

## Research Report

### CHARACTER STRENGTHS BEFORE AND AFTER SEPTEMBER 11

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#### *Abstract*

Did Americans change following the September 11 terrorist attacks? We provide a tentative answer with respect to the positive traits included in the Values in Action Classification of Strengths and measured with a self-report questionnaire available on-line and completed by 4,817 respondents. When scores for individuals completing the survey in the 2 months immediately after September 11 were compared with scores for those individuals who completed the survey before September 11, seven character strengths showed increases: gratitude, hope, kindness, leadership, love, spirituality, and teamwork. Ten months after September 11, these character strengths were still elevated, although to a somewhat lesser degree than immediately following the attacks.

Throughout most of its history-for good reason-psychology has been concerned with identifying and remedying human ills, but the recently christened field of positive psychology calls for as much focus on strength as weakness, as much interest in building the best things in life as repairing the worst, and as much concern with fulfilling the goals of healthy people as healing the wounds of the distressed (Seligman & Csikszentmihalyi, 2000). There are three central topics of concern to positive psychology: positive emotions, positive traits (which enable positive experiences), and positive institutions (which enable positive traits; Seligman, 2002).

*The Values in Action (VIA) Classification of Strengths* is a first step toward meeting the need for a consensual vocabulary of positive traits (Peterson & Seligman, in press), and it attempts to do for human strength what the *Diagnostic and Statistical Manual* of the American Psychiatric Association (1994) does for mental disorder. The VIA Classification describes and categorizes 24 positive traits valued in the contemporary United States (see Table 1). Part of this project is creating tools for assessing positive traits.

The first assessment approach we devised for measuring the VIA strengths is a self-report questionnaire dubbed the VIA Inventory of Strengths (VIA-IS), which asks individuals to report the degree to which statements reflecting each of the strengths apply to themselves. For example, one item measuring the character strength of hope is, "I know that I will succeed with the goals I set for myself." The strength of industry is measured with such items as "I never quit a task before it is done."

The individual scales are reliable ( $\alpha > .75$ ). Their best validity evidence comes from an ongoing study using a nomination procedure. We asked people to nominate individuals whom they believed to possess a given strength to a notable degree. So, nominated person X was the epitome of kindness, nominated person Y was a paragon of prudence, and so on. These nominated individuals were then asked to complete the survey without being told why. When we matched nominations with actual responses, most of the strengths showed moderate convergence with nominations. So, the measure has a modicum of validity.

We have gathered much of our data by placing the survey on-line. We do not know exactly who the respondents might be, but more than 80% of persons who use the World Wide Web are from the United States (Finke & Finke, 2002), a percentage probably exceeded in the case of this survey, which was available only in English. The survey was put on-line in early 2001.

Immediately after the September 11 terrorist attacks on New York and Washington, we repeatedly heard that people in the United States had forever changed. The on-line data provide a means of evaluating this possibility with respect to strengths of character. Available were responses from hundreds of individuals prior to September 11 and from hundreds of individuals following the attacks. Did Americans really become kinder, more loving, and more religious, as stories in the popular media suggest? What happened to optimism and bravery? If changes occurred,

were they fleeting or sustained? We report tentative answers to these questions.

## METHOD

Between January 2001 and June 2002, 4,817 individuals completed the VIA-IS on-line (at <http://positivepsychology.org/strengths>). Respondents were required to answer all items of the VIA-IS for the survey to be processed. Except for about 120 individuals from the aforementioned nomination study and approximately 45 college students participating in an ongoing study of the effects of taking a positive psychology class, we solicited none of these respondents. We assume that they learned about the survey by following a link on the Positive Psychology Web page (<http://www.positivepsychology.org>), by following links on other Web pages, or by hearing about it from previous respondents.

The VIA-IS includes 10 items for each character strength. For each item, the response is indicated on a scale from 1, *very much unlike me*, to 5, *very much like me*. Scale scores are calculated by averaging the relevant items. From January 2001 through June 2001, the VIA-IS measured 20 strengths (all those in Table 1 except forgiveness, modesty, playfulness, and zest) and was completed by 217 individuals. In June 2001, an additional scale measuring modesty was added, and through July 2001, this 21-scale version was completed by 435 individuals. In August 2001, three new scales were added to measure forgiveness, playfulness, and zest, and through June 2002, this 24-scale version was completed by 4,165 individuals. To increase the span over which data were available, we limited the analyses reported here to the 20 strengths measured by all versions of the VIA-IS. Analyses with data from respondents to just the 24-scale version did not alter our findings or conclusions, except that the character strength of leadership did not evidence significant change from before to after September 11.

Respondents were given the option of providing demographic information, and 98% answered all such questions. The sample reported here was 72% female; 85% White; and 52% single, 37% married or living as married, 10% divorced or separated, and 1% widowed. Our typical respondent was 35 years old and had completed several years of college. As of mid-May 2002, we began to ask if respondents were from the United States, and 173 (13% of respondents during this time period) reported that were not; the majority (81%) of these individuals were from English-speaking countries, although there was a smattering of respondents from continental Europe, the Middle East, Africa, Central and South America, and Asia.

## RESULTS

First, we looked for immediate changes by comparing scores before September 11 with those obtained 1 month after September 11 (September 12, 2001, through October 11, 2001) and with those obtained 2 months after September 11 (October 12, 2001, through November 11, 2001). We excluded the 9 individuals who responded on September 11, 2001. Our intent was to take seriously only changes evident in both comparisons. We computed separate one-way multivariate analyses of variance with time period (pre-9/11 vs. 1 month or 2 months post-9/11) as the two-level between-subjects factor and the 20 scale scores as dependent variables. The overall  $F$  was significant in both cases, confirming changes in the immediate wake of the terrorist attacks,  $F(20, 1180) = 2.81, p < .001$ , and  $F(20, 1080) = 3.74, p < .001$ , for 1 and 2 months after September 11, respectively.

We then examined differences on a scale-by-scale basis by computing  $t$  tests comparing pre-September 11 scores with scores in the 1st month following September 11 and scores in the 2nd month following September 11, using a  $p$  level of .01 (see Table 1). Although the scales were positively skewed, there was enough room for seven of the strengths to show increases at both time periods: gratitude, hope, kindness, leadership, love, spirituality, and teamwork

These particular strengths encompass the so-called theological virtues—faith, hope, and charity (love)—identified centuries ago by St. Paul (Aquinas, trans. 1966) and sung about more recently by Alan Jackson in his September 11th anthem "Where Were You." These core cultural emphases apparently changed in the wake of September 11, whereas the more secular character strengths did not. Indeed, these seven strengths substantially covaried (median  $r$  for the intercorrelations among these scales = .50) and on the whole were distinguishable from the other strengths in the VIA-IS (median  $r$  for the intercorrelations among these scales and the others scales = .35). A composite measure formed by averaging these seven scales had an internal consistency at the level of their individual reliabilities ( $\alpha = .86$ ), and a factor analysis of these scale scores with Varimax rotation revealed only one factor with an eigenvalue greater than 1.00, accounting for 56% of the variance.

For the sake of convenience, we therefore conducted further analyses with this composite measure, with the goal of buttressing the argument that the observed changes were a result of the events on September 11. We grouped the

data into time periods before September 11 (0-2 months prior:  $n = 529$ ; 2-4 months prior:  $n = 169$ ; and 4-9 months prior:  $n = 208$ ) and after September 11 (0-2 months after:  $n = 490$ ; 2-4 months after:  $n = 232$ ; and 4-10 months after:  $n = 3,007$ , excluding known non-U.S. respondents); we also calculated scores for the 173 non-U.S. respondents (from May and June 2002). Then we computed a one-way between-subjects analysis of variance (ANOVA) with seven different levels (six time periods + non-U.S. respondents) and the theological-virtues composite as the dependent variable, followed by post hoc pair-wise tests using the Duncan procedure. The results, shown in Figure 1, imply that September 11 was a cutting point vis-à-vis the data. The overall ANOVA was significant,  $F(6, 4801) = 9.70, p < .001$ . None of the mean scores prior to September 11 differed from one another or from the mean score of non-U.S. respondents after September 9/11 ( $ps > .05$ ), and none of the post-September 11 scores differed from one another ( $ps > .05$ ). However, each of the former scores differed from each of the latter scores ( $ps < .05$ ).

We analyzed these same data (excluding the non-U.S. respondents) with a four-way analysis of covariance with time period (three periods before September 11 + three periods after September 11), gender (male vs. female), marital status (married vs. not), and ethnicity (White vs. not) as between-subjects factors, the continuous variables of age and years of education as covariates, and the theological-virtues composite as the dependent variable. Time period had a main effect,  $F(5, 4510) = 6.05, p < .001$ , as already explained, and so did the demographic contrasts: Females scored higher than males (3.82 vs. 3.74),  $F(1, 4510) = 5.04, p < .03$ ; married individuals scored somewhat higher than nonmarried individuals (3.81 vs. 3.75),  $F(1, 4510) = 2.78, p < .10$ ; and non-Whites scored higher than Whites (3.85 vs. 3.71)  $F(1, 4510) = 13.94, p < .001$ . However, none of these contrasts interacted with time period ( $ps > .05$ ), meaning that the post-September 11 changes were general across these demographic variables.

As Figure 1 shows, the highest scores on the theological-virtues composite occurred immediately after September 11. Scores decreased somewhat thereafter, as confirmed by our test for a linear trend among the post-September 11 means (excluding the non-U.S. respondents),  $F(1, 3726) = 6.53, p < .02$ .

## DISCUSSION

As noted, the theological virtues of St. Paul (faith = spirituality; hope; and charity = gratitude, kindness, leadership, love, teamwork) subsumed the strengths that showed increases following the terrorist attacks. Other strengths stayed much the same, which is not surprising in the case of traits such as curiosity, but more provocative in such cases as bravery. We speculate that exercising the theological virtues allowed people to enhance their sense of belonging in ways that could be self-perpetuating. In the immediate aftermath of September 11, people behaved differently by turning to others, which in turn changed their social worlds so that the relevant behaviors were rewarded and thus maintained (Bandura, 1978). However, as time passed, this hypothesized dynamic was attenuated—hence the trend toward lower levels of strengths. We will follow with interest the longer-term trajectory of these character strengths.

We had no control over who completed the survey at different times. It is conceivable that September 11 did not change people but only influenced who completed the survey. However, this possibility seems unlikely because demographics did not account for the patterns reported.

We did not set out to study character strengths before and after September 11, and we acknowledge that a definitive investigation would have been longitudinal rather than cross-sectional, ascertained more information about respondents, and supplemented self-report of character strengths with behavioral indices and observations by knowledgeable informants. Fine-grained case studies might reveal the process by which a character strength becomes self-consciously salient and then is incorporated into a habitual style.

Samples obtained from the World Wide Web can be criticized because of the special characteristics of respondents. Web respondents need to have access to a computer and the ability to use it. They need to be interested enough to spend time answering questions. But contrast our Web sample with samples obtained from typical psychology subject pools and ask which is more representative of the population (Birnbaum, 2000). Our respondents ranged across the adult years and different levels of formal education. Men and women were represented. Many of the respondents were married. Our sample also included more than 700 non-White respondents. From other Web-based studies we have recently conducted, we know that respondents come from all parts of the United States; that they represent a variety of occupations, from laborers to professionals; and that they fall at all points along the political spectrum.

We think our findings provide food for thought. First, they illustrate the utility of the World Wide Web for gathering data that can be analyzed for calendar-dependent trends, a strategy previously available only to researchers with the resources for large-scale door-to-door or telephone surveys. Second, our data add to the validity evidence for the

VIA-IS. Third, our data imply that character is malleable, as philosophers as far back as Aristotle have suggested. Fourth, they suggest that at least some strengths, when changed in the short term, have some staying power, an encouraging result for character education. Whether and how these changes are sustained are questions that deserve research attention. Finally, our data direct the attention of positive psychology to the role of crisis as a possible crucible for what is best about people.

#### *Acknowledgments*

We acknowledge the encouragement and support of the Manuel D. and Rhoda Mayerson Foundation in creating the Values in Action Institute, a nonprofit organization dedicated to the development of a scientific knowledge base of human strengths. We thank Jonathan Baron, Adam Cohen, Robert Emmons, Lauren Kachorek, Todd Kashdan, Neal Mayerson, Patty Newbold, Peter Schulman, and Tracy Steen for help developing the on-line VIA-IS survey.

#### **REFERENCES**

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Aquinas, T. (1966). *Treatise on the virtues* (J.A. Oesterle, Trans.). Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist*, 33, 344-358.
- Birnbaum, M.H. (Ed.). (2000). *Psychological experiments on the internet*. San Diego, CA: Academic Press.
- Finke, W., & Finke, B. (2002). *The Internet and the World Wide Web*. Retrieved March 1, 2002, from <http://www.rrca.org/publicat/inethist.html>
- Peterson, C., & Seligman, M.E.P. (in press). *Values in Action (VIA) classification of strengths*. Washington, DC: American Psychological Association.
- Seligman, M.E.P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.
- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.

(Received 4/8/02; Revision accepted 8/2/02)