

## BRIEF REPORT

# Strengths of Character and Posttraumatic Growth

Christopher Peterson

Department of Psychology, University of Michigan, Ann Arbor, MI

Nansook Park

Department of Psychology, University of Rhode Island, Kingston, RI

Nnamdi Pole and Wendy D'Andrea

Department of Psychology, University of Michigan, Ann Arbor, MI

Martin E. P. Seligman

Department of Psychology, University of Pennsylvania, Philadelphia, PA

*How are strengths of character related to growth following trauma? A retrospective Web-based study of 1,739 adults found small, but positive associations among the number of potentially traumatic events experienced and a number of cognitive and interpersonal character strengths. It was concluded that growth following trauma may entail the strengthening of character.*

*That which does not kill us makes us stronger*

—Friedrich Nietzsche

In contrast to Nietzsche's well-known quote, life-threatening experiences may lead to psychiatric conditions such as posttraumatic stress disorder (PTSD; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Furthermore, greater exposure is usually linked to more severe symptoms (Brewin, Andrews, & Valentine, 2000). Psychopathology nevertheless occurs only among a minority of those exposed to such events, leaving open the possibility of other outcomes, including benefits (Bonanno, 2004). Tedeschi and Calhoun (1995) identified the positive psychological changes that can occur following a potentially traumatic event as *post-traumatic growth*: improved relationships with others, openness to new possibilities, greater appreciation of life, enhanced personal strength, and spiritual development.

Posttraumatic growth has been reported in a variety of samples, but remains controversial because of measurement challenges (Park & Lechner, 2006). Posttraumatic growth is typically assessed by self-report, through interviews or questionnaires, and skeptics object that these reports are not valid (e.g., Frazier & Kaler, 2006). Trauma-specific questions may prime respondents to think of themselves as survivors and to tell stories corresponding to cultural scripts about victimization and its repercussions (McAdams, 2005). Victims may emphasize silver linings in their lives because they believe that they should do so, whether these actually exist.

Here we describe a study that avoids some of the assessment difficulties in studying posttraumatic growth. We have been involved in a project—the Values in Action (VIA) Classification of Strengths—that focuses on strengths of character (Park & Peterson, 2006). We first identified 24 widely valued character strengths and then developed a survey that assesses them, which we validated against informant reports (Peterson & Seligman, 2004). The components of posttraumatic growth identified by Tedeschi and Calhoun (1995) correspond to various strengths assessed by our survey: improved relationships with others (kindness, love), openness to new possibilities (curiosity, creativity, love of learning), greater appreciation of life (appreciation of beauty, gratitude, zest), enhanced personal strength (bravery, honesty, perseverance), and spiritual development (religiousness).

Our inventory does not ask about potentially traumatic events, avoiding blatant demand characteristics, and in the present study, we further avoided priming respondents by first measuring character strengths and only then asking about potentially traumatic events. Linley and Joseph (2004) suggested that posttraumatic growth may be a positive function of extent of exposure to potentially traumatic events. As people experience and survive repeated brushes with death, they are more likely to learn lessons about life that shape their character and lead to growth. We therefore hypothesized that the strengths of character reflecting posttraumatic growth would be associated with the occurrence and extent of these events. At the very end of the protocol, respondents

Correspondence concerning this article should be addressed to: Christopher Peterson, Department of Psychology, University of Michigan, 530 Church Street, Ann Arbor, MI 48109-1043. E-mail: [chrispet@umich.edu](mailto:chrispet@umich.edu).

were asked—if appropriate—to complete Tedeschi and Calhoun's (1996) Post-Traumatic Growth Inventory.

Any relationships found between exposure to threatening events and character strengths are likely to be small in magnitude, given the well-documented toll that such events can take. The present research simply investigated whether any benefits at all are associated with threatening experiences.

## METHOD

### Participants and Procedure

Study participants were 1,739 unsolicited adult visitors to the Values in Action Web site in 2003. Respondents on average were about 40 years of age (range from 18 to 65+ years) and had completed several years of college; 80% were White; 69% were women, and 72% were U.S. citizens.

On the first page of the Web site, the study was described as an investigation of “character strengths and life” along with its approximate time commitment. Its specific focus on traumatic events was not described. The character strengths inventory was presented first, followed by demographic questions, the events measure, and finally—if at least one potentially traumatic event were reported—the Post-Traumatic Growth Inventory. Each questionnaire had to be completed before the next was displayed. All instructions and questionnaires were presented in English.

### Measures

The VIA Inventory of Strengths (VIA-IS; Peterson, Park, & Seligman, 2005) is a 240-item self-report questionnaire that uses 5-point scales to measure the degree to which statements reflecting each of the character strengths apply to the respondent (1 = *very much unlike me* through 5 = *very much like me*). Responses are averaged within scales, all of which have satisfactory internal consistency ( $\alpha > .70$ ) and substantial test-retest correlations over a 4-month period ( $r_s \approx .70$ ). The VIA-IS scales converge with informant reports ( $r_s$  ranging from .40 to .60; Peterson & Seligman, 2004). There are a small number of demographic correlates of specific character strengths, and we controlled for demographics in the present study, although conclusions were never altered as a result.

As previous researchers have done (Breslau, Chilcoat, Kessler, & Davis, 1999), we asked respondents to answer yes or no whether they had ever experienced (a) a life-threatening accident; (b) a life-threatening natural or human-made disaster; (c) physical attack (including combat); (d) unwanted sexual contact under force or threat of force; (e) witnessing someone being killed; (f) kidnapping, captivity, or torture; and (g) a life-threatening illness. These questions were chosen from general population surveys of the most common potentially traumatic events experienced by people in the United States.

The Post-Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) consists of 21 items answered on a 6-point scale (0 = *I did not experience this change* through 5 = *I experienced this change to a very great degree*). A sample item is “I changed my priorities about what is important in life.” The PTGI was presented only if respondents reported the occurrence of at least one potentially traumatic event, and these individuals were asked to respond with respect to changes that had occurred because of any of the events endorsed. Although the PTGI can be scored in terms of five subscales (relating to others, new possibilities, personal strength, spiritual change, and appreciation of life), the measure in the present sample was unidimensional as shown by an exploratory principal components factor analysis using varimax rotation, which yielded one factor accounting for 56% of the variance and the high internal consistency of the total scale ( $\alpha = .96$ ). Accordingly, responses to all PTGI items were averaged to yield a single score.

## RESULTS

Fifty-six percent of the respondents reported at least one potentially traumatic event, most commonly life-threatening accidents (32%), sexual assaults (23%), and physical assaults (19%)—figures that agree with previous surveys using representative adult samples (e.g., Breslau et al., 1999). Older age was associated with greater likelihood of life-threatening illness,  $r(1737) = .16$ ,  $p < .001$ , and female gender was associated with greater likelihood of reporting sexual assault,  $\chi^2(1, N = 1739) = 108.24$ ,  $p < .001$ . There was a tendency for different events to co-occur, but these associations were small except for being held captive and experiencing sexual assault. In this case, 61% of those held captive also reported being sexually assaulted,  $\chi^2(1, N = 1739) = 61.01$ ,  $p < .001$ . Subsequent analyses involving the total number of traumatic events therefore did not count captivity.

In the sample as a whole, 25% reported one event, 18% reported two events, 9% reported three events, and 5% reported four or more. Respondents were grouped according to the number of events, excluding captivity: 0, 1, 2, 3, or 4+. We computed one-way ANOVAs examining each strength score as a function of the number of events, using a conservative significance level ( $p < .001$ ) in light of the large number of comparisons. For a number of strengths, especially those reflecting posttraumatic growth, there was a linear trend (Table 1). The more events reported, the higher the character strength scores. Gratitude, hope, and love were exceptions. The magnitudes of these linear relationships were small, with effect sizes estimated by  $\eta^2$  ranging from .00 to .03.

Table 1 also shows partial correlations between strengths of character and PTGI scores (controlling for age and gender), as well as PTGI scores as a function of the number of events. Each of the strengths was correlated with posttraumatic growth, with a slight tendency for theoretically related strengths to show stronger

**Table 1.** Means on Strength of Character and Posttraumatic Growth by Number of Traumatic Events

Variable	Number of events					<i>F</i> for linear trend (1, 1734)	$\eta^2$	Partial <i>r</i> with PTGI (978)
	0 (n = 757)	1 (n = 438)	2 (n = 309)	3 (n = 152)	4+ (n = 83)			
Factor one (interpersonal)						7.43*	.01	.21*
Humor	3.82	3.86	3.84	3.90	3.94	3.70	.00	.22*
Kindness <sup>a</sup>	3.93	3.99	4.00	4.10	4.18	22.63*	.02	.30*
Leadership	3.75	3.82	3.76	3.88	3.98	15.06*	.01	.25*
Love <sup>a</sup>	3.89	3.97	3.93	3.97	3.98	1.13	.00	.24*
Social intelligence	3.72	3.74	3.72	3.75	3.89	6.19	.00	.26*
Teamwork	3.71	3.73	3.71	3.75	3.82	2.71	.00	.23*
Factor two (fortitude)						3.08	.00	.13*
Bravery <sup>a</sup>	3.59	3.70	3.76	3.86	3.98	41.96*	.03	.29*
Honesty <sup>a</sup>	3.97	3.98	4.02	4.09	4.12	12.99*	.01	.24*
Judgment	3.95	3.98	3.97	3.98	4.10	5.67	.00	.13*
Perseverance <sup>a</sup>	3.63	3.65	3.69	3.74	3.85	10.01*	.01	.22*
Perspective	3.75	3.80	3.79	3.79	3.88	3.44	.00	.24*
Self-regulation	3.34	3.27	3.25	3.33	3.47	4.12	.01	.22*
Factor three (cognitive)						21.83*	.02	.11*
Beauty <sup>a</sup>	3.59	3.80	3.82	3.86	4.00	27.05*	.03	.28*
Creativity <sup>a</sup>	3.62	3.74	3.79	3.92	4.07	40.18*	.03	.21*
Curiosity <sup>a</sup>	3.90	3.95	3.99	4.09	4.13	18.38*	.01	.20*
Learning <sup>a</sup>	3.77	3.85	3.85	3.91	4.00	10.28*	.01	.12*
Factor four (transcendence)						<1	.00	.16*
Gratitude	3.90	4.00	3.99	4.04	4.10	8.45	.01	.33*
Hope <sup>a</sup>	3.65	3.68	3.62	3.69	3.71	<1	.00	.29*
Religiousness <sup>a</sup>	3.53	3.59	3.58	3.78	3.82	11.57*	.01	.35*
Zest <sup>a</sup>	3.56	3.60	3.59	3.74	3.75	10.41*	.01	.28*
Factor five (temperance)						<1	.00	.09*
Fairness	3.97	4.03	4.03	4.06	4.13	9.16	.01	.21*
Forgiveness	3.63	3.69	3.63	3.64	3.72	<1	.00	.20*
Modesty	3.44	3.46	3.44	3.40	3.46	<1	.00	.17*
Prudence	3.56	3.54	3.49	3.45	3.53	<1	.00	.13*
PTGI	—	2.37	2.69	3.22	3.35	54.84*	.07	—

Note. PTGI = Post-Traumatic Growth Inventory.

<sup>a</sup>Strengths hypothesized to reflect posttraumatic growth.

\* $p < .001$ .

associations than the other strengths. The PTGI scores were a linear function of the number of events reported ( $\eta^2 = .08$ ).

Because some of the character strengths were intercorrelated, we computed a principal components factor analysis of VIA scale scores with varimax rotation. Five factors with eigenvalues  $> 1.0$  were identified. Table 1 shows these factors and the strengths that loaded most highly on each. We repeated the analyses just described with the factor scores, which were necessarily independent of one another. Two of the factors (interpersonal and cognitive) showed linear relationships with the number of potentially traumatic events, and all of these factors were correlated with PTGI scores.

## DISCUSSION

No one would wish traumatic events for themselves or others, but the present findings show that their experience is sometimes associated with increased character strengths along the lines hypothesized by Tedeschi and Calhoun (1995). Effects were small, but not trivial (Cohen, 1988). Regardless, these findings are important given how many theories emphasize the psychologically scarring effects of such events. That any character benefits at all are associated with increasing exposure to potential trauma adds to a growing literature showing that people are more resilient than extant theories predict.

Our results extend past research by examining the correlates of multiple traumas and by using a measure that did not prime respondents to think of themselves as trauma survivors. The present research nonetheless relied on self-report, an obvious limitation. Another limitation is that the present sample was tilted toward those coping satisfactorily enough to be able to find the Web site and spend 45–50 minutes completing surveys. Still, our respondents were not “Pollyannas.” Not all character strengths were associated with exposure to potentially traumatic events. Other studies by our group using the same Internet strategy have never found life satisfaction scores that are higher than those of representative samples, or depression scores that are lower. As mentioned, the prevalence of potentially traumatic events reported by the present participants were similar to estimates from nationally representative samples.

Like most studies of posttraumatic growth, the design of the present research was cross-sectional rather than longitudinal, leaving unclear the directionality of associations. Future research should go beyond these limitations by examining representative samples in longitudinal designs, starting with people before they experience potentially traumatic events and following them through the occurrence and aftermath of trauma. Were individuals reporting growth actually traumatized in the first place, or did they have a minimal response? What amount of time must pass before growth is evident? Who sought treatment, and what was its effect? Given the high prevalence of life-threatening events, such a research design is—unfortunately—feasible and would allow the actual sequencing of constructs to be specified with more certainty.

With the above-mentioned limitations in mind, we tentatively conclude that posttraumatic growth can occur following potentially traumatic events. Terrible events are all too common in people’s lives, but the effects of these events are not uniformly negative and may even include increased strengths of character.

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