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A short form of the Posttraumatic Growth Inventory

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A short form of the Posttraumatic Growth Inventory (PTGI-SF) is described. A sample of 1351 adults who had completed the Posttraumatic Growth Inventory (PTGI) in previous studies provided the basis for item selection. The resulting 10-item form includes two items from each of the five subscales of the original PTGI, selected on the basis of loadings on the original factors and breadth of item content. A separate sample of 186 completed the short form of the scale (PTGI-SF). Confirmatory factor analyses on both data sets demonstrated a five-factor structure for the PTGI-short form (PTGI-SF) equivalent to that of the PTGI. Three studies of homogenous clinical samples (bereaved parents, intimate partner violence victims, and acute leukemia patients) demonstrated that the PTGI-SF yields relationships with other variables of interest that are equivalent to those found using the original form of the PTGI. A final study demonstrated that administering the 10 short-form items in a random order, rather than in the fixed context of the original scale, did not impact the performance of the PTGI-SF. Overall, these results indicate that the PTGI-SF could be substituted for the PTGI with little loss of information.

Keywords: posttraumatic growth; Posttraumatic Growth Inventory; trauma; stress; assessment

The idea that the struggle with highly challenging life circumstances can lead to the experience of significant positive change, i.e., to posttraumatic growth (Tedeschi & Calhoun, 1995), is ancient. However, the systematic investigation of this phenomenon is relatively recent. A critical step in facilitating research in this area was the development of instruments to quantify this phenomenon. Although a variety of instruments have been developed to assess positive changes resulting from adversity (Antoni et al., 2001; Joseph, Williams, & Yule, 1993; McMillen & Fisher, 1998; Park, Cohen, & Murch, 1996), the inventory that has been employed most often, in a wide variety of investigations, and with a wide variety of populations (Calhoun & Tedeschi, 2006), is the *Posttraumatic Growth Inventory* (PTGI; Tedeschi & Calhoun, 1996).

The PTGI was developed based on a review of the available literature on responses to trauma, interviews with persons dealing with a variety of major crises or stressors (e.g., becoming physically handicapped as adults, death of a child), and the

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final items of the 21-item scale were subjected to a variety of evaluations of its validity, reliability, and factor structure. The scale has excellent internal consistency ($\alpha = .90$) and acceptable test-retest ($r = .71$) reliability (Tedeschi & Calhoun, 1996). Validity is supported by evidence that PTGI responses tend to be corroborated ($r = .69$) by others close to the person reporting growth (Shakespeare-Finch & Enders, 2008; Weiss, 2002) and scores are not correlated with measures of social desirability (Tedeschi & Calhoun, 1996; Wild & Paivio, 2003). The content of the themes captured by the PTGI was originally based on positive changes reported in the literature by individuals experiencing traumatic events (Tedeschi & Calhoun, 1996), and the final five-factor structure of the inventory has been replicated in different populations (Morris, Shakespeare-Finch, Rieck, & Newbery, 2005; Tedeschi & Calhoun, 1996) and validated through confirmatory factor analyses (Linley, Andrews, & Joseph, 2007; Taku, Cann, Calhoun, & Tedeschi, 2008).

Compared to other inventories, the 21 items of the PTGI represent a reasonably short measure. However, there are a variety of compelling reasons to support of the development of a shorter form. First, there are some people whose circumstances are such that even completing a 21-item scale can simply require too much physical effort, for example, persons receiving aggressive treatment for acute leukemia or other forms of cancer. Second, there are circumstances where the time for data gathering is limited, and only short versions of scales can be administered, for example, in the context of active military operations. Third, the need for short measures is perhaps clearest in contexts where research involves the administration of several measures, and the respondent's time or energy is limited. Finally, if the participants are actively engaged in the process of adapting to a major life crisis, that very context is likely to involve both limited time and limited energy available for research participation.

Although helpful short versions of other scales addressing issues related to growth have been published (Joseph, Linley, Shevlin, Goodfellow, & Butler, 2006), no short form of the PTGI has been available; this paper describes the development of a short form of that scale.

The goal of the present paper is to create a short form of the PTGI that reduces the number of items at least by half, while preserving the desirable properties shown to exist in the longer scale.

Method

Participants

The initial sample used to help identify items to include on the short form of the Posttraumatic Growth Inventory (PTGI-SF) consisted of 1351 adults (377 men and 972 women, two gender not reported) from 16 separate studies conducted by various combinations of the current authors or their students in which the PTGI was administered. Within individual studies, the mean ages of participants ranged from 19.9 years to 70.1 years, with an overall mean age across the 16 studies of 28 years and a range from 18 to 85 years. The sample was predominantly White (70%). The stressful events that had been experienced included death of someone close (24%), serious medical condition (15%), direct or indirect contact with the events of 11

September 2001 (11%), assault (10%), serious school-related problems (9%), intimate relationship issues (8%), occupational stresses (8%), family stresses (7%), motor vehicle or other accidents (5%), and other events (3%). Within the sample, 1044 participants had provided ratings of the stressfulness of the event at the time it happened on a seven-point scale (not at all (one) to (seven) extremely), with a mean rating of 5.96 (SD = 1.23).

A second sample was obtained after identifying the items to be included on the PTGI-SF. This sample was used to verify the psychometric properties of the PTGI-SF when administered as a separate scale. This sample of college students (45 males and 141 females) reported on a highly stressful event that had occurred within the last two years. The time since the event ranged from 8.8 days to 758 days ($M = 334.4$ days). The sample was predominately Caucasian (68%) or African-American (16%). The mean age was 21.8, with a range from 19 to 58 years. The stressful events participants were responding to included death of a close other (47%), serious medical issue of a close other (19%), involved in an accident involving injury (8%), victim of assault (7%), serious personal medical issue (5%), divorce (5%), being stalked (4%), robbery victim (3%), or house fire (1%). Event severity was rated on a six-point scale (zero – not at all severe to five – extremely severe), with a mean rating of 3.65 (SD = .93).

Selection of items for the short form of the Posttraumatic Growth Inventory (PTGI-SF)

The goal was to develop a short form that had only two items associated with each of the five domains of posttraumatic growth, to create a 10-item scale for ease of use in clinical research that still captured information relevant to each factor and provided a meaningful total score. Previous examinations of the PTGI have consistently shown that it has a five-factor structure, both through exploratory factor analyses (Morris et al., 2005; Tedeschi & Calhoun, 1996) and through a confirmatory factor analysis (CFA) (Linley et al., 2007; Taku et al., 2008). In both of the evaluations of the PTGI using CFA relatively large samples were used ($N = 372$ in Linley et al., 2007; $N = 926$ in Taku et al., 2008) and the solutions supported the original five factors. In addition, both studies found that a solution including a single higher-order factor, along with the five factors, provided a good fit to the data. These results indicate that a single global score for PTG can be used as a meaningful measure, but that there are separate underlying factors that represent distinct content as well.

The current data were used to identify the items that loaded most highly on each factor in order to assist in selecting desirable items for developing a 10-item short form. A factor analysis of the 21 PTGI items was conducted with a five-factor forced solution and a varimax rotation. The results were consistent with the expected underlying factor structure. Items all loaded most highly on the expected factor, with the five factors explaining 64% of the variance, and individual factors explaining between 8.5 and 17.9%. The items with the highest loadings on each of the five factors were examined and the two with the highest loadings were selected for three (Spiritual Change, Appreciation of Life, and Personal Strength) of the five factors (note that the Spiritual Change factor only has two items in the PTGI, so both were

selected for inclusion in the PTGI-SF). In each of these cases, it was judged that the two items selected were not so redundant as to limit the breadth of the information that could be captured by two items. For the remaining two factors (Relating to Others and New Possibilities) the two items with the highest loadings were not selected because they were too redundant in content; instead items were selected in order to improve the breadth of coverage. All selected items had loadings of .630 or higher. The items included on the PTGI-SF are shown in Table 1.

Results

Assessment of the short form of the Posttraumatic Growth Inventory (PTGI-SF) and comparisons with the Posttraumatic Growth Inventory (PTGI)

The internal reliabilities (coefficient alphas) for the total scores and the five factors scores for both the PTGI and the PTGI-SF based on the initial sample used to identify the items are shown in Table 2. The reliabilities for both the full PTGI and the PTGI-SF were quite good for the total score. In addition, although the factor scores on the PTGI-SF have only two items each, the internal reliabilities were at acceptable levels. The correlations demonstrating the overlap between the PTGI and PTGI-SF also are presented in Table 2. We have provided both the simple correlations between the two measures and an adjusted correlation that accounts for the presence of the short-form items in the long-form scores (Smith, McCarthy, & Anderson, 2000, 2004). Looking at the total scores, it is clear that the PTGI-SF captures much of the variance accounted for by the full form of the PTGI. Although the factor scores on the short form are based on only two items, the correlations with the full PTGI factors remain fairly strong.

Table 1. Items included on the PTGI-SF and standardized regression weights from the CFA.

	First CFA	Second CFA
1. I changed my priorities about what is important in life. (V-1)	.69	.77
2. I have a greater appreciation for the value of my own life. (V-2)	.74	.77
3. I am able to do better things with my life. (II-11)	.84	.80
4. I have a better understanding of spiritual matters. (IV-5)	.82	.90
5. I have a greater sense of closeness with others. (I-8)	.70	.85
6. I established a new path for my life. (II-7)	.75	.71
7. I know better that I can handle difficulties. (III-10)	.75	.78
8. I have a stronger religious faith. (IV-18)	.82	.81
9. I discovered that I'm stronger than I thought I was. (III-19)	.78	.90
10. I learned a great deal about how wonderful people are. (I-20)	.74	.81

Note: The factor the item assesses and the item number from the PTGI are shown in parentheses. The factors are: I, Relating to Others; II, New Possibilities; III, Personal Strength; IV, Spiritual Change; and V, Appreciation of Life.
Responses are made on the following six-point scale:
0 = I did not experience this change as a result of my crisis.
1 = I experienced this change to a very small degree as a result of my crisis.
2 = I experienced this change to a small degree as a result of my crisis.
3 = I experienced this change to a moderate degree as a result of my crisis.
4 = I experienced this change to a great degree as a result of my crisis.
5 = I experienced this change to a very great degree as a result of my crisis.

Table 2. Internal reliabilities for and correlations between the PTGI and PTGI-SF total scores and factor scores.

	Coefficient alpha	Full form/short form r (ff, sf)	Adjusted full form/short form r_{adj}(ff, sf)
PTGI total	.93	.96	.89
Relating to Others	.86	.88	.76
New Possibilities	.82	.91	.79
Personal Strength	.78	.90	.76
Spiritual Change	.80	1.00	.80
Appreciation of Life	.77	.95	.72
PTGI-SF total	.86 (.89)		
Relating to Others-SF	.68 (.81)		
New Possibilities-SF	.77 (.72)		
Personal Strength-SF	.74 (.82)		
Spiritual Change-SF	.80 (.84)		
Appreciation of Life-SF	.68 (.75)		

Note: For the PTGI-SF, the coefficient alphas in parentheses are based on the sample ($N = 186$) that completed the PTGI-SF by itself. All other results are based on the initial sample used to develop the PTGI-SF.

The results from the second sample, which completed the 10-item PTGI-SF by itself, are also quite positive (Table 2). The coefficient alphas for the 10-item scale as a total score, and for each of the two-item factors scores are all above acceptable levels, despite the fact that only two items assess each factor.

Confirmatory factor analyses of the short form of the Posttraumatic Growth Inventory (PTGI-SF)

To evaluate the underlying factor structure of the PTGI-SF, three models were tested on the initial large sample using confirmatory factor analysis with the maximum-likelihood method of estimation. The analyses were performed using AMOS (version 17.0 for Windows). The first model specified a single general factor underlying the 10 items of the PTGI-SF. If the PTGI-SF failed to adequately capture the five factors found in the PTGI, this model might fit the data best. The second model assumed that the five sets of two items selected from the original five factors of the PTGI would be represented and interrelated. In the second model, it was expected that each item would load only on the factor it was intended to measure, based on the full version of the PTGI. The third model also hypothesized five interrelated first-order factors, but with a single second-order factor. In a recent confirmatory factor analysis of the full version of the PTGI (Taku et al., 2008), the second and third models both provided a good fit, with the five-factor model being slightly superior.

Multiple fit indices were used to assess each model, including the Akaike Information Criterion (AIC), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Results for these three models for the PTGI-SF showed that the first model, assuming a single general factor, was not supported, $\chi^2(35) = 1080.58$, $p < .001$, AIC = 1140.58, NFI = .788, CFI = .793, TLI = .734, and

RMSEA = .149. Both the second model, assuming five correlated factors, $\chi^2(25) = 200.42$, $p < .001$, AIC = 280.42, NFI = .961, CFI = .965, TLI = .938, and RMSEA = .072; and the third model, assuming five first-order factors and a single second-order factor, $\chi^2(30) = 253.41$, $p < .001$, AIC = 323.41, NFI = .950, CFI = .956, TLI = .934, and RMSEA = .074 demonstrated good fit. As was the case with the confirmatory factor analysis of the full PTGI (Taku et al., 2008), there was a slightly better fit for the five-factor model, but the differences between the second and third model were negligible. Thus, a single score, supported by five factors scores, does seem to characterize the PTGI-SF. The standardized regression weights from each of the five latent variables to the 10 items of the second model ranged from .69 to .84, as shown in Table 1. Clearly, the PTGI-SF has an underlying factor structure equivalent to the full 21-item PTGI.

A second confirmatory factor analysis, testing the same three models, was conducted on the sample that completed only the 10-item PTGI-SF. The results were essentially the same as those obtained with the larger sample used in development of the PTGI-SF. The first model, assuming a single general factor, was not supported, $\chi^2(35) = 244.06$, $p < .001$, AIC = 284.06, NFI = .752, CFI = .777, TLI = .713, and RMSEA = .180. Both the second model, assuming five correlated factors, $\chi^2(25) = 60.57$, $p < .001$, AIC = 120.573, NFI = .938, CFI = .962, TLI = .932, and RMSEA = .088; and the third model, assuming five first-order factors and a single second-order factor, $\chi^2(30) = 70.91$, $p < .001$, AIC = 120.908, NFI = .928, CFI = .956, TLI = .935, and RMSEA = .086 demonstrated good fit. Thus, the results for the PTGI-SF administered as a 10-item scale match those reported for the full PTGI (Taku et al., 2008) and those reported when the 10 items were imbedded in the full PTGI. There was a slightly better fit for the five-factor model, but the differences between the second and third model were negligible. The standardized regression weights from each of the five latent variables to the 10 items of the second model ranged from .71 to .90, as shown in Table 1.

Short form of the Posttraumatic Growth Inventory (PTGI-SF) in homogeneous clinically relevant samples

The items selected for inclusion in the PTGI-SF, and the data in support of the shared variance with the full PTGI, were based on a very large and heterogeneous sample to insure that the PTGI-SF would apply broadly. We also wanted to be confident that the short form would retain its properties when applied to smaller and more homogeneous samples of individuals dealing with highly stressful events, since these would be the research or clinical situations in which a short form might be especially desirable. Two relevant samples were part of the larger data set used in the development of the PTGI-SF.

Bereaved parents

In one sample, parents ($n = 32$; 22 women and 10 men, age: $M = 48.41$, SD = 9.59, range 28–61 years) who had lost a child completed the PTGI (Calhoun, Tedeschi, Fulmer, & Harlan, 2000). Even in this relatively small sample, the internal reliability for the PTGI-SF total score, and the correlation with the PTGI remained strong (see

Table 3. Internal reliabilities for and correlations between the PTGI and PTGI-SF total scores for specific samples considered.

	Coefficient alpha		FF/SF	Adjusted FF/SF
Sample	FF	SF	r (ff, sf)	r_{adj}(ff, sf)
Death of a child ($n=32$)	.94	.84	.97	.88
Intimate partner violence ($n=60$)	.95	.90	.97	.92
Cancer patients ($n=72$)	.95	.93	.98	.94
College students ($n=85$) (Items are given in random order)	.94	.90	.97	.92

Note: FF indicates the full form of the 21-item posttraumatic growth inventory (PTGI) and SF indicates the 10-item posttraumatic growth inventory – short form (PTGI-SF).

Table 3). In the original report, PTGI was predicted from the Global Severity Index of the Brief Symptom Inventory (Derogatis & Melisartos, 1983), a measure of overall psychological symptoms reported, and from two measures of rumination developed for the study. One rumination measure, based on two items, represented intrusive ruminations recently experienced about the child's death (thought about the death when did not mean to, thoughts about the death came to mind and could not get rid of them). The second rumination measure reflected deliberate ruminations (tried to make something good come out of struggle with the death, reminded myself of the benefits that came from adjusting to the death). The regression model (with reduced n due to missing data) predicting the full PTGI was significant, $F(3, 24)=5.17$, $p<.05$, $R=.63$, with deliberate rumination as the only individually significant predictor ($pr=.59$, $p<.01$). A reanalysis using the PTGI-SF revealed a very similar result, $F(3, 24)=3.54$, $p<.05$, $R=.55$, with deliberate rumination still the only significant predictor ($pr=.49$, $p<.01$).

Intimate partner violence

A second sample used the PTGI to assess posttraumatic growth in women ($n=60$, age: $M=33.23$, SD $=9.66$, range 19–60) who were in shelters seeking to escape intimate partner violence (Cobb, Tedeschi, Calhoun, & Cann, 2006). Within this sample of women who were dealing with very similar stressful experiences, the PTGI-SF again demonstrated excellent internal reliability and a very strong relationship with the full form of the PTGI (see Table 3). Posttraumatic growth in these women was predicted based on whether they had left the relationship (left $=0$, still in $=1$), whether they had a role model who had reported growth following abuse (no $=0$, yes $=1$) and level of abuse experienced, as measured by the Index of Spouse Abuse (ISA; Hudson & McIntosh, 1981). The model predicting PTG was significant, $F(3, 56)=4.58$, $R^2_{adj}=.15$, $p<.01$ with the two dichotomous predictors individually significant (left relationship beta $=-.277$, role model beta $=.314$), but the ISA did not make a significant contribution (beta $=.11$). Testing the same model to predict PTGI-SF yields comparable results ($F(3, 56)=5.82$, $R^2_{adj}=.20$, $p<.01$, left relationship beta $=-.325$, role model beta $=.305$, abuse beta $=.156$), with the same predictors making significant contributions.

Acute leukemia

A third sample ($n = 70$, age: $M = 49.40$, SD $= 14.6$, range 19–81), not part of the larger data set used to identify the PTGI-SF items, included individuals dealing with the diagnosis of acute myelogenous leukemia (Cann et al., in press). The PTGI was administered within a week of their admission for treatment. As shown in Table 3, among this group of cancer patients, the PTGI-SF had very high internal reliability and an adjusted correlation with the PTGI of over .90. Clearly, the reliability of the PTGI-SF is maintained even in smaller clinically relevant samples. In the original report, PTG was predicted from a measure of disruption of core beliefs, the *Core Beliefs Inventory* (CBI; Cann et al., in press) and the short form of the Profile of Mood States (POMS-SF; Shacham, 1983), and the model was significant, $F(2, 67) = 28.92$, $R^2_{adj} = .45$, $p < .001$, as were both individual predictors (CBI beta $= .751$; POMS-SF beta $= -.243$). Once again, a reanalysis using the PTGI-SF results in a highly comparable outcome ($F(2, 67) = 32.93$, $R^2_{adj} = .47$, $p < .01$, CBI beta $= .771$, POMS-SF beta $= -.250$).

Posttraumatic Growth Inventory (PTGI) items presented in random order

Finally, the performance of the PTGI-SF was examined in a sample of undergraduate students ($n = 85$, 69 women and 18 men, age: $M = 20.61$, SD $= 6.16$, range 18–51) who had experienced a highly stressful life event within past 30–60 days (Cann et al., in press). These participants completed the PTGI and related measures using an on-line survey. The survey software allowed the items within the PTGI to be presented in a random order to each participant. This strategy allows for an assessment of the PTGI-SF items when they are not embedded in a consistent order within the full PTGI. The results are shown in Table 3 and they demonstrate that the PTGI-SF still performs very well. The internal reliability remains high, and the correlations of the short form with the full form PTGI are again quite high. In the original report, a measure of disruption of core beliefs (CBI; Cann et al., in press), the Impact of Events Scale-revised (IES-R), a measure of traumatic symptomatology (Weiss & Marmar, 1997), both taken two months earlier, and gender were used to predict subsequent scores on the PTGI. Within the significant model that was found, $F(3, 81) = 21.16$, $R^2_{adj} = .42$, $p < .001$, both CBI (beta $= .395$) and IES-R (beta $= .376$) were individually significant, but gender (beta $= -.002$) was not. The reanalysis using the PTGI-SF found the same pattern, and very comparable results ($F(3, 81) = 18.99$, $R^2_{adj} = .41$, $p < .001$, CBI beta $= .405$ and IES-R beta $= .336$, gender beta $= .026$), with CBI and IES-R individually significant, and gender not significant.

Discussion

Overall, the assessment of the newly created PTGI-SF indicates that it should be a useful alternative to the full PTGI when a brief instrument is necessary. The 10 items selected for the PTGI-SF performed well when they were drawn from individuals who completed the 21-item scale, and when they were presented as a stand-alone 10-item scale. The 10-item PTGI-SF had internal reliability only very slightly lower than the full form PTGI, and the reliability of the total score was generally in the range of .90 across a variety of samples. In addition, the adjusted correlations

between the full form and short form for the total scores were consistently near or above .90, indicating a considerable overlap in the variance accounted for by the two global measures of growth.

The five factors that have been shown to exist in the 21-item PTGI (Linley et al., 2007; Taku et al., 2008) also were captured by the PTGI-SF. Thus, even with only two items per factor, the essential factor structure of the PTGI-SF matches that found with the PTGI. Researchers who want to focus on the separate factors would be best served by using the full PTGI to more fully assess each factor. However, for those who are more concerned about the total scores, they can be confident that the five underlying factors are being adequately assessed and reflected in the total score of the PTGI-SF. The vast majority of studies that have used the PTGI have relied only on the total score, so the short form of the scale would represent an efficient and comparable substitute for the PTGI in research needing a single global indicator of posttraumatic growth. The short form does seem to retain the same breadth of information, based on the known factor structure, as the full scale.

Across four studies in which the PTGI-SF was directly compared to the PTGI, three involving homogeneous and clinically relevant samples, the reanalyses of the data using the PTGI-SF indicate that the conclusions that would have been drawn were unchanged when substituting the PTGI-SF for the full PTGI. The same predictors were consistently found to be relevant, and a comparable amount of variance was explained in each regression model for each form of the PTGI. Thus, for research situations in which a brief measure of posttraumatic growth is desired, it appears that the PTGI-SF does not sacrifice important information as it provides gains in efficiency. Relationships with other variables have been found to be virtually unchanged when using the PTGI-SF rather than the PTGI.

There are some limitations and cautions that should be considered in deciding whether to use the PTGI-SF. One is that none of the studies from which data were obtained employed a longitudinal framework in which growth was assessed at multiple points in time, something that is challenging in practice, but desirable nevertheless (Calhoun & Tedeschi, 2006). In addition, the PTGI-SF should only be used when a single total score for growth is desired. Although the content of the underlying factors is represented in the total score, separate factor scores based on two items are likely to unreliable in smaller samples. Finally, the cross-cultural appropriateness of the PTGI-SF should not be assumed since the original scale has not been found to produce the same factor structure when used in other cultures. Some researchers, using translated versions of the PTGI with non-English speaking samples, have failed to find the same underlying factors to be present (Ho, Chan, & Ho, 2004; Taku et al., 2007; Weiss & Berger, 2006). These failures to replicate the factor structure in translated versions of the PTGI could be the result of a number of issues. In general, the studies currently published have not been based on large and diverse samples, so that the emerging factors structures reported may not be reliable. There also could be problems with the results based on translations because it may be very difficult to capture the same phenomena represented in the individual items in other languages where precisely comparable words or phrases simply do not exist. Finally, there could be important cultural differences that represent variations in how people actually respond to traumatic events and require alternative content to be assessed as part of posttraumatic growth. Researchers wishing to measure posttraumatic growth in non-English speaking samples should be aware that the PTGI-SF

probably suffers from the limitations, if any, which may be inherent in the full PTGI. However, for researchers in need of a brief tool to assess posttraumatic growth, in an English-speaking sample, the PTGI-SF should be a psychometrically sound option.

References

Antoni, M.H., Lehman, J.M., Klibourn, K.M., Boyers, A.E., Culver, J.L., Alferi, S.M., et al. (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*, 20–32.

Calhoun, L.G., & Tedeschi, R.G. (2006). The foundations of posttraumatic growth: An expanded framework. In L.G. Calhoun & R.G. Tedeschi (Eds.), *Handbook of posttraumatic growth* (pp. 1–23). Mahwah, NJ: Lawrence Erlbaum.

Calhoun, L.G., Tedeschi, R.G., Fulmer, D., & Harlan, D. (2000, August). *Parental grief: The relation of rumination, distress, and posttraumatic growth.* Presented at American Psychological Association Convention, Washington, DC.

Cann, A., Calhoun, L.G., Tedeschi, R.G., Kilmer, R.P., Gil-Rivas, V., Vishnevsky, T., et al. (in press). The Core Beliefs Inventory: A brief measure of disruption in the assumptive world. *Anxiety, Stress, & Coping*, doi: 10.1080/10615800802573013.

Cobb, A.R., Tedeschi, R.G., Calhoun, L.G., & Cann, A. (2006). Correlates of posttraumatic growth in survivors of intimate partner violence. *Journal of Traumatic Stress*, *19*, 895–903.

Derogatis, L.R., & Melisartos, N. (1983). The Brief Symptom Inventory: An introductory report. *Psychological Medicine*, *15*, 595–605.

Ho, S.M.Y., Chan, C.L.W., & Ho, R.T.H. (2004). Posttraumatic growth in Chinese cancer survivors. *Psycho-Oncology*, *13*, 377–389.

Hudson, W.W., & McIntosh, S.R. (1981). The assessment of spouse abuse: Two quantifiable dimensions. *Journal of Marriage and the Family*, *43*, 873–888.

Joseph, S., Linley, P.A., Shevlin, M., Goodfellow, B., & Butler, L.D. (2006). Assessing positive and negative changes in the aftermath of adversity: A short form of the Changes in Outlook Questionnaire. *Journal of Loss and Trauma*, *11*, 85–99.

Joseph, S., Williams, R., & Yule, W. (1993). Changes in outlook following disaster: Preliminary development of a measure to assess positive and negative responses. *Journal of Traumatic Stress*, *6*, 271–279.

Linley, P.A., Andrews, L., & Joseph, S. (2007). Confirmatory factor analysis of the Posttraumatic Growth Inventory. *Journal of Loss and Trauma*, *12*, 321–332.

McMillen, J.C., & Fisher, R. (1998). The perceived benefits scales: Measuring perceived positive life changes following negative life events. *Social Work Research*, *22*, 173–187.

Morris, B.A., Shakespeare-Finch, J., Rieck, M., & Newbery, J. (2005). Multidimensional nature of posttraumatic growth in an Australian population. *Journal of Traumatic Stress*, *18*, 575–585.

Park, C.L., Cohen, L., & Murch, R. (1996). Assessment and prediction of stress-related growth. *Journal of Personality*, *64*, 645–658.

Shacham, S. (1983). A shortened version of the Profile of Mood States. *Journal of Personality Assessment*, *47*, 305–306.

Shakespeare-Finch, J., & Enders, T. (2008). Corroborating evidence of posttraumatic growth. *Journal of Traumatic Stress*, *21*, 421–424.

Smith, G.T., McCarthy, D.M., & Anderson, K.G. (2000). On the sins of short-form development. *Psychological Assessment*, *12*, 102–111.

Smith, G.T., McCarthy, D.M., & Anderson, K.G. (2004). Correction to Smith, McCarthy, and Anderson (2000). *Psychological Assessment*, *16*, 340.

Taku, K., Calhoun, L.G., Tedeschi, R.G., Gil-Rivas, V., Kilmer, R.P., & Cann, A. (2007). Examining posttraumatic growth among Japanese university students. *Anxiety, Stress, & Coping*, *20*, 353–367.

Taku, K., Cann, A., Calhoun, L.G., & Tedeschi, R.G. (2008). The factor structure of the Posttraumatic Growth Inventory: A comparison of five models using confirmatory factor analysis. *Journal of Traumatic Stress*, *21*, 158–164.

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

Tedeschi, R.G., & Calhoun, L.G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, *9*, 455–471.

Weiss, D.S., & Marmar, C.R. (1997). The Impact of Events Scale-revised. In J.P. Wilson & T.M. Keane (Eds.), *Assessing psychological trauma and PTSD: A handbook for practitioners* (pp. 399–411). New York: Guilford Press.

Weiss, T. (2002). Posttraumatic growth in women with breast cancer and their husbands: An intersubjective validation study. *Journal of Psychosocial Oncology*, *20*, 65–80.

Weiss, T., & Berger, R. (2006). Reliability and validity of a Spanish version of the Posttraumatic Growth Inventory. *Research on Social Work Practice*, *16*, 191–199.

Wild, N., & Paivio, S. (2003). Psychological adjustment, coping, and emotion regulation as predictors of posttraumatic growth. *Journal of Aggression, Maltreatment and Trauma*, *8*, 97–122.