earliest qualitative study retrieved was Kennedy, Tellegen, Kennedy, and Havernick (1976) study on psychological responses of survivors of advanced cancer which was not intended to focus on PTG and illness. PTG research began to pick up interest in the mid 1980s/early 1990s, with the primary focus being on examining the psychosocial development of surviving cancer with the exception of Laerum (1987, 1988) and Affleck, Tennen, Croog and Levine (1987) who specifically set out to investigate the possibility of positive effects following MI. However, these three studies were not exclusively qualitative and included mixed methodologies to determine their results.

During the 1990's only 5 of the 15 published studies specifically focused on PTG and illness, while the others reported PTG as a secondary result. Mixed methods were used alongside interviews of differing structure. Entering the 2000's, nine studies specifically focused on PTG and illness, with only Parry and Chesler (2005) and Salick and Auerbach (2006) employing qualitative methodology exclusively.

It became evident during the review that authors had differing views on what constituted a semi-structured interview. For example, Hassin (1994) employed multiple unstructured, informal interviews, whilst other researchers based their interview on topics derived from the literature(8,11,25,27,45,54), quantitative questionnaires(2,4,6), and their own clinical experiences(8,9,57). Other studies used 'semi-structured interviews' with open-ended questions ranging in number from 3 to 14 to even 50 (Table 1). The range of qualitative analysis methods employed were: content analysis; phenomenology; thematic analysis; open-ended coding; grounded theory; and comparative data analysis.

Despite the multiple discrepancies on the definition of 'qualitative' data, only 30% of the qualitative research reviewed in this study (over the past 32 years) has specifically focused on PTG and life threatening illness, and only 5% of these have used purely qualitative methods to extract their data.

Key themes

Reappraisal of life and priorities

The diagnosis of illness created a situation in which the participants began to engage in both positive and negative reappraisal of their life, as well as the restructuring of

Table 4. Summary of findings

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
1	Lam and Fielding (2003), (China)	Reappraisal of priorities: Happiness, relationships, relinquish control New appreciation of life (here and now)	X	X	X	
2	Parry and Chesler (2005), (USA)	New priorities, new values, improved quality, and prioritizing of relationships – relinquishing control New appreciation for life (carpe diem)	Maturity Humanitarian work Increased empathy: Need to give back Stronger self (preparedness, Id = fighter)	Vulnerability Mortality salience Existential change: Awareness, clarity Meaning from illness-why?	New health behaviours (NHB)	
3	Parry (2003), (USA)	New appreciation for life (carpe diem)	Stronger self (preparedness) Sense of identity Humanitarianism Proud (achievement in surviving)	Purpose in life Meaning of life New existential awareness	X	
4	Luoma and Hakamies-Blomqvist (2004), (Finland)	New appreciation for life (here and now) Reappraisal of priorities: Important things in life	Increased empathy Stronger self	Mortality: Awareness/ facing death	X	
5	Winterling *et al.* (2004), (Sweden)	New appreciation for life (bonus) Improved relationships	X	Meaning from illness – why?	X	
6	Fredette (1995), (USA)	Reappraisal of priorities: Not taking things for granted, religion More in control Improved relationships New appreciation for life, relationships, nature	Stronger self Increased empathy Unique identity Humanitarians	Increased spirituality	X	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
7	Hassin (1994), (USA)	Reappraisal of priorities (be a good mum) New appreciation of life	Increased empathy: Give back, educate Humanitarianism	Purpose in life (educator) Meaning from illness-why?	NHB (Diet) Vicarious NHB (daughter's diet)	
8	Fatone *et al.* (2007), (USA)	Reappraisal of priorities New appreciation for life	Stronger self	Increased spirituality Mortality (not afraid of dying)	X	
9	Curtin *et al.* (1997), (USA)	New appreciation for life (here and now) Reappraisal of priorities	Stronger self (preparedness)	Mortality awareness	X	
10	Towsley *et al.* (2007), (USA)	New appreciation for life Improved relationships Balanced life	X	Purpose/meaning in life	X	*
11	Salick and Auerbach (2006), (USA)	New appreciation for life (here and now) Reappraisal of priorities: Support network, camaraderie, family, goals, take control	Increased empathy: Role modelling, give back, emotionally connected to humanity Stronger self (inner strength) Maturity	Purpose/meaning in life Mortality-aware of death	Awareness of the body New connection with body: Physical strength = PTG	*
12	Edvardsson *et al.* (2006), (Sweden)	New appreciation of health care Improved relationships among patients (camaraderie)	Identify as unique or 'chosen'	Purpose/meaning in life	X	
13	Arman *et al.* (2001), (Finland)	Improved relationship with husband, family, friends (more open) Reappraisal of life, new goals, priorities New appreciation for life (small things, gift)	Authentic self Stronger self	Increased spirituality Meaning of life Reason and meaning in illness	NHB: Responsibility for own health/body Awareness of health Increased importance of health	*

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
14	Arman *et al.* (2007), (Finland)	Appreciation of life (thankful, here and now) New priorities: Increased importance of relationships, nature, activities, me time, goal changes (new goals) Ability to relax	Trauma = Transformation Increased insight Stronger self	Mortality Purpose/meaning in life	X	*
15	Arman and Rehnsfeldt (2002), (Finland)	Improved relationships: Medical, family Gain control New appreciation of life (thankfulness)	Self ID Authentic self Stronger self Transformation	Meaning of life Mortality-awakening	NHB: Complementary therapies	*
16	Kyngas *et al.* (2001), (Finland)	Improved relationships (openness, closeness) New appreciation for life	Stronger self	X	Take responsibility of own health (research)	
17	Danoff-Burg and Revenson (2005) USA	Improved relationships with: General population, family, strangers, medical staff, support groups (surprise at devotion) Reappraisal of self, priorities New appreciation for life (gift), health	Increased empathy: Need to give back, educate people Development of humility	X	X	
18	Pakenham (2007), (Australia)	Improved relationships with: Medical staff, camaraderie among patients Reappraisal of priorities: Friends, ability to relax, material goods, new goals New appreciation for life: Here and now	Stronger self	Increased spirituality (closer to god) Meaning/purpose in life	NHB: New awareness of health, diet, exercise, listen to body, monitor body	
19	Carpenter, 1999, (USA)	New appreciation for life Reappraisal of life goals	Stronger self (courageous) Self awareness and self reflection Authentic self	Mortality = self awareness	X	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
20	Manuel *et al.* (2007), (USA)	X	X	X	NHB: Take control of health (research), alternative therapies, increased exercise	
21	Milne *et al.* (2007), (Australia)	New appreciation for life (thankful) Reappraisal of priorities: Health, family, ability to relax	Stronger self: 'Survivor' Identity	Increased spirituality	NHB: Diet, exercise, reduce stress Awareness of health	
22	Russell *et al.* (2006), (USA)	New appreciation for life: (here and now) Reappraisal of priorities: Health, family, ability to relax Improved relationships	Maturity Increased empathy	Increased spirituality – (plan) Aware of gods presence	NHB (research)	
23	Petrie *et al.* (1999), (New Zealand)	New appreciation for life (here and now), health Reappraisal of priorities: Health, family Improved relationships	Increased empathy	Mortality (life is short)	NHB: Diet, exercise Increased awareness and importance of health	
24	Taleghani *et al.* (2006), (Iran)	Improved relationships	X	X	X	
25	Johansson *et al.* (2003), (Sweden)	Reappraisal of priorities: Health, appearance	X	X	Increased awareness and importance of health	
26	Paterson *et al.* (1999), (Canada)	Reappraisal of priorities	Awareness of possible self Become alive Stronger self (preparedness) Proud self (achievement) Increased empathy – need to give back	Increased spirituality	Awareness of body Responsibility for own health Ability to separate body and self Control of body Monitoring of body	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
27	Sodregen and Hyland (2000), (UK)	Reappraisal of priorities: Improved relationships with old friends, husbands, true friends, new skills, goals New appreciation for life: Gift, simple things, here and now, nature	Stronger self: Preparedness Proud of self (achievement) Increased empathy Maturity Wisdom Openness	Meaning of life/death Increased spirituality	NHB: Less stress New awareness of body	
28	Dildy (1996), (USA)	Reappraisal of priorities: Improved relationships with others, goals, self	Increased empathy	Purpose in life Increased spirituality	X	
29	Laerum *et al.* (1987), (Norway)	Reappraisal of priorities: Increased importance and improved relationship with family	X	X	X	
30	Dunn *et al.* (2006), (Australia)	New appreciation for life (thankful, small things) Reappraisal of priorities: Increased importance of relationships	Stronger self (preparedness) Increased openness	Purpose of life Mortality: Wake up call Meaning of life	Vicarious health checks	
31	Barakat *et al.* (2006), (USA)	Reappraisal of life and priorities: Increased importance of relationships, school, new goals	Increased empathy Maturity	The greater the suffering = greater growth	Awareness and responsibility for own health: Careful	
32	Abraido-Lanza *et al.* (1998), (USA)	New appreciation for life: Here and now, improved relationships with family/friends Priority changes: New activities	Increased empathy Stronger self	Increased spirituality	X	
33	Fromm *et al.* (1996), (USA)	New appreciation for life, improved relationships with family/friends Priority changes	Emotional self Increased empathy	Increased spirituality	NHB and vicarious health behaviours	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
34	Daiter *et al.* (1988), (USA)	New appreciation of life: Here and now, time New goals, increased importance of family, improved relationships, intimacy	Independence Maturity Awareness of self 'Transformative powers of illness'	X	New connection with body: Physical strength = PTG Physical illness = growth	
35	Cella and Tross (1986), (USA)	New appreciation of life, health	X	Faced mortality = growth	New connection with body: Physical strength = PTG Freedom from illness = growth	
36	Tompkins *et al.* (1999), (USA)	Reappraisals of relationships: Improved relationships with children, friends (closer) New priorities: Time with children New appreciation of life (here and now, thankful)	Stronger self	Meaning of life Create a legacy	Vicarious NHB (safe sex practices)	
37	Eide (2006), (USA)	Reappraisal of priorities – importance of helping others Improved relationships with others	More empathetic: Give back, educate, altruistic, make cancer not 'taboo'	Increased spirituality Purpose in life	NHB: Diet, Reduce stress levels Responsibility for own health-research Increased importance of health vs. appearance	
38	Gotay *et al.* (2002), (USA)	New appreciation of life (here and now), past Reappraisal priorities: Increased importance of relationships	More empathetic	Increased spirituality Mortality – life is fragile, awareness of time limits	NHB: Diet, exercise, reduce stress, reduce alcohol/tobacco consumption, monitoring of health – check ups	
39	Tandon and Mehrotra (2007), (India)	New appreciation of life (here and now), health Improved relationships with strangers	Valuable self	Increased spirituality Mortality (no fear of death) Purpose/meaning in life	NHB: Responsibility of own health (research) New awareness/relationship with body	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
40	Heiland *et al.* (2002), (USA)	X	Empathy-increased altruism	X	NHB: Strong health focus Reduced risk behaviours (substance abuse), increased safe sex	
41	Laerum *et al.* (1988), (Norway)	New appreciation of life: Being alive (grass is greener) New priorities: Friends	X	X	NHB: Diet, activity, reduced stress Responsibility for own health	
42	Tartaro *et al.* (2005), (UK)	X	Illness creates transformation	Increased spirituality	X	*
43	Gillen (2005), (USA)	New appreciation of life (here and now) New priorities: Relinquish control	Better self Increased empathy: Educate, patience Humility	Increased spirituality: Closer to god, pray	Responsibility for own health NHB-diet Awareness/monitoring of health	
44	Taylor *et al.* (1984), (USA)	Reappraisal of priorities: Relinquish/gain control and relax	X	X	NHB: Diet, exercise, reduce stress	
45	Siegel and Schrimshaw (2000), (USA)	New appreciation of life: Time (here and now), relationships, memories Improved relationships: Open, resolve rifts, camaraderie Reappraisal: Material goods, health, career	Stronger self Better self Responsible Independent Increased empathy: Patience, give back	Spirituality – redemption, increased prayer, questioning of god and faith	Increased importance of health vs. appearance NHB: Reduced drug./alcohol, stress, better diet, increased exercise	*
46	Kennedy *et al.* (1976), (USA)	New appreciation of time (here and now), life, people and relationships Reappraisal: New goals, relinquishing of control New priorities: Monetary	Increased empathy Character	Stronger self	Mortality	X

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
47	O'Connor *et al.* (1990), (USA)	New appreciation of past, nature time (here and now), improved relationships: Shock at support Reappraisal: New goals, past (regrets), life, self (reflection) New priorities: Simplify	Identity of physical self	Increased spirituality	NHB: Research	
48	Schwartzberg (1993), (USA)	New appreciation of time (here and now) Improved relationships: Sense of belonging/camaraderie Reappraisal: New goals, relinquishing control	Specialness identity Authentic self Maturity Increased empathy: Increased connection to humanity	Increased spirituality Purpose/meaning in life Create a legacy	Responsibility of health NHB: Improved health behaviours	*
49	Schwartzberg (1994), (USA)	New appreciation of time (here and now), nature, faith Improved relationships: Sense of belonging/camaraderie Reappraisal: New goals, relinquishing control	Specialness identity Authentic self Maturity Increased empathy: Increased connection to humanity, give back, work for organizations, altruism	Purpose/meaning in life Create a legacy	Awareness of health	*
50	Affleck *et al.* (1987), (USA)	Reappraisal priorities: Life, time (here and now) Improved relationships	X	X	NHB: Preventative health behaviours Diet, exercise, reduced stress, reduced substance use	
51	Coward and Kahn (2005), (USA)	New appreciation of life: Gift Reappraisal priorities: Relax, less work, time Improved relationships, camaraderie	Increased empathy: Need to give back, educate, research, fundraising, volunteer, support groups Humility Stronger self (preparedness)	Increased spirituality (god) Purpose in life	Responsibility for own health: Research NHB: Diet, exercise, reduced stress	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
52	Collins (1990), (USA)	Reappraisal of life, outlook, world view, priorities/activities, time management, future Improved and increased importance of relationships (more sensitive, more effort) New appreciation of life: Here and now, carpe diem, each day counts	Increased empathy Stronger self (preparedness)	Existential awareness of vulnerability		*
53	Sabiston *et al.* (2007), (Canada)	New appreciation for life (one life) Reappraisal of goals, achievements and priorities: Importance of relationships, camaraderie (soldiers), gain control, activity	Stronger self (preparedness) Proud of self Physical self Increased empathy – need to give back	X	NHB: Activity = growth	
54	Power *et al.* (2003), (UK)	New priorities – to stay alive Appreciation of life (here and now) Able to relax	Stronger self	X	NHB: Exercise, diet, proactive health care	
55	Coward and Lewis (1993), (USA)	New appreciation of nature, time (here and now), god Reappraisal of self and priorities: New goals, legacy Improved relationships, camaraderie, belonging	Stronger self Transcendence Humility Self and body ID Increased empathy: Need to give back, research, altruism	Legacy Mortality: Acceptance of death	NHB: Reduced stress, monitoring health/body Responsibility for own health	*
56	Belec (1992), (USA)	New appreciation of life and health Reappraisal of priorities: New goals, health Improved relationships (closer)	Stronger self Proud New self	X	Increased awareness/importance of health	

Table 4. (*Continued*)

#	Author, year, and country	Reappraisal of life and priorities	Trauma = development of self	Existential re-evaluation	A new awareness of the body	Dualistic growth and distress
57	Dahan and Auerbach (2006), (USA)	New appreciation life, past Improved relationships: Family, camaraderie, respect for wives	Stronger self Increased empathy: Give back, educate, foundations, research humility	Mortality: Acceptance of death	New connection with body: Physical strength = PTG	

Note. X, not applicable; *, dualistic growth and distress.

previous priorities. This theme was reported by all of the studies except for Manuel *et al.* (2007) and Heiland *et al.* (2002) who focused on new health behaviours/the body following the diagnosis of illness and Tartaro *et al.* (2005) who focused on the dualistic existence of growth and distress.

Respondents tended to reappraise their relationships with family members (spouse, offspring, parents, siblings) and close friends and reported more improved (closer, more open, better) relationships with the people close to them. Dahan and Auerbach (2006) found that husbands with multiple myeloma gained increased respect for their wives throughout their treatment due to the strength and efficiency the wife elicited during their illness.

People reported surprise at the devotion and help from family and friends during their illness[17,47]. They also reported a positive change in roles with regards to strangers, neighbours, colleagues, health care professionals, support groups, and camaraderie among people with the same illness[11,12,15,17,18,45,46,48,49,51,53,55,57]. Schwartzberg (1993, 1994) reported a new sense of belonging or 'specialness' among men with HIV and the development of camaraderie/pride from dealing with the disease together.

Major changes to priorities in life were reported across the studies and ranged from how and with whom they decided to spend their day, to appearance, nature, and monetary goods[18,45,46,52]. Johansson *et al.* (2003) found that health became a very important priority for people and there was a reduced obsession with appearance[25,37,45].

The studies consistently found that their respondents had a new appreciation of life, calling it a 'gift'[13,17,27,51] and 'thankful'[14,15,21,30,36] that they were touched by such life altering illnesses (Coward & Lewis, 1993). Specifically respondents mentioned an appreciation for 'the here and now', simple things and time[1,4,9,11,14,18,22,23,27,32,34,36,38,39,43,45–52,54,55]. In addition, researchers found that people mentioned a new appreciation for their past and the life that they had (Dahan & Auerbach, 2006; O'Connor, Wicker, & Germino, 1990). This reappraisal of past life/behaviour also prompted a desire to change negative thoughts/behaviours/regrets (O'Connor *et al.*, 1990).

The diagnosis of illness prompted many to revaluate and change life goals, learn new skills, go back to school, and achieve new things[11,13,14,18,19,27,28,31,34,46,47,48,49,52,54,55,56]. The issue of control was mentioned, with some finally able to relinquish control over their life and relax[1,2,14,18,21,22,44,45,47,49,50,52,55], where as others felt they had finally gained control over their life[6,11,15,45,54]. Unique to three studies on HIV[36,48,49], the diagnosis of illness created a new found desire to leave a legacy behind. Participants in Schwartzberg (1993, 1994) believed that by educating people about their illness they became 'guides' for others and were able to leave their strength and story with the next generation of the illness. Coward and Lewis (1993) reported an urgency among men with HIV to create a legacy via volunteer work and an importance of helping others with this illness so that their contribution would live on after them.

Trauma equals development of self

A majority of the participants reported the phenomenon of self development and transformation (e.g. spiritually, emotionally, psychologically, etc.) following their diagnosis and experience of illness[2–9,11–19,21–23,26–28,30–34,36–40,42–49,51–57], with participants reporting a new awareness of a possible self[26], authentic self[13,15,19,45,49], and a 'better self'[43,45] (more open, more empathetic, more creative, and deeper

more alive)[11,14,19,22,26,27]. Various patients from Daiter, Larson, Weddington, and Ultman (1988) reported on the 'transformative powers of illness' and illness as 'a catalyst for change that was planned but not yet executed' (p. 615). Parry and Chesler (2005) found that adult survivors of childhood cancer felt their illness had psychologically matured them and developed them into more spiritual, wiser, empathetic, and humanitarian adults. The idea of being transformed stemmed from an almost shedding of former eyes and seeing the self differently and thus transformed. Schwartzberg (1993) found that not only did men with HIV considered the illness a gift, but a 'thing of value', perpetuating the self actualization process, 'an agent that conferred specialness or unlocked some inner potential, strength or wisdom that had previously been dormant' (p. 20).

Five studies found that the diagnosis and decline in physical functioning following physical illness developed their sense of humility and humbleness as they now needed to reach out and ask for help[17,43,51,55,57]. By 'swallowing their pride' they were able to develop stronger interpersonal relationships, thus a positive outcome from their trauma.

A development of a 'stronger self' or 'a fighter' was reported throughout the majority of the studies[2–4,6,8,9,11,13–16,18,19,21,26,27,30,32,36,45,46,51–57]. The main reasoning for development of stronger identify was the feeling of a sense of achievement in overcoming in physical suffering[3,26,53,56]. Some reported feeling more proud of themselves and the development of increased self-esteem and confidence[4,26,55]. In addition to this, many believed that the ability to overcome the diagnosis of the illness better prepared them for future adversity, thus the trauma developed a more resilient self[2,3,9,26,27,30,43,51,53].

The development of a more 'empathetic self' was repeatedly related throughout the studies[11,12,18,45,48,49,51,53,55,57]. Generally, it was believed that the trauma of diagnosis developed a more patient and caring person. Not only did respondents have increased patience and compassion for others with their illness, but an increased emotional connection to humanity in general[2–4,6,7,11,17,22,23,26–28,31–33,37,38,40,43,45,46,48,49,51–53,55,57]. The development of a more empathetic self increased their 'need to give back' to society for all they had done during their illness[2,17,26,51,53,55]. This included a need to help educate people on their illness, suffering and triumph;[7,17,37,43,51,57] to help fundraise in order to continue the help[51]; work for organizations[2,51]; and participate in research[51,55,57].

Existential re-evaluation

Following the diagnosis of potentially life threatening physical illness, 42 studies reported some form of existential revaluation[2–15,18,19,21–23,26–28,30–33,35–39,42,43,45–49,51,52,55,57]. The majority of studies focused on reflection of mortality, spirituality, meaning and purpose in life, finding reasons/making meaning from the illness as well as the belief in 'the greater the trauma, greater the growth'[31]. Cella and Tross (1986) reported that by 'confronting sickness and struggling for health' people were able to attain 'significant existential gains'.

Tandon and Mehrota's (2007) case studies found that the illness experience had made women become 'fearless of death'. Gotay, Holup and Muraoka (2002) found that the illness created an awareness of 'vulnerability' and 'the shortness of time', as did Kennedy, Tellegen, Kennedy and Havernick (1976) among people with advanced cancer, 'once you worry about whether you are going to die, nothing else seems quite as significant to worry about' (p. 18).

Eide (2006) studied the transformation of Hawaiian women with breast cancer and found a large number of increased spirituality and return to faith, as well as spiritual practices (praying, attending church). Fatone, Moadel, Foley, Fleming and Jandorf (2007) reported positive spiritual changes repeatedly, specifically gratitude to God and strengthening of faith.

Following illness, people consistently reported discovering new meaning or purpose to their life[2,3,5,7,10–15,18,27,30,36,39,48,49]. Dildy (1996) found that participants were able to finally 'see' their role/purpose in life following multiple illnesses. Two studies even reported their participants as feeling like 'chosen ones' (Hassin, 1994; Parry, 2003). For example, Edvardson *et al.* (2006) reported a heightened sense of 'uniqueness' and being 'the chosen one' following illness. Ultimately by making sense of the reason for obtaining the illness, Winterling *et al.* (2004) found that advanced cancer patients were more noticeably able to attain greater personal growth and meaning.

New awareness of the body

Unique to illness related PTG, the majority of the studies reported a 'new awareness of the body' following the diagnosis of potentially life threatening physical illness[2,7,11,13,15,16,18,20–23,25–27,30,31,33–41,43–45,47–57]. This implies that the diagnosis heightened their connection to and awareness of their physical self (physical self identity) which is a positive and unique outcome from physical illness related trauma[11,13,26,27,39,47,53,55,57]. Paterson *et al.* (1999) studied the experience of transformation among people with diabetes and found a positive effect of the disease was the patients' new ability to differentiate the self and the body, sparking a review of their values, beliefs, and assumptions regarding the relationship of the self and body.

Interestingly, some participants found that it was through the unique process of overcoming their physical suffering that propelled the experience of PTG[11,34,35,57]. Illness was perceived to be the catalyst for positive transformation or growth (Daiter *et al.*, 1988). Salick and Auerbach (2006) found that the 'reclaiming of the physical body' was a vital component to the growth process, '. . . a large part of beginning to feel better involved an attempt to regain aspects of their physical self . . . this was experienced as gaining a sense of physical power that had been taken away and a new sense of potency' (p. 1030). Dahan and Auerbachs' (2006) findings among multiple myeloma patients also support the unique process of growth following physical illness, 'after a long period of feeling "dead" and "not human" the surge of physical strength was emotionally nourishing . . . recuperation helped re-establish the connection between physical and mental self' (p. 383).

Participants began to research their own illness in order to understand their body and its current situation[16,20,22,37,39,47,51]. Respondents in Paterson *et al.* (1999) discussed how illness related trauma forced them to take responsibility for their own their health and management of that said health. This responsibility included 'acting like a reporter' where they would monitor and record their health status, 'paying attention to every detail of the illness' (p. 796). Taking responsibility and monitoring ones health was repeated throughout the analysis[13,16,18,26,31,37,38,39,41,43,48,51,55] as was the new ability to 'listen to their own body'[18].

Numerous studies reported the development of improved health behaviours following the diagnosis of illness[2,7,13,15,18,20,21,23,33,36–41,43–45,47,48,50,51,54,55]. Physical activity was seen to be a great combatant in anxiety and negative moods as well as the maintenance of physical functioning[18,20–23,41,44,45,50,51,54]. Sabiston, McDonough, and

Crocker (2007) reported a potential link between physical activity (dragon boat racing) and PTG among women with breast cancer. Reducing stress and avoiding potential stressful environments were frequently mentioned as new health behaviours[21,27,37,38,41,44,45,50,51,55]. Sodregen and Hyland (2000) reported that the diagnosis of Hodgkin's disease prompted them to 'be kinder to their fragile frame' (p. 91) and avoid stress whenever possible. Power, Tate, McGill, and Taylor (2003) reported that the development of lipodystrophy (after HIV) caused patients to re-evaluate and improve their diet and exercise regimes.

Reports of routine health checks and vicarious health behaviours of family members and friends were attributed and perceived to be a positive outcome of their physical illness[7,30,33,36,38]. Dunn *et al.* (2006) found that the diagnosis of colorectal cancer enforced greater monitoring of the body by the respondent and their families as did Tompkins, Henker, Whalen, Axelrod, and Comer (1999) who found that the diagnosis of HIV in mothers had the potential to highlight dangers of unprotected sex, therefore creating safer sex habits among their offspring.

In addition to adopting positive new heath behaviours, participants reported the cessation of risky behaviours, such as drug, alcohol, and tobacco use as well as risky sexual practices upon the diagnosis of their illness[36,38,40,45,49,50,51]. Heiland *et al.* (2002) reported a reduced rate of self indulgent behaviours (risky sexual practices, substance abuse) and an increase in health focused activities, attributing these positive changes to the diagnosis of illness.

Discussion

This study found 57 qualitative studies spanning 32 years of publications, with only 17 specifically aimed at researching PTG and only three of those using purely qualitative methodology. The four key themes to emerge were: 'reappraisal of life and priorities'; 'trauma equals the development of self'; 'existential re-evaluation'; and 'a new awareness of the body'. The majority of studies focused on cancer and growth which suggests more research is needed in differing physical illnesses. This synthesis included eight studies that reported PTG across minority populations which, according to Britten *et al.* (2002), are beneficial to the analysis as they report across a variety of settings and populations.

In reflection of the previous PTG quantitative/qualitative literature on separate traumatic incidences (e.g. natural disaster, bereavement, war, etc.) the synthesis, and the studies within in it, offers a potential and unique sixth element or outcome to the growth process: a new awareness of the body by way of a diagnoses of life threatening physical illness. Survivors of natural disasters, emergency service workers, war veterans, and bereaved spouses and parents all grieve and grow from their adversity in specific and unique ways (Lev-Wiesel & Amir, 2006; Paton, 2006; Rosner & Poswell, 2006). However, the qualitative research on illness specific PTG supports the idea that recovering and thriving from illness can create a new awareness and heightened importance of the body. Illness related survivors reported an increase in taking responsibility for their own their health; monitoring ones health; listening to their own body; improved health behaviours (diet, exercise, reducing stress); routine health checks; vicarious health behaviours; cessation of risky behaviours (drug, alcohol, tobacco, and unprotected sex); and a new positive identification with their own body. Although similar findings have been reported in previous reviews (Thornton, 2002) this sixth outcome has been repeatedly overlooked.

Reasons for this oversight in a potential sixth outcome could be due to the limitations within quantitative research, as were reported throughout the literature

(Pakenham, 2007; Salick & Auerbach, 2006). Manuel *et al*. (2007) interpreted the PTG and coping results reported by their participants (women with breast cancer) were absent from the current scales of measurement, suggesting that to date, measurement tools are missing key elements of the PTG process.

In addition to the key themes and in agreement with PTG research (Tedeschi & Calhoun, 2006), these studies reported dualistic (positive and negative) aspects of PTG[10,11,13–15,42,45,48,49,52,55]. Similar to the 'Janus' two-faced model (Maerker & Zoellner, 2004) respondents were able to find some benefit from their illness while still acknowledging the distressing side of their situation. However, unlike the bereavement literature, where people would naturally change their loss if possible (Znoj, 2006), respondents in this analysis reported their illness as a gift which added value and even a 'bonus' to their lives (Schwartzberg, 1993, 1994).

Criticisms of the synthesis of qualitative literature stem from the belief that 'the results of the individual studies are de-contextualized and that concepts identified in one setting are not applicable to others' (Thomas & Harden, 2007, p. 11). Thomas and Harden suggest that by continually checking the context of the findings and translation of the themes across the studies situations, validity can be enhanced. In addition to this, by presenting a table (Table 2), the audience is able to see the context in which the papers were conducted as well as the original aim, methodology, type of illness, sample, and criteria. Thomas and Harden (2007) propose that by doing this, the audience is able to 'judge for themselves whether or not the context of the studies the review contained were similar to their own' (p. 11).

Due to the inclusion of all studies which stated the use of qualitative methodologies, their may have been a compromise in the quality of the studies chosen. However, without specific guidelines on exclusion of studies based on quality, it was necessary to include all relevant studies to our question (Daly *et al.*, 2006; Dixon-Woods *et al.*, 2006). Thomas and Harden (2007) reported similar limitations in exclusion procedures reporting that papers deemed as 'poor quality' did not add to the synthesis and as a consequence were not a large component of the synthesis.

Ultimately, the synthesis revealed that there is a novel element to the PTG process in physically traumatic situations. Thus, PTG was established through the process of losing physical stability and then 're-humanizing' (Salick & Auerbach, 2006) through the reconnection with the body. As the synthesis clearly demonstrated a dearth of purely qualitative research on PTG in illness, PTG investigation needs to expand and enhance research techniques to encompass the individuality each trauma situation has the potential to emit.

Acknowledgements

We would like to thank Dr Carol Emslie for her guidance and direction during the undertaking of this study.

References

Abraido-Lanza, A. F., Guier, C., & Colon, R. (1998). Psychological thriving among Latinas with chronic illness. *Journal of Social Issues*, *54*, 405–424.

Affleck, G., Tennen, H., Croog, S., & Levine, S. (1987). Causal attribution, perceived benefits, and morbidity after a heart attack: An 8-year study. *Journal of Consulting and Clinical Psychology*, *55*, 29–35.

Arman, M., & Backman, M. (2007). A longitudinal study on women's experiences of life with breast cancer in anthroposophical (complementary) and conventional care. *European Journal of Cancer Care*, *16*, 444–450.

Arman, M., & Rehnsfeldt, A. (2002). Living with breast cancer – a challenge to expansive and creative forces. *European Journal of Cancer Care*, *11*, 290–296.

Arman, M., Rehnsfeldt, A., Carlsson, M., & Hamrin, E. (2001). Indications of change in life perspective among women with breast cancer admitted to complementary care. *European Journal of Cancer Care*, *10*, 192–200.

Barakat, L. P., Alderfer, M. A., & Kazak, A. E. (2006). Posttraumatic growth in adolescent survivors of cancer and their mothers and fathers. *Journal of Paediatric Psychology*, *31*(4), 413–419.

Barroso, J., Gollup, C., Sandelowski, M., Meynell, J., Pearce, P., & Collins, L. (2003). The challenge of searching for and retrieving qualitative studies. *Western Journal of Nursing Research*, *25*, 153–178.

Bates, M. (1989). The design of browsing and berrypicking techniques for the online search interface. *Online Review*, *13*, 149–159.

Belec, R. (1992). Quality of life: Perceptions of long-term survivors of bone marrow transplantation. *Oncology Nursing Forum*, *19*, 31–37.

Britten, N., Campbell, R., Pope, C., Donovan, J., Morgan, M., & Pill, R. (2002). Using meta ethnography to synthesise qualitative research: A worked example. *Journal of Health Services Research and Policy*, *7*, 209–215.

Carpenter, J. S. (1999). Self-transformation as a factor in the self-esteem and well-being of breast cancer survivors. *Journal of Advanced Nursing*, *29*, 1402–1411.

Carver, S. (1998). Resilience and thriving: Issues, models, and linkages. *Journal of Social Issues*, *54*, 245–266.

Cella, D., & Tross, S. (1986). Psychological adjustment to survival from Hodgkin's disease. *Journal of Consulting and Clinical Psychology*, *54*, 616–622.

Collins, R. L., Taylor, S. E., & Skokan, L. A. (1990). A better world or a shattered vision? Changes in perspectives following victimization. *Social Cognition*, *8*, 263–285.

Coward, D., & Kahn, D. (2005). Transcending breast cancer: Making meaning from diagnosis and treatment. *Journal of Holistic Nursing*, *23*, 264–283.

Coward, D., & Lewis, F. (1993). The lived experience of transcendence in gay men with AIDS. *Oncology Nursing Forum*, *20*, 1363–1368.

Curtin, R. B., Mapes, D., Petillo, M., & Oberley, E. (1997). Long-term dialysis survivors: A transformational experience. *Qualitative Health*, *12*(5), 609–624.

Dahan, J. F., & Auerbach, C. F. (2006). Qualitative study of the trauma and posttraumatic growth of multiple myeloma patients treated with peripheral blood stem cell transplant. *Palliative and Supportive Care*, *4*(4), 365–387.

Daiter, S., Larson, R., Weddington, W., & Ultman, J. (1988). Psychosocial symptomatology, personal growth, and development among young adult patients following the diagnosis of leukemia lymphoma. *Journal of Clinical Oncology*, *6*, 613–617.

Daly, J., Willis, K., Small , R., Green, J., Welch, N., Kealy, M., & Hughes, E. (2006). A hierarchy of evidence for assessing qualitative health research. *Journal of Clinical Epidemiology*, *60*, 43–49.

Danoff-Burg, S., & Revenson, T. (2005). Benefit-finding among patients with rheumatoid arthritis: Positive effects on interpersonal relationships. *Journal of Behavioral Medicine*, *28*, 91–103.

Demark-Wahnefried, W., Peterson, B., McBride, C., Lipkus, I., & Clipp, E. C. (2000). Current health behaviours and readiness to pursue lifestyle change among men and women diagnosed with early-stage prostate and breast cancer. *Cancer*, *88*, 674–684.

Dildy, S. P. (1996). Suffering in people with rheumatoid arthritis. *Applied Nursing Research*, *9*, 177–183.

Dixon-Woods, M., Booth, A., & Sutton (2007). Synthesising qualitative research: A review of published reports. *Qualitative Research*, *7*, 375–422.

Dixon-Woods, M., Argarwal, S., Jones, D., Young, B., & Sutton, A. (2005). Synthesising qualitative and quantitative evidence: A review of possible methods. *Journal of Health Services Research and Policy*, *10*, 45–53.

Dixon-Woods, M., Bonas, S., Booth, A., Jones, D, Miller, T., Sutton, A., *et al.* (2006). How can systematic reviews incorporate qualitative research? A critical perspective. *Qualitative Research*, *6*, 27–44.

Dunn, J., Lynch, B., Rinaldis, M., Pakenham, L., Owen, N., Leggett, B., *et al.* (2006). Dimensions of quality of life and psychosocial variables most salient to colorectal cancer patients. *Psycho-Oncology*, *15*, 20–30.

Edvardsson, T., Pahlson, A., & Ahlstrom, G. (2006). Experiences of onset diagnosis of low-grade glioma from the patient's perspective. *Cancer Nursing*, *29*, 415–422.

Eide, P. (2006). Hawaiian women and the experience of breast cancer. *Women and Health*, *44*(4), 41–59.

Emslie, C. (2005). Women, men and coronary heart disease: A review of the qualitative literature. *Journal of Advanced Nursing*, *51*, 382–395.

Emslie C, & Hunt K. (in press). Men, masculinities and heart disease: A systematic review of the qualitative literature. *Current Sociology*.

Fatone, A. M., Moadel, A. B., Foley, F. W., Fleming, M., & Jandorf, L. (2007). Urban voices: The quality-of-life experience among women of color with breast cancer. *Palliative and Supportive Care*, *5*, 115–125.

Frankl, V. (1984). *Man's search for meaning*. New York: Pocket books.

Fredette, S. L. (1995). Breast cancer survivors-concerns and coping. *Cancer Nursing*, *18*(1), 35–46.

Fromm, K., Andrykowski, M., & Hunt, J. (1996). Positive and negative psychosocial sequelae of bone marrow transplantation: Implication for quality of life assessment. *Journal of Behavioral Medicine*, *19*, 221–240.

Gillen, G. (2005). Positive consequences of surviving a stroke. *American Journal of Occupational Therapy*, *59*, 346–350.

Gotay, C., Holup, J., & Muraoka, M. Y. (2002). The challenges of prostate cancer: A major men's health issue. *International Journal of Men's Health*, *1*, 59–72.

Hassin, J. (1994). Living a responsible life- the impact of AIDS on the social identity of intravenous drug users. *Social science and Medicine*, *39*(3), 391–400.

Heiland, M. F., Goggin, K., Brandt-Kessler, K., Brammer, A., Nollen, N., Murray, T., *et al.* (2002). Reconstruction of meaning and identity in the wake of new treatments for HIV disease. *Journal of Psychology and Human Sexuality*, *14*, 55–79.

Johansson, K., Holmstrom, H., Nilsson, I., Ingvar, C., Albertsson, M., & Ekdahl, C. (2003). Breast cancer patients' experiences of lymphoedema. *Scandinavian Journal of Caring Sciences*, *17*, 35–42.

Kennedy, B. J., Tellegen, A., Kennedy, S., & Havernick, N. (1976). Psychological responses of patients cured of advanced cancer. *Cancer*, *38*, 2184–2191.

Kyngas, H., Mikkonen, R., Nousiainen, E., Rytilahti, M., Seppanen, P., Vaattovaara, R., *et al.* (2001). Coping with the onset of cancer: Coping strategies and resources of young people with cancer. *European Journal of Cancer Care*, *10*, 6–11.

Laerum, E., Johnsen, N., Smith, P., & Larsen, S. (1987). Can myocardial infarction induce positive changes in family relationships? *Family Practice*, *4*(4), 302–305.

Laerum, E., Johnsen, N., Smith, P., & Larsen, S. (1988). Myocardial infarction may induce positive changes in life-style and in the quality of life. *Scandinavian Journal of Primary Health Care*, *6*(2), 67–71.

Lam, W., & Fielding, R. (2003). The evolving experience of illness for Chinese women with breast cancer: A qualitative study. *Psycho-oncology*, *12*, 127–140.

Lev-Wiesel, R., & Amir, M. (2006). Growing out of ashes. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (pp. 248–263). Mahwah, NJ: Erlbaum.

Linley, A., & Joseph, S. (2004). Positive changes following trauma and adversity: A review. *Journal of Traumatic Stress*, *17*, 11–21.

Luoma, M. L., & Hakamies-Blomqvist, L. (2004). The meaning of quality of life in patients being treated for advanced breast cancer: A qualitative study. *Psycho-oncology*, *13*, 729–739.

Maercker, A., & Zoellner, T. (2004). The Janus face of self-perceived growth: Toward a two-component model of posttraumatic growth. *Psychological Inquiry*, *15*, 41–48.

Manuel, J. C., Burwell, S. R., Crawford, S. L., Lawrence, R., Farmer, D., Hege, A.,*et al.* (2007). Younger women's perceptions of coping with breast cancer. *Cancer Nursing*, *30*, 85–94.

Milne, H. M., Guilfoyle, A., Gordon, S., Wallman, K., & Courneya, K. (2007). Personal accounts of exercise and quality of life from the perspective of breast cancer survivors. *Quality of Life Research*, *16*(9), 1473–1481.

Noblit, G. W, & Hare, R. D. (1988). *Meta-ethnography: Synthesizing qualitative studies*. London: Sage Publications.

Nolen-Hoeksema, S., & Davis, C. (2004). Positive response to loss. In C. R. Snyder & S. Lopez (Eds.), *Handbook of positive psychology* (pp. 598–607). New York: Oxford University Press.

O'Connor, A., Wicker, C., & Germino, B. (1990). Understanding the cancer patients search for meaning. *Cancer Nursing*, *13*, 167–175.

O'Leary, V., & Ickovics, J. (1995). Resilience and thriving in response to challenge: An opportunity for a paradigm shift in women's health. *Women's Health: Research on Gender, Behaviour and Policy*, *1*, 121–142.

Pakenham, K. I. (2007). The nature of benefit finding in multiple sclerosis (MS). *Psychology Health and Medicine*, *12*, 190–196.

Park, C., & Lechner, S. (2006). Measurement issues in assessing growth following stressful life experiences. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (pp. 47–67). Mahwah, NJ: Erlbaum.

Parry, C. (2003). Embracing uncertainty: An exploration of the experiences of childhood cancer survivors. *Qualitative Health research*, *13*, 227–246.

Parry, C., & Chesler, M. A. (2005). Thematic evidence of psychosocial thriving in childhood cancer survivors. *Qualitative Health Research*, *15*, 1055–1073.

Paterson, B., Thorne, S., Crawford, J., & Tarko, M. (1999). Living with diabetes as a transformational experience. *Qualitative Health Research*, *9*, 786–802.

Paton, D. (2006). Posttraumatic growth in disaster and emergency work. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (pp. 225–245). Mahwah, NJ: Erlbaum.

Petrie, K. J., Buick, D. L., Weinman, J., & Booth, R. J. (1999). Positive effects of illness reported by myocardial infarction and breast cancer patients. *Journal of Psychosomatic Research*, *47*(6), 537–543.

Power, R., Tate, H. L., McGill, S., & Taylor, C. (2003). A qualitative study of the psychosocial implications of lipodystrophy syndrome on HIV positive individuals. *Sexually transmitted Infections*, *79*, 137–141.

Rosner, R., & Powell, S. (2006). Posttraumatic growth after war. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (pp. 197–213). Mahwah, NJ: Erlbaum.

Rothschild, B. (2000). *The body remembers*. California: W.W Norton and Company.

Russell, C. S., White, M. B., & White, C. P. (2006). Why me? Why now? Why multiple sclerosis? Making meaning and perceived quality of life in a Midwestern sample of patients with multiple sclerosis. *Families, Systems, and Health*, *24*, 65–81.

Sabiston, C. M., McDonough, M. H., & Crocker, P. (2007). Psychosocial experiences of breast cancer survivors involved in a dragon boat program: Exploring links to positive psychological growth. *Journal of Sport and Exercise Science*, *29*, 419–438.

Salick, E., & Auerbach, C. (2006). From devastation to integration: Adjusting to and growing from medical trauma. *Qualitative Health Research*, *16*(8), 1021–1037.

Schwartzberg, S. (1993). Struggling for meaning: How HIV-positive gay men make sense of AIDS. *Professional Psychology: Research and Practice*, *24*, 483–490.

Schwartzberg, S. (1994). Vitality and growth in HIV-infected gay men. *Social Science and Medicine*, *38*, 593–602.

Siegel, K., & Schrimshaw, E. (2000). Perceiving benefits in adversity: Stress related growth in women living with HIV. *Social Science and Medicine*, *51*, 1543–1554.

Sodregen, S. C., & Hyland, M. E. (2000). What are the positive consequences of illness? *Psychology and Health*, *15*(1), 85–97.

Taleghani, F., Yekta, Z. P., & Nasrabadi, A. N. (2006). Coping with breast cancer in newly diagnosed Iranian women. *Journal of Advanced Nursing*, *54*, 265–272.

Tandon, S., & Mehrotra, S. (2007). Encounters with cancer: Illustrating the process of psychological adaptation. *Psychological Studies*, *52*, 54–61.

Tartaro, J., Roberts, J., Nosarti, C., Crayford, T., Luecken, L., & David, A. (2005). Who benefits? Distress, adjustment and benefit-finding among breast cancer survivors. *Journal of Psychosocial Oncology*, *23*, 45–64.

Taylor, S., Lichtman, R., & Wood, J. (1984). Attributions, beliefs about control and adjustment to breast cancer. *Journal of Personality and Social Psychology*, *46*, 489–502.

Tedeschi, R., & Calhoun, L. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Thousand Oaks, CA: Sage.

Tedeschi, R. G., & Calhoun, L. G. (2006). Foundations of posttraumatic growth. In R. G. Tedeschi & L. G. Calhoun (Eds.), *Handbook of posttraumatic growth* (pp. 3–23). New Jersey: Erlbaum.

Thomas, J., & Harden, A. (2007). Methods for the thematic synthesis of qualitative research in systematic reviews. NCRM Working Paper Series Number (10/07).

Thornton, A. A. (2002). Perceiving benefits in the cancer experience. *Journal of Clinical Psychology in Medical Settings*, *9*(2), 153–165.

Tompkins, T. L., Henker, B., Whalen, C. K., Axelrod, J., & Comer, L. K. (1999). Motherhood in the context of HIV infection: Reading between the numbers. *Cultural Diversity and Ethnic Minority Psychology*, *5*, 197–208.

Towsley, G. L., Beck, S. L., & Watkins, J. (2007). Learning to live with it: Coping with the transition to cancer survivorship in older adults. *Journal of Ageing Studies*, *21*, 93–106.

Widows, M. R., Jacobsen, B. P., Booth-Jones, M., & Fields, K. K. (2005). Predictors of posttraumatic growth following bone marrow transplantation for cancer. *Health Psychology*, *24*, 266–273.

Winterling, J., Wasteson, E., Glimelius, B., Sjoden, P. O., & Nordin, K. (2004). Substantial changes in life: Perceptions in patients with newly diagnosed advanced cancer and their spouses. *Cancer Nursing*, *27*, 381–388.

Znoj, H. (2006). Bereavement and posttraumatic growth. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (pp. 176–196). Mahwah, NJ: Erlbaum.

Received 7 March 2008; revised version received 17 June 2008