



Exploring self-perceived growth in a clinical sample of severely traumatized youth



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ARTICLE INFO

Article history:

Received 18 May 2012

Received in revised form 19 February 2013

Accepted 23 February 2013

Available online 30 March 2013

Keywords:

Posttraumatic growth

Trauma

Children

Adolescents

Psychotherapy

ABSTRACT

Objective: The aims of this study were threefold: (1) examine the prevalence of Posttraumatic Growth (PTG) among severely traumatized youth, (2) systematically describe the PTG reported, and (3) study the course of PTG from pre- to post-treatment.

Method: The sample consisted of 148 severely traumatized Norwegian youth (M age = 15, $SD = 2.2$, 79.1% girls) receiving treatment in child mental health clinics. The Clinician Administered PTSD Scale for Children (CAPS) was used to assess level of posttraumatic stress symptoms (PTSS) pre- and post-treatment. One of the questions in CAPS: “How do you think (traumatic event) has affected your life?” formed the basis for our analysis of PTG. Words and phrases indicative of PTG were identified using the Consensual Qualitative Research method.

Results: Pre-treatment, the prevalence rate of PTG was low compared to previous findings, and reports of PTG were not related to levels of PTSS. The main PTG themes identified were: personal growth, relational growth, and changed philosophy of life. A sub-theme of personal growth; greater maturity/wisdom, was the most salient theme identified both pre- and post-treatment. Age was significantly related to reports of PTG; older participants reported more growth. Reports of PTG increased significantly from pre- to post-treatment, but were not related to decrease in PTSS.

Conclusions: The findings suggest that PTG is not only possible for youth, but quite similar to that observed among adults. However, we need to carefully consider whether reports of self-perceived positive change among traumatized youth actually are indicative of growth, or simply indicative of increased vulnerability.

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Research on psychological reactions in response to traumatic events has primarily focused on the negative consequences, such as posttraumatic stress disorder (PTSD), depression and anxiety. Though there is overwhelming evidence that traumatic experiences can be highly distressing and disruptive, a growing body of literature suggests that positive changes also can occur following trauma (e.g., Devine, Reed-Knight, Loisele, Fenton, & Blount, 2010; Hafstad, Kilmer, & Gil-Rivas, 2011; Kilmer et al., 2009). Posttraumatic growth (PTG) is a relatively new construct, defined as “positive change that the individual experiences as a result of the struggle with a traumatic event” (Calhoun & Tedeschi, 1999, p. 11). According to Tedeschi and Calhoun (2004), a traumatic event can present major challenges to a person’s basic assumptions about the world as safe and predictable, and one’s own invulnerability. Thus, trauma can produce a need to re-examine one’s assumptive world, and an attempt to reestablish some useful basic cognitive guides for living that incorporates the traumatic event and its aftermath. This ruminative process may lead to deep personal changes in one’s sense of self, interpersonal relationships, and philosophy

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of life (Tedeschi & Calhoun, 1995). Within these three areas, Tedeschi and Calhoun (1996) have identified five domains of PTG: a sense of increased personal strength (e.g., “I discovered that I’m stronger than I thought I was”), more meaningful and intimate interpersonal relationships (e.g., “I accept needing others”), greater appreciation of life and changed priorities (e.g., “I appreciate each day”), recognition of new possibilities (e.g., “I have developed new interests”), and spiritual development (e.g., “I have a stronger religious faith”).

It is important to emphasize that the focus here is on positive side effects of dealing with trauma, *not* on positive aspects of having experienced trauma. Recognizing that positive changes may result from struggling with trauma is not the same as denying potential adverse effects (Shakespeare-Finch & de Dassel, 2009). Among trauma survivors, reports of growth usually do not signal an end to pain, distress, and feelings of vulnerability (Chun & Lee, 2008). In fact, according to Tedeschi and Calhoun (2004), psychological distress is viewed as an essential catalyst for growth. Several studies have found a positive linear relationship between posttraumatic stress symptoms (PTSS) and PTG (Alisic, van der Schoot, van Ginkel, & Kleber, 2008; Barakat, Alderfer, & Kazak, 2006; Dekel, Mandl, & Solomon, 2011; Hafstad et al., 2011; Kilmer et al., 2009; Laufer & Solomon, 2006; Yu et al., 2010), but curvilinear (Levine, Laufer, Hamama-Raz, Stein, & Solomon, 2008), negative (Hagenaars & van Minnen, 2010) and non-significant (Phipps, Long, & Ogden, 2007) associations have also been reported.

Posttraumatic growth and childhood trauma

To date, relatively few studies have investigated the prevalence of PTG among children and adolescents. Given that a perception of growth appears to involve sophisticated cognitive appraisals, both in terms of recognizing both losses and gains and comparing oneself “before” and “after”, it has been questioned whether PTG is possible for children (Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Taku, Kilmer, Cann, Tedeschi, & Calhoun, 2011). Existing literature does, however, suggest that youth can experience and report PTG. Positive changes have been documented among youth exposed to diverse traumas, such as natural disasters (Cryder et al., 2006; Hafstad et al., 2011; Kilmer et al., 2009; Yu et al., 2010), serious childhood illness (Barakat et al., 2006; Currier, Hermes, & Phipps, 2009; Phipps et al., 2007; Tran, Wiebe, Fortenberry, Butler, & Berg, 2011), traffic accidents (Salter & Stallard, 2004), terror events (Laufer, Raz-Hamama, Levine, & Solomon, 2009; Levine et al., 2008), and various potentially traumatizing events (Alisic et al., 2008; Ickovics et al., 2006; Milam, Ritt-Olson, & Unger, 2004). In these studies between 22% (Yu et al., 2010) and 85% (Barakat et al., 2006) of the participants reported some aspect of growth. Although the prevalence rates vary considerably between these studies, even the lowest rates indicate that PTG following a potentially traumatic event is rather common among children and adolescents.

Existing qualitative research on the association between adverse childhood experiences and PTG mainly rests on retrospective studies with adult survivors of childhood trauma. For example, Draucker, Murphy, and Artinian (1992) and McMillen, Zuravin, and Rideout (1995) studied PTG among women who had experienced incest and child sexual abuse, respectively. In both studies, approximately 50% of the women described at least one positive change stemming from their sexual abuse experience, such as becoming stronger or more aware of their strength; having an increased ability to relate to other victims; or being better able to protect children from being victimized. Similarly, Wong, Cavanaugh, Macleamy, Sojourner-Nelson, and Koopman (2009), who interviewed young adults exposed to parental cancer during childhood, found that 44% reported PTG as a result of their parents’ illness, including an improved character; increased appreciation for life; strengthened personal relationships; and an interest in cancer issues.

To our knowledge, only two qualitative studies have examined PTG among youth (Hafstad, 2009; Salter & Stallard, 2004). In the first study (Salter & Stallard, 2004), 158 children and adolescents who had recently been involved in a road traffic accident were interviewed and assessed for PTSD symptoms. During the interviews, it was observed that the children reported a number of experiences and feelings not assessed by the diagnostic tools. These reports were recorded in the interview notes and later subjected to qualitative analysis. The authors found that 42% of the participants described growth in the domains identified by Tedeschi and Calhoun (1996).

Hafstad (2009) investigated PTG among Norwegian children and adolescents exposed to the 2004 Southeast Asian earthquake-tsunami. One hundred and five youth were asked an open-ended question from the Posttraumatic Growth Inventory for Children-Revised (Kilmer et al., 2009), about personal change as a result of the disaster. She found that 33% spontaneously reported some positive change resulting from their adverse experience. Participants reported change in five main areas: appreciation of life, personal strength, relating to others, increased empathy (compassion), and wisdom/understanding. These domains are largely consistent with findings from studies on adults; however, one of the themes (i.e., wisdom/understanding) is not included in standardized PTG measures.

A frequent question in studies on youth is whether reports of change simply are a reflection of time and development. Reports of personal changes, such as increased strength, may either reflect PTG or be the result of normal maturational processes (Cohen, Hettler, & Pane, 1998; Kilmer & Gil-Rivas, 2010). Two recent studies have addressed this issue and found that children exposed to trauma reported more PTG than those whose worst life experience was non-traumatic (Alisic et al., 2008; Taku et al., 2011). These findings suggest that reports of PTG are distinct from normative maturation.

In sum, evidence suggests that a significant number of people, both children and adults, report aspects of PTG when asked how a potentially traumatic childhood experience has affected their lives. However, until recently, little qualitative work has been done to elucidate the types of PTG experienced by children and adolescents.

Limitations of existing research

Even though the potential for positive change following trauma has received increased attention over the past years, the existing literature in this area has some important limitations. First, most studies on PTG have used quantitative measures, such as the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). Though fruitful in terms of identifying correlates of PTG, and documenting the prevalence of change in specific growth domains in large and diverse populations, this type of questionnaire-based assessment has been criticized on a number of grounds. First, several authors argue that more descriptive and explorative work is required before assessment of growth can be constrained to a few predetermined domains (Chun & Lee, 2008; Pals & McAdams, 2004; Park, 2004). They stress that reports of PTG in response to open-ended questions are more powerful and convincing than ratings on predefined items, as they are expressed in the individual's own words (Nolen-Hoeksema & Davis, 2004; Pals & McAdams, 2004). In light of these limitations, analysing personal accounts of positive self-transformation may be the best way to study this phenomenon.

Second, the vast majority of studies on PTG have focused on adults, largely neglecting the younger population. Most of the existing studies on children and adolescents have used modified versions of quantitative measures developed from the adult literature, with items assessing changes in the five domains proposed by Tedeschi and Calhoun (e.g., PTGI-C; Cryder et al., 2006). However, although these domains may adequately represent growth outcomes typically reported by adults, it is possible that growth is conceptualized differently in the younger population (Helgeson, Reynolds, & Tomich, 2006). As such, important and salient themes of PTG among children and adolescents may have been lost (Devine et al., 2010). A qualitative approach may provide additional knowledge as to whether severely traumatized children report themes of PTG, and whether these themes are similar to, or deviate from, those reported by adults.

Third, most studies on PTG are cross-sectional. Few studies have explored the course of PTG from one time point to another. Furthermore, although it has been suggested that clinical intervention can help foster growth (e.g., Tedeschi & Calhoun, 1995), the PTG literature appears to contain only a handful of studies where this has been addressed empirically (Antoni et al., 2001; Frazier, Conlon, & Glaser, 2001; Hagenars & van Minnen, 2010; Knaevelsrud, Liedl, & Maercker, 2010; Lechner & Antoni, 2004). The preliminary findings from these studies on adults suggest that therapeutic interventions can foster growth, as reports of PTG have been found to increase significantly from pre- to post-treatment in therapy. However, to our knowledge, no one has studied the impact of psychotherapy on PTG among younger age groups.

The present study

This study aimed to enhance our understanding of the phenomenon of PTG in youth. Research examining PTG among children and adolescents can broaden our understanding of growth from a developmental perspective. We wanted to explore the extent to which severely traumatized children and adolescents experience PTG, and systematically describe the types of growth reported. This particular sample might help elucidate the relationship between PTG and PTSS. We were also interested in studying the course of PTG reports from pre- to post-treatment. Based on PTG theory and previous research, we expected to find reports of growth among a considerable number of participants pre-treatment (T1), particularly among children with high levels of PTSS. Furthermore, based on the preliminary results on growth within the context of psychotherapy, we expected the reports of PTG to increase and PTSS to decrease, from pre- to post-treatment (T2).

Method

Participants

The data in the present study was collected as part of a longitudinal treatment study designed to determine the effect of trauma therapy among severely traumatized children and adolescents (Jensen et al., 2013). A total of 148 children and adolescents were included within this study, aged between 10 and 18 years ($M = 15$, $SD = 2.2$), 79.1% girls. The majority of the sample had at least one Norwegian parent ($n = 122$, 82.4%), while 15 (10.1%) had Asian born parents, and 11 (7.4%) reported other countries of origin. To measure socio-economic status, parents' level of education was collected. In this sample, the highest level of education was below upper secondary level of education for 18 children's parents (12.2%), while 61 (41.21%) had upper secondary education, and 50 (33.78%) were educated at college or university level education (for 12.8% demographic data was missing). In 2011, 29% of the Norwegian population had tertiary education.

Most participants ($n = 128$, 86.5%) had experienced more than one type of trauma. The reported number of traumas experienced ranged from 1 to 10 ($M = 3.6$, $SD = 1.8$). Where participants had experienced more than one traumatic event, the interviewer based the assessment on the event the child rated as most upsetting (i.e., "the worst trauma"). The traumas reported were: "Sudden death" ($n = 27$, 18.2%), "Violence outside the family" ($n = 26$, 17.6%), "Domestic violence" ($n = 50$, 33.8%), "Sexual abuse outside the family" ($n = 29$, 19.6%), "Sexual abuse inside the family" ($n = 11$, 7.4%), and "Others (including war and natural disasters)" ($n = 5$, 3.4%). All the events met the DSM-IV PTSD A1 criterion for objective exposure.

A total of 148 participants completed the assessment either pre-treatment, post-treatment, or at both time points. A total of 138 youth completed the assessment pre-treatment, and 102 completed it post-treatment. Ninety-two (62.2%) participants completed the assessment at both time-points. In order to fully utilize the data, qualitative themes were analyzed based on

the total sample at both time-points. The course of PTG from pre- to post-treatment, however, was analyzed in the sample of participants completed the assessment at both time-points.

Clinical interventions

The youth were randomly assigned to receive either trauma-focused cognitive behavioral therapy (TF-CBT) or treatment as usual (TAU). TF-CBT is a short-term, component-based intervention consisting of 12–15 sessions. The components are as follows: psychoeducation, teaching relaxation and affect modulation skills, learning cognitive coping skills, working through the trauma narrative, cognitive processing, in vivo mastery of trauma reminders, enhancing safety, and future development (see Cohen, Mannarino, & Deblinger, 2006). In the TAU condition, therapists were asked to provide the treatment they believed to be effective for the particular case. When asked about their theoretical orientation, 45.9% ($n = 17$) described theirs as psychodynamic; 29.7% ($n = 11$) as cognitive-behavioral; and 24.3% ($n = 9$) family/systemic. All the therapy sessions were audio recorded and treatment fidelity was checked by trained TF-CBT therapist. In the TAU condition, none of the cases met the adherence criteria for TF-CBT.

The clinician administered PTSD scale for children

The Clinician Administered PTSD Scale for Children (CAPS; Nader et al., 1996) is a structured clinical interview. The first parts covers all the 17 DSM-IV defined symptom criteria (A–F), and measures symptom frequency, symptom intensity, and functional impairment, during the last month. The second part consists of 10 extra items covering associated features. The interview takes between 30 and 120 min to administer, depending on the magnitude of the youths' symptoms. Items are scored based both on the youths' answers and clinical judgment during the interview. In this study, the CAPS was used to assess PTSS among participants pre- and post-treatment. The Norwegian version was developed according to established procedures, and was approved by the developers. The interview was administered by two experienced licensed psychologist, and inter-rater reliability of diagnostic status was good ($Kappa = .80$, $p = .010$). The total symptom scale showed satisfactory internal consistence ($\alpha = .90$), as did the DSM-IV defined tripartite model (re-experience: $\alpha = .87$, avoidance: $\alpha = .77$, hyper arousal: $\alpha = .79$). In the present study, one of the questions in CAPS formed the basis for our analysis of PTG. This was an open-ended, neutrally worded question about the impact of the traumatic experience: "How do you think (traumatic event) has affected your life?"

Procedure

The study was approved by the Norwegian Regional Ethical Committee. To be eligible, children had to be 10–18 years old, have experienced one or more potentially traumatic event(s) and score above clinical cut-off for PTSD. Exclusion criteria were acute psychosis, acute suicidal behaviour, mental retardation, or need of an interpreter. The study was implemented in regular clinical practice in eight different child guidance clinics in Norway. Standard referring procedures to the clinics (i.e., from a general practitioner or through the child protection services) were followed. Once the case was admitted to the clinic and written consent was obtained from both child and parent, pre-treatment assessment (T1) was conducted. Participants were interviewed face-to-face at the child guidance clinic by a trained clinical psychologist not employed at the clinic. Participants were reassessed after 15 therapy sessions (T2). The interviews were audio taped and subsequently transcribed, however; 27 participants refused to be audiotaped during the first assessment, and 21 refused during the second assessment. Here, thorough notes were made of the participants' response to the question of interest.

Data analysis

Core ideas from the Consensual Qualitative Research (CQR) method (Hill et al., 2005; Hill, Thompson, & Williams, 1997) were used in the qualitative analyses. This included using several researchers in the analysis, to ensure multiple perspectives and reduce subjective biasing, and using principles of consensus to arrive at the essential meaning of the data. CQR is an iterative approach to data coding, where the researchers cycle through the data, making comparisons between the data and the derived categories (Hill et al., 1997). Following this protocol, all the interviews were transcribed and then read and re-read by the first two authors separately, in order to establish domains. Domains are overall topics, used to cluster or group the data, and are similar to what others may call an overall theme or topic area (Braun & Clarke, 2006). In the next step, the same two researchers independently re-read all excerpts again, assigning blocks of data to the domains. In this step in the analysis, core ideas are established within each domain and each individual case. Core ideas aim to capture the main essence of what each interviewee had expressed within the theme of each domain. After individually analyzing core ideas, the researchers come together and discuss their coding to make sure the main essence in each individual interview is captured. The third and last step in the analysis was to create categories across cases. The categories were based upon the core ideas through cross-analysis, where core ideas that could be clustered together were transformed into broader categories or themes. This step brings the analysis to a higher abstraction level, while looking for similarities and differences across cases. This initial analysis was done independently by the researchers, before coming together and deciding final categories through discussion. When the domains and categories had been identified, and the excerpts had been coded by the two first authors, an independent

coder (the third author) coded all the excerpts based on the coding framework. On the core themes, the coders reported full consensus on 88.3% of the statements, and the inter-rater reliability was good (Kappa = 0.79, $p < 0.001$). On the sub-themes, the coders reported full agreement on 77.7% of the statements, and again showed a good inter-rater reliability (Kappa = 0.73, $p < 0.001$). The researchers then discussed the excerpts, and discrepancies were mutually reconciled. The researchers are all clinical psychologists and specialists in trauma. In the process of arriving at consensus, at each stage of the analysis, the researchers were careful to go back to the transcripts and re-reading text before making final decisions.

All quantitative analyses were conducted using SPSS, version 17. Descriptive statistics were used to investigate characteristics of the sample. Binary logistic regression analyses were performed to assess the impact of a number of factors (including age, gender, type and number of trauma experienced, level of PTSS, and clinical intervention) on the likelihood that participants reported PTG.

Results

Attrition and baseline comparisons

Eighteen participants dropped out of treatment before the sixth session, and were thus not assessed at T2. There were no significant differences between the retention group and the attrition group when it came to gender ($\chi^2(1) = .056$, $p = .813$), initial PTSS ($t(146) = 1.04$, $p = .330$), parental education ($p = .338$, FET), or number of traumas experienced prior to treatment ($t(146) = -1.60$, $p = .112$). The attrition group was, however, significantly older than the retention group ($t(146) = -2.89$, $p = .004$).

Descriptive statistics

Level of PTSS ranged from 9 to 105 pre-treatment ($M = 59.5$, $SD = 19.9$), and from 0 to 102 post-treatment ($M = 36.5$, $SD = 26.3$). Two logistic regression models (1a and 1b) were employed to assess the impact of five independent variables (gender, age, initial PTSS level, and type and number of trauma experience) on the likelihood that responders would report PTG at T1 and/or T2. The results from these analyses are shown in Table 1.

The impact of gender, age and level of initial PTSS was tested in model 1a, and the impact of number and type of trauma experience was tested in model 1b. Model 1a as a whole was statistically significant: $\chi^2(3, N = 148) = 16.83$, $p < .01$, indicating that between 10.7% and 14.8% of the variance in reporting PTG was explained by the model. However, as shown in Table 1, only age had a unique significant contribution alone ($p < .01$), recording an odds ratio of 1.37, indicating that for every year the participants aged, they were 1.37 times more likely to report PTG. Model 1b did not perform any statistically significant results. The model as a whole was not statistically significant $\chi^2(6, N = 148) = 2.39$, $p > .05$, and neither of the independent variables had any significant contribution alone.

The categories of perceived growth

Pre-treatment ($n = 138$), 23 participants (17%) reported change reflecting some type of growth, while 81 (59%) reported only adverse effects, such as disturbing psychological symptoms, deteriorated academic performance and trust issues. Seventeen (74%) of the 23 children who reported growth at T1 also reported negative effects. Post-treatment ($n = 102$), 41 participants (40.2%) reported some type of growth, while 28 (27%) reported only negative effects. Twenty-four (58.5%) of

Table 1
Summary of logistic regression analysis for variables possibly predicting PTG at T1 and/or T2.

	B (SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
Model 1a*				
Intercept	-5.27**			
Gender	.89 (0.51)	.90	2.44	6.65
Age	.31 (0.10)**	1.12	1.37	1.66
PTSS level at T1	-.01(0.01)	.97	.99	1.01
Model 1b**				
Intercepts	-.44 (0.50)			
Number of traumas	-.07 (0.10)	.88	1.07	1.31
Violence outside family (1)	-.59 (0.58)	.18	.56	1.72
Domestic violence (2)	-.59 (0.50)	.21	.56	1.48
Extra-familial sexual abuse (3)	-.46 (0.55)	.21	.63	1.88
Intra-familial sexual abuse (4)	.03 (0.72)	.25	1.03	4.23
Other (5)	-.37 (1.04)	.09	.69	5.27

Note*: Model 1a: $R^2 = .11$ (Cox & Snell), .15 (Nagelkerke). Model $\chi^2(3) = 16.83$, $p < .001$. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note**: Model 1b: $R^2 = .02$ (Cox & Snell), .02 (Nagelkerke). Model $\chi^2(2) = 2.39$, $p > .05$. * $p < .05$, ** $p < .01$, *** $p < .001$.

Sudden death is the reference trauma category.

Table 2
Reports of post-trauma change pre- and post-treatment.

Response	Theme	Sub-theme	T1 (N = 138) N (%)	T2 (N = 102) N (%)	
PTG	Personal growth	Maturity/wisdom	23 (16.6)	41 (40.2)	
		Personal strength	18 (13.1)	44 (43.1)	
		Self-protection	9 (6.5)	25 (24.5)	
	Relational growth		Improved relationships	6 (4.3)	15 (14.7)
			Empathy/compassion	3 (2.2)	4 (3.9)
			Desire to help/protect others	10 (7.2)	14 (13.7)
				4 (2.9)	7 (6.9)
	Philosophy of life		Appreciation of life	3 (2.2)	3 (2.9)
			Future plans	7 (5.1)	7 (6.9)
				4 (2.9)	4 (3.9)
Only adverse effects			81 (58.7)	28 (27.5)	
Not affected			7 (5.1)	19 (18.6)	
Difficult to categorize			14 (10.1)	10 (9.8)	
"Don't know"			13 (9.4)	5 (4.9)	

the 41 children who perceived growth reported both positive and negative effects. A detailed description of participants' responses at T1 and T2, including the prevalence and characteristics of PTG, are displayed in Table 2.

Three salient themes of PTG, and eight sub-themes, were identified from the analysis of participants' accounts of perceived positive change: (1) personal growth: maturity/wisdom, personal strength, self-protection; (2) relational growth: improved relationships, empathy/compassion, desire to help others; (3) changed philosophy of life: appreciation of life, future plans. Often, the children's remarks placed them in more than one category. For example, one participant described a sense of both relational growth and a newfound appreciation of life: "It's changed my life really. . .I've developed a closer and better relationship with most people. . . and now I see all the little things that really matter, I cherish everything I have". As a result, the percentage totals for each theme exceed the percentage of total growth at pre-and post-treatment.

A summary of the children's self-perceived growth experiences are presented below. Because the same themes were identified at pre- and post-treatment, quotations from both time-points are presented interchangeably to exemplify the categories.

Personal growth

The most distinctive theme of growth reported at both time-points was a sense of positive personal change. Participants said they had learned something from their experiences, that they had more self-knowledge and greater courage, and/or they were more self-confident, independent, and self-protective, than before the traumatic event. Based on this, personal growth was further divided into three sub-themes: greater maturity/wisdom, increased personal strength, and more self-protective behavior. As seen in Table 2, 18 (13%) and 44 (43.1%) participants reported such changes pre- and post-treatment, respectively.

Maturity/wisdom. Thirty-four children indicated an experience of increased maturity or wisdom in the aftermath of their traumatic experience, including a deepened knowledge and understanding of themselves and the world; having more life experiences than peers; and being more independent. For example, a 15-year-old girl who had been threatened by peers at school described an increased assertiveness and self-awareness: "I'm a bit more aware of who I am and I know myself a little better now, what I want and don't want; I set more boundaries before things happen". Similarly, a 17 year old girl who had been sexually abused by a distant family member said "It's made me wiser and smarter, it's taught me to face things and make the right choices, and I've become more mature and learned a lot, I don't care as much about what other people think anymore".

In terms of having gained more experiences than peers, a 15-year-old girl who lost her mother when she was only four years old and had spent a lot of time doing chores at home, said "I feel that the fact that I've learned these things, and seen and experienced things others haven't, has made me realize what the world is like in a way, and how other people can feel (. . .) so in a way I feel that it's a good thing that I've experienced something, not that I wanted to, but that maybe it's a good thing to be able to see reality like that".

Personal strength. Twenty-one participants said they felt stronger after the trauma. They said they felt more self-confident, had greater courage, and could endure more than before. For example, an 18-year-old girl who had been physically abused by her father stated "(It's affected me) both in a positive and negative way, because I feel that I've become quite a lot stronger, that I can endure more now than if I hadn't been through it". Similarly, a 14 year old girl who witnessed her friend die in a car accident, said "It's affected me a lot, I think that my life would've been very different if I hadn't experienced that accident, but in a way it's also strengthened me (. . .) that I, yes, it's made me stronger in many different ways, I've become more self-confident (. . .) and I can handle difficult situations and feelings better".

Self-protection. Though many participants reported negative outcomes in terms of feeling more insecure and vulnerable post-trauma, a few children indicated that this newfound sense of vulnerability was a positive outcome, leading to more self-protective behavior. For example, a 15-year-old girl who had been raped described how she had become more cautious in her sexual behavior: “In a way it’s kinda good that it happened too, because if it hadn’t happened I would probably have much more sex, because I have many friends who have sex all the time, kinda like one-night-stands and stuff, and I can’t do that, because I need to trust the person, and I think that’s kinda good, that I don’t put myself in danger like that”. Similarly, a 17-year-old girl who had been sexually abused said it was difficult for her to trust people, especially boys. Though she described this as “slightly negative”, she added “but it helps me to not get hurt”.

Relational growth

The second major PTG theme reported was changes in relationships with others. Participants said that after the traumatic event, they had developed a closer bond to people, they were more emotionally expressive, more sensitive to other people’s feelings, and were able to help other trauma survivors. Based on this, relational growth was further divided into three subthemes: improved relationships, greater empathy/compassion, and a desire to help/protect others. As seen in Table 2, 10 (7%) and 14 (14%) participants described such positive relational changes pre- and post-treatment, respectively.

Improved personal relationships. Eleven children made direct reference to how their interpersonal relationships had improved following the traumatic event, especially with their parent(s). For example, a 17-year-old girl whose father was seriously injured in an accident said that she now had developed a “stronger bond” to him. After the accident her father spent more time with her and they “got to know each other better”. Similarly, another 17 year old girl said “I know it sounds silly, but the fact that my mother had breast cancer helped me get closer to my mother (. . .) helped me get a boyfriend (. . .) and to get much closer to my sister”. She also described how her mothers’ illness had increased her own ability to express her feelings more openly “I can show more feelings, and I’m able to tell others that it’s OK to be upset, that it’s nothing to be ashamed of”. Likewise, an 18-year-old girl who had been drugged at a party described a subsequent change in her emotional expressiveness and said that after the incident she was “not as scared of showing emotions”. A 14-year-old girl who witnessed her friend die in a car accident acknowledged that this experience was too much for her to bear alone, and that she needed other people: “I’ve allowed myself get help; I don’t have to handle it all on my own”.

Greater empathy/compassion. Six participants reported increased sensitivity towards others in terms of greater feelings of empathy and compassion post-trauma. A 15-year-old girl who had been sexually abused by a family member provided an in-depth description of this sub-theme: “What I especially notice is that the boys in my class, for example, or like a friend of mine, who thinks it’s fun to watch someone in a wheelchair, that’s something I can imagine what’s like, to actually be in a wheelchair, that feeling of being handicapped in a way (. . .) my friends aren’t able to do that”. Closely related to this increased sensitivity towards others following a personal experience of trauma is a unique, affective understanding of other victims suffering. A 13-year-old girl in our sample who had been severely bullied, said “It’s made me care more about others, not just myself (. . .) now, if I see someone who’s alone I care about that person, because I know what it’s like, if I hadn’t, maybe I wouldn’t have understood anything”.

Desire to help/protect others. For some trauma-survivors, feelings of greater empathy and compassion in the aftermath of trauma may stimulate a desire to help others (Tedeschi, Park, & Calhoun, 1998). In our sample, ten children expressed a desire to help other trauma survivors or protect potential future victims. For example, a 17-year-old girl who had been sexually abused said that if she ever had children, she would do her best to protect them from being victimized: “I’ll take good care of them, I’ll check everything, all their friends and everything; they’ll not experience anything like this”. Others said that their personal experience with trauma enabled them to help other victims. For example, a 17-year-old boy who had been bullied said “It’s both positive and negative. It’s positive because I know how others feel, so I can help them if they are being bullied”. Similarly, a 17-year-old girl who had been sexually abused by her stepfather for several years stated “If I hadn’t been abused, I wouldn’t have been able to help all the people I’ve helped”. Two girls, who both had been sexually abused, expressed a desire to become lawyers and help other rape survivors. One of them simply said “I’m going to be a lawyer because I want to help girls like me”.

Changed philosophy of life

The third PTG theme identified from the analysis was a changed philosophy of life. This category was further divided into two subthemes: appreciation of life and future plans. As seen in Table 2, seven participants (5%) described such changes at pre-treatment, and seven (7%) post-treatment.

Appreciation of life. Eight children said they had acquired a renewed appreciation for certain things in life. For example, a 16-year-old girl whose best friend had committed suicide said “I believe I’ve begun to think more, become more aware of things, I don’t take things for granted, I don’t think that what’s around me now is going to be there for ever”. A 17-year-old girl whose mother overdosed in a suicide attempt, stated “The event itself was very difficult, but I’ve gained more self-awareness and a slightly different philosophy of life (. . .) I’ve been thinking more that I should take each day as it comes, and in a way try to be more relaxed, and in a way not take for granted that things are the way they are”. Similarly, a 15-year-old girl who lost a friend in a car accident, said “I see all the little things that really matter, I cherish everything I have, so a lot of good has come out of it, even though I would give it all away to get him back it’s not just negative things that have happened afterwards”.

Table 3

Summary of logistic regression analysis for variables possibly predicting change in reports of PTG from T1 to T2.

	B (SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
Model 2a*				
Intercept	1.07 (0.43)**			
Therapy condition	.35 (0.50)	.53	1.41	3.78
Change in PTSS	.00 (0.01)	.98	1.00	1.02
Model 2b**				
Intercept	6.24 (2.29)**			
Gender	−1.44 (0.80)	.05	.24	1.31
Age	−.26 (0.14)	.59	.77	1.01

Note*: Model 2a: $R^2 = .01$ (Cox & Snell), .01 (Nagelkerke). Model $\chi^2(2) = 0.63$, $p > .05$. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note**: Model 2b: $R^2 = .10$ (Cox & Snell), .14 (Nagelkerke). Model $\chi^2(2) = 9.15$, $p < .01$. * $p < .05$, ** $p < .01$, *** $p < .001$.

Future plans. Six children noted that the event had influenced their thoughts about their future. For example, a 15-year-old girl who had experienced domestic violence said “I guess it’s made me more aware of what kind of relationship I want to have myself”. Another 15-year-old girl, who had been sexually abused by a family member, stated “I have a stronger wish to move out and get my own life than most people my age, everybody thinks “ah, what should I do next year?”, “what should I study?”, and stuff like that, but I know what I want to do. I’m going to use the money I got after the trial to go to the school I want to. That’s what I’m thinking”. Two girls who had both been raped wanted to pursue a career in law.

Course of PTG from pre- to post-treatment

Of the 148 participants, 92 (62.2%) responded to the open-ended question of interest at both time-points. Reports of PTG increased significantly from pre- to post-treatment; with 14 (15%) and 33 (35%) participants reporting aspects of growth at T1 and T2, respectively (McNemar’s test, $\chi^2 = 15.21$, $p < .001$). The number of participants who reported adverse effects more than halved; from 57 (61%) pre-treatment to 26 (28%) post-treatment. Furthermore, only four children (4%) said they had not been affected by the traumatic event pre-treatment, while 20 participants (22%) post-treatment either said that they had not been affected, or that it did not affect them any more.

Two logistic regression models (2a and 2b) were employed to investigate whether various independent factors (treatment condition, change in level of PTSS from pre- to post-treatment, gender and age), would predict an increase in reports of PTG from T1 to T2. The results from these analyses are shown in Table 3.

Model 2a as a whole was not statistically significant: $\chi^2(2, N = 92) = 0.63$, $p > .05$. Furthermore, none of the independent variables had a unique contribution alone. Model 2b, however, was statistically significant, $\chi^2(2, N = 92) = 9.15$, $p < .01$, indicating that between 10% and 14% of the variance in reporting an increase in PTG was explained by the model. However, none of the independent variables contributed significantly alone.

Seven participants, who only reported adverse changes pre-treatment (including posttraumatic symptoms, shame, bad self-esteem, and trust issues), reported only positive changes post-treatment. Six of them said they had experienced personal growth, including maturity/wisdom, personal strength and/or self-protection; while one of them, a girl who had experienced domestic violence, reported all three salient growth themes post-treatment.

Three of the participants who described PTG pre-treatment did not report growth post-treatment. One of them, a boy who had been bullied, said that the traumatic experience no longer affected him, while the other two only reported adverse effects post-treatment. One of them, a girl who had been sexually abused, reported pre-treatment that she felt that she could no longer trust anybody, but that she had “more experiences” than peers and “knew what to look for if something was wrong”. Post-treatment, she only reported negative post-trauma changes, including increased insecurity, aggression and sadness. For a more detailed description of changes in reports of PTG from pre- to post-treatment, see Table 4.

Table 4

Changes in reports of PTG from pre- and post-treatment.

T1	T2	N
Only growth	Only growth	3
Only growth	Mixed	1
Mixed	Only growth	2
Mixed	Mixed	5
Mixed	Only negative	2
Mixed	Not affected	1
Only negative	Only growth	7
Only negative	Mixed	10
Not affected	Mixed	1
Difficult to categorize	Only growth	1

Discussion

The primary aim of this study was to improve our understanding of how traumatic events affect children and adolescents, with a particular focus on aspects that may reflect PTG. More specifically, we wanted to explore the prevalence and characteristics of self-perceived positive changes reported by a clinical sample of severely traumatized youth.

Contrary to expectations, only 17% of the participants reported aspects of growth pre-treatment. Compared to previous findings of PTG among youth (e.g., Barakat et al., 2006; Salter & Stallard, 2004), this prevalence rate is low. To our knowledge, this is the first study using a clinical sample to explore PTG among youth. Previous researchers have mainly recruited participants from schools (after exposure to terror or a natural disaster), or from hospitals (after being diagnosed with a serious childhood illness). Participants in this study were recruited from mental health clinics (after being exposed to a wide range of traumatic events), and all displayed clinically significant posttraumatic stress reactions. Since several studies have found a positive association between PTSS and PTG, one could have expected to find higher prevalence of PTG in our sample. It is possible that more focused questioning could have elicited more reports of PTG. Among the independent variables we studied (i.e., gender, age, level of PTSS, number and type of trauma), only age was found to be significantly related to reports of PTG. The older the participants were, the more likely they were to report growth. In previous studies, both positive significant (Milam et al., 2004) and non-significant (Cryder et al., 2006; Hafstad et al., 2011; Kilmer et al., 2009; Phipps et al., 2007) associations between PTG and age have been found among adolescents. As PTG appears to involve sophisticated cognitive appraisals, it is possible that this construct is more applicable to older than younger children, but more research on the effect of age and development on PTG is needed.

Characteristics of posttraumatic growth

The characteristics of PTG reported by participants in our sample are largely in line with previous work in this field. Reports of improved interpersonal relationships, increased personal strength, and new philosophy of life, closely parallel growth domains extensively documented among adults (e.g., Tedeschi & Calhoun, 1996). However, consistent with findings from another recent study on traumatized Norwegian youth (Hafstad et al., 2011), none mentioned growth of a spiritual nature. Scandinavian countries (including Norway) are among the most secular societies in Europe (Brown & Snape, 2010). In this cultural context, it is perhaps not surprising that the children not reported change of a spiritual nature. We did, however, identify two sub-themes (maturity/wisdom and a desire to help/protect others) which are not included in the questionnaires most commonly used to study growth among youth (e.g., the PTGI-C). In our study, a sense of increased maturity/wisdom was the most salient positive change reported both pre- and post-treatment. This is in line with results from a study on young adults exposed to parental cancer during childhood (Wong et al., 2009), where participants reported a sense of increased maturity as a result of their parents' illness. Also, Hafstad (2009) found that some children reported increased wisdom/understanding after being exposed to the 2004 tsunami. In order to further explore the existence of these forms of growth among youth, existing quantitative measures may need to be expanded.

Course of posttraumatic growth from pre- to post-treatment

As hypothesized, the children reported significantly more growth post-treatment than pre-treatment. Overall, reports of positive changes increased and reports of negative changes decreased, but these changes were not correlated. Higher reports of PTG post-treatment is consistent with earlier findings among adults (e.g., Hageñaars & van Minnen, 2010; Knaevelsrud et al., 2010). Although we cannot exclude the impact of time, the findings suggest that treatment may facilitate PTG also among younger age groups. Interestingly, there were no differences between the treatment groups, which may indicate that treatment in itself leads to PTG, but more studies are warranted. For now we can only speculate as to which elements of the treatment might have been involved. It is possible that the therapists particularly targeted the children's dysfunctional and disruptive thoughts, such as "the traumatic experience has ruined me forever", and that this has contributed to foster growth. Also, skill building and integrating the trauma experience into one's autobiographic history, which is often part of a therapeutic practice, may have contributed to feelings of mastery and growth.

PTG from a developmental perspective

An important issue when studying PTG is the consequences of these post-trauma changes. PTG is generally considered to be reflective of positive post-trauma change, but certain self-perceived positive changes may be more ambiguous than others, especially among youth. For example, a few children in our sample, most of who had been sexually abused, reported a newfound sense of vulnerability, leading to increased caution and more self-protective behavior. Some described a desire to help and protect others. These responses are consistent with previous findings among adult female survivors of rape and incest. McMillen et al. (1995) found that the most frequently reported benefits resulting from child sexual abuse, were an ability to protect other children from being victimized and to protect themselves from re-victimization. The women described themselves as less naïve, more aware, less trusting and more careful in relationships. Similarly, Frazier and Burnett (1994) found that the most salient positive change reported among women who had been raped, was an increased caution in interpersonal relationships. Though the children themselves (and the women in the aforementioned studies) described

such post-trauma changes as positive, we need to carefully consider when it is appropriate to conclude that self-perceived positive change actually is indicative of growth. Although learning to differentiate between safe and unsafe situations may be considered a positive change, one could argue that excessive watchfulness and prudence in interpersonal relationships is reflective of anxiousness and a lack of sense of safety. From a child development perspective, such changes would usually not be considered positive, but rather a serious challenge to future development, limiting their opportunity for social interaction and intimate relationships. In line with this perspective, other areas of growth might also be considered indicative of increased vulnerability rather than positive post-trauma change. For example, though changes in one's philosophy of life, such as becoming more aware, being more grateful and not taking things for granted, may be considered positive; they might alternatively be viewed as a loss of one's carefree childhood. Consistent with this (Wong et al., 2009) cautioned that though improved character (maturity) was documented as evidence of growth in their study, demands for maturity might be viewed as a loss of one's childhood and thus a negative consequence of parental cancer. Salter and Stallard (2004) found that 42% of the youth in their study described their recent road traffic accident as life threatening, and some realized that they were not invincible. However, "only limited evidence suggested that this increased vulnerability resulted in positive outcomes as suggested by Tedeschi et al." (p. 339).

Study strengths

This study adds significantly to the PTG literature by systematically describing self-perceived positive changes reported by severely traumatized youth. This is one of very few studies using a qualitative approach to explore PTG among children and adolescents, and the first to do so with a clinical sample. The findings suggest that youth experience PTG quite similarly to adults. However, we did identify certain sub-themes not readily captured by the questionnaire most commonly used to study growth among youth (i.e., the PTGI-C), such as increased maturity/wisdom and a desire to help and protect others. Hence, in order to test the existence of these phenomena of growth among youth, and to evaluate their prevalence and predictive value, existing quantitative measures need to be expanded. Furthermore, conceptually we have emphasized the need to carefully consider when it is appropriate to conclude that self-perceived positive change actually is indicative of growth. Though perceptions of growth can serve important functions in terms of helping traumatized youth maintain their self-esteem and enhance their sense of control, such changes might also present serious challenges to the child's future development.

Limitations and future directions

Although this study provides us with a greater understanding of the nature of growth in youth, and its course from pre- to post-treatment, findings should be interpreted in light of certain limitations. First, there was an overrepresentation of girls in the study which could limit the generalizability of the findings. Second, youth who did not speak Norwegian, and were in need of an interpreter, were excluded. Including them may have resulted in reports of growth of a spiritual nature. Third, the study used data collected in a longitudinal study designed to determine the effect of trauma therapy on PTSS, not to foster and assess prevalence and characteristics of self-perceived positive post-trauma changes. Though our findings are particularly interesting given that participants were not specifically asked to report positive changes, more focused questioning might have elicited reports of growth from a larger number of participants and more elaborate responses. The relatively high number of responses that were difficult to categorize highlights this methodological limitation. Fourth, although these findings support the notion that PTG can occur in younger populations, we do not know the long-term implications of such reports, including psychological adjustment and coping. This is an important area for future research. Finally, though reports of growth doubled from pre- to post-treatment, suggesting that treatment may foster PTG among youth, the lack of a control group prevents us from drawing causal attributions about the impact of treatment. Clearly, an important goal for future research will be to explore how PTG may be facilitated by various clinical interventions.

Clinical implications

Increased understanding of complex post-trauma reactions among children and adolescents can provide useful information to clinicians working with traumatized youth. Unless we try to study such positive post-trauma experiences, and their course from pre- to post-treatment, it will be missed. Clinicians should be aware of, and open to, the possibility of growth among traumatized youth. However, as stressed by Zoellner and Maercker (2006), there is no evidence that PTG is necessary for successful recovery from trauma. Nor is it clear whether treatments should be adjusted to increase PTG, or whether PTG just adds a new perspective to existing psychotherapies (Hagenaars & van Minnen, 2010).

References

- Alicic, E., van der Schoot, T. A., van Ginkel, J. R., & Kleber, R. J. (2008). Looking beyond posttraumatic stress disorder in children: Posttraumatic stress reactions, posttraumatic growth, and quality of life in a general population sample. *Journal of Clinical Psychiatry*, 69(9), 1455–1461.

- Antoni, M. H., Lehman, J. M., Kilbourn, K. M., Boyers, A. E., Culver, J. L., Alferi, S. M., & Carver, C. S. (2001). Cognitive-behavioral stress management intervention decreases the prevalence of depression and enhances benefit finding among women under treatment for early-stage breast cancer. *Health Psychology, 20*(1), 20–32.
- Barakat, L. P., Alderfer, M. A., & Kazak, A. E. (2006). Posttraumatic growth in adolescent survivors of cancer and their mothers and fathers. *Journal of Pediatric Psychology, 31*(4), 413–419.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.
- Brown, C. G., & Snape, M. F. (2010). *Secularisation in the Christian world: Essays in honour of Hugh McLeod*. Ashgate: Surrey England Burlington.
- Calhoun, L. G., & Tedeschi, R. G. (1999). *Facilitating posttraumatic growth: A clinician's guide*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Chun, S., & Lee, Y. (2008). The experience of posttraumatic growth for people with spinal cord injury. *Qualitative Health Research, 18*, 877–890.
- Cohen, J. A., Mannarino, A., & Deblinger, E. (2006). *Treating trauma and traumatic grief in children and adolescents*. New York: Guilford Press.
- Cohen, L. H., Hettler, T. R., & Pane, N. (1998). Assessment of posttraumatic growth. In R. G. Tedeschi, & L. G. Calhoun (Eds.), *Posttraumatic growth: Positive change in the aftermath of crisis* (pp. 23–42). Mahwah, NJ: Erlbaum.
- Cryder, C. H., Kilmer, R. P., Tedeschi, R. G., & Calhoun, L. G. (2006). An exploratory study of posttraumatic growth in children following a natural disaster. *American Journal of Orthopsychiatry, 76*(1), 65.
- Currier, J. M., Hermes, S., & Phipps, S. (2009). Brief report: Children's response to serious illness: Perceptions of benefit and burden in a pediatric cancer population. *Journal of Pediatric Psychology, 34*(10), 1129–1134.
- Dekel, S., Mandl, C., & Solomon, Z. (2011). Shared and unique predictors of post-traumatic growth and distress. *Journal of Clinical Psychology, 67*(3), 241–252. <http://dx.doi.org/10.1002/jclp.20747>
- Devine, K. A., Reed-Knight, B., Loiseau, K. A., Fenton, N., & Blount, R. L. (2010). Posttraumatic growth in young adults who experienced serious childhood illness: A mixed-methods approach. *Journal of Clinical Psychology in Medical Settings, 17*(4), 340–348. <http://dx.doi.org/10.1007/s10880-010-9210-7>
- Draucker, C. B., Murphy, S. A., & Artinian, B. M. (1992). Construing benefit from a negative experience of incest. *Western Journal of Nursing Research, 14*(3), 343–353, discussion 353–347.
- Frazier, P., & Burnett, J. W. (1994). Immediate coping strategies among rape victims. *Journal of Counseling and Development, 72*(6), 633–639.
- Frazier, P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. *Journal of Consulting and Clinical Psychology, 69*(6), 1048–1055.
- Hafstad, G. S. (2009). A qualitative approach to understanding posttraumatic growth in children and adolescents. In *Paper presented at the 11th European Conference on Traumatic Stress Studies (ECOTS)* Oslo, Norway, 14–18 June 2009.
- Hafstad, G. S., Kilmer, R. P., & Gil-Rivas, V. (2011). Posttraumatic growth among Norwegian children and adolescents exposed to the 2004 tsunami. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*(2), 130–138.
- Hagenaars, M. A., & van Minnen, A. (2010). Posttraumatic growth in exposure therapy for PTSD. *Journal of Traumatic Stress, 23*(4), 504–508. <http://dx.doi.org/10.1002/jts.20551>
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology, 74*(5), 797–816.
- Hill, C. E., Knox, S., Thompson, B. J., Hess, S. A., Williams, E. N., & Ladany, N. (2005). Consensual qualitative research: An update. *Journal of Counseling Psychology, 52*(2), 196–203.
- Hill, C. E., Thompson, B. J., & Williams, E. N. (1997). A guide to conducting consensual qualitative research. *Counseling Psychologist, 25*(4), 517–572.
- Ickovics, J. R., Meade, C. S., Kershaw, T. S., Milan, S., Lewis, J. B., & Ethier, K. A. (2006). Urban teens: Trauma, posttraumatic growth, and emotional distress among female adolescents. *Journal of Consulting and Clinical Psychology, 74*(5), 841–850.
- Jensen, T. K., Holt, T., Ormhaug, S. M., Granly, L., Egeland, K., Hoas, L. C., Hukkelberg, S. S., Indregard, T., Stormyren, S. D., & Wenzel-Larsen, T., 2013. Treating traumatized youth: A randomized effectiveness study comparing trauma-focused cognitive behavioural therapy with therapy as usual, in review.
- Kilmer, R. P., & Gil-Rivas, V. (2010). Exploring posttraumatic growth in children impacted by Hurricane Katrina: Correlates of the phenomenon and developmental considerations. *Child Development, 81*(4), 1211–1227.
- Kilmer, R. P., Gil-Rivas, V., Tedeschi, R. G., Cann, A., Calhoun, L. G., Buchanan, T., & Taku, K. (2009). Use of the revised posttraumatic growth inventory for children. *Journal of Traumatic Stress, 22*(3), 248–253.
- Knaevelsrud, C., Liedl, A., & Maercker, A. (2010). Posttraumatic growth, optimism and openness as outcomes of a cognitive-behavioural intervention for posttraumatic stress reactions. *Journal of Health Psychology, 15*(7), 1030–1038.
- Laufer, A., Raz-Hamama, Y., Levine, S. Z., & Solomon, Z. (2009). Posttraumatic growth in adolescence: The role of religiosity, distress, and forgiveness. *Journal of Social and Clinical Psychology, 28*(7), 862–880.
- Laufer, A., & Solomon, Z. (2006). Posttraumatic symptoms and posttraumatic growth among Israeli youth exposed to terror incidents. *Journal of Social and Clinical Psychology, 25*(4), 429–447.
- Lechner, S. C., & Antoni, M. H. (2004). Posttraumatic growth and group-based interventions for persons dealing with cancer: What have we learned so far? *Psychological Inquiry, 15*(1), 35–41.
- Levine, S. Z., Laufer, A., Hamama-Raz, Y., Stein, E., & Solomon, Z. (2008). Posttraumatic growth in adolescence: Examining its components and relationship with PTSD. *Journal of Traumatic Stress, 21*(5), 492–496. <http://dx.doi.org/10.1002/jts.20361>
- McMillen, C., Zuravin, S., & Rideout, G. (1995). Perceived benefit from child sexual abuse. *Journal of Consulting and Clinical Psychology, 63*(6), 1037–1043.
- Milam, J. E., Ritt-Olson, A., & Unger, J. B. (2004). Posttraumatic growth among adolescents. *Journal of Adolescent Research, 19*(2), 192–204.
- Nader, K., Kriegler, J. A., Blake, D. D., Pynoos, R. S., Newman, E., & Weather, F. W. (1996). *Clinician administered PTSD Scale, Child and Adolescent Version*. White River Junction, VT: National Center for PTSD.
- Nolen-Hoeksema, S., & Davis, G. C. (2004). Theoretical and methodological issues in the assessment and interpretation of posttraumatic growth. *Psychological Inquiry, 15*(1), 60–64.
- Pals, J. L., & McAdams, D. P. (2004). The transformed self: A narrative understanding of posttraumatic growth. *Psychological Inquiry, 15*(1), 65–69.
- Park, C. L. (2004). The notion of growth following stressful life experiences: Problems and prospects. *Psychological Inquiry, 15*(1), 69–76.
- Phipps, S., Long, A. M., & Ogdan, J. (2007). Benefit Finding Scale for Children: Preliminary findings from a childhood cancer population. *Journal of Pediatric Psychology, 32*(10), 1264–1271.
- Salter, E., & Stallard, P. (2004). Posttraumatic growth in child survivors of a road traffic accident. *Journal of Traumatic Stress, 17*(4), 335.
- Shakespeare-Finch, J., & de Dassel, T. (2009). Exploring posttraumatic outcomes as a function of childhood sexual abuse. *Journal of Child Sexual Abuse, 18*(6), 623–640. <http://dx.doi.org/10.1080/10538710903317224>
- Taku, K., Kilmer, R. P., Cann, A., Tedeschi, R. G., & Calhoun, L. G. (2011). Exploring posttraumatic growth in Japanese youth. *Psychological Trauma: Theory, Research, Practice, and Policy, Advance Online Publication, http://dx.doi.org/10.1037/a0024363*
- Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma & transformation: Growing in the aftermath of suffering*. Thousand Oaks: Sage Publications, Inc.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455–471.
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. <http://dx.doi.org/10.1207/s15327965pli1501.01>
- Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (1998). *Posttraumatic growth: Positive changes in the aftermath of crisis*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Tran, V., Wiebe, D. J., Fortenberry, K. T., Butler, J. M., & Berg, C. A. (2011). Benefit finding, affective reactions to diabetes stress, and diabetes management among early adolescents. *Health Psychology, 30*(2), 212–219.

- Wong, M. L., Cavanaugh, C. E., Macleamy, J. B., Sojourner-Nelson, A., & Koopman, C. (2009). Posttraumatic growth and adverse long-term effects of parental cancer in children. *Families, Systems & Health: The Journal of Collaborative Family Healthcare*, 27(1), 53–63.
- Yu, X. N., Lau, J. T., Zhang, J., Mak, W. W., Choi, K. C., Lui, W. W., & Chan, E. Y. (2010). Posttraumatic growth and reduced suicidal ideation among adolescents at month 1 after the Sichuan Earthquake. *Journal of Affective Disorders*, 123(1–3), 327–331. <http://dx.doi.org/10.1016/j.jad.2009.09.019>
- Zoellner, T., & Maercker, A. (2006). Posttraumatic growth in clinical psychology: A critical review and introduction of a two component model. *Clinical Psychology Review*, 26(5), 626–653. <http://dx.doi.org/10.1016/j.cpr.2006.01.008>