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Spontaneous Self-Affirmation is Associated with Psychological Well-being:
Evidence from a U.S. National Adult Survey Sample

Abstract

Emerging evidence suggests that individuals spontaneously self-affirm, by reflecting on values and strengths, in response to daily threats. We examined the prevalence and demographic and well-being correlates of spontaneous self-affirmation in the general population. Participants (n=3,185) completed the cross-sectional, nationally-representative 2013 Health Information National Trends Survey (HINTS 4, Cycle 3), and answered questions about spontaneous self-affirmation, demographic factors, well-being and affect. The majority of the population reported spontaneously self-affirming. Black and Hispanic respondents reported engaging in more spontaneous self-affirmation. Engaging in spontaneous self-affirmation was related to greater happiness, hopefulness, optimism, subjective health, personal health-efficacy, and less anger and sadness.

Keywords: self-affirmation, affect, well-being, spontaneous self-affirmation, physical health

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People are generally motivated to view themselves positively (e.g., as moral, high in self-integrity, competent; Steele, 1988). Threats to these positive self-perceptions are common and varied, including negative performance feedback, messages advocating personal behavior change, or feeling threatened because of one's gender or race (i.e., stereotype threat). People differ in how they cope with self-threats, and the effectiveness of these coping strategies has tangible consequences for physical and mental health (Taylor and Broffman, 2011).

One coping strategy is *self-affirmation*, or focusing on one's personal values and strengths (Steele, 1988). When people self-affirm, they are reminded of their psychosocial resources, focus on the "big picture," and appreciate the context of the threat as well as approach it more effectively (Sherman, 2013). This process makes the threat less psychologically impactful and decreases defensiveness (Cohen and Sherman, 2014). In most prior work, researchers have experimentally induced participants to self-affirm, and these induced self-affirmations generally lead to positive health outcomes (Epton et al., 2014), including greater acceptance of health messages (Sherman et al., 2000), increased performance of healthy behaviors (Harris et al., 2014a), greater weight loss (Logel and Cohen, 2012), reduced health information avoidance (Howell and Shepperd, 2012), dampened stress reactivity (Creswell et al., 2005) and better psychological well-being (Nelson et al., 2014).

Self-affirmations can also occur *spontaneously*; that is, individuals may respond naturally to threat by reflecting on their values or strengths (as opposed to in response to laboratory or intervention instructions) either in a planned or a less deliberative manner. It is largely unknown to what extent people self-affirm spontaneously in response to daily threats and whether such

affirmations lead to positive outcomes. Some studies have provided initial evidence that spontaneous self-affirmation might promote physical and mental health. For instance, sports fans who spontaneously self-affirmed after their favored team lost consumed fewer calories than those who did not (Cornil and Chandon, 2013), spontaneous self-affirmation buffered against anticipated negative affect in the context of seeking threatening genomic information (Ferrer et al., 2014), and cancer survivors who wrote essays with more spontaneous self-affirmations reported fewer physical health symptoms 3-months later (Creswell et al., 2007). Two studies have linked spontaneous self-affirmation to increased openness to a psychologically-threatening message (Townsend and Sood, 2012; Pietersma and Dijkstra, 2012). Using a nationally-representative data set (the Health Information National Trends Survey (HINTS), the same one used for the current study), spontaneous self-affirmation was associated with better perceived communication with and quality of care from health care providers and greater health information seeking (Taber et al., 2015a), and with lower likelihood of cognitive impairment, greater happiness and hopefulness, greater self-efficacy for getting health information, and greater likelihood of seeking information about cancer among cancer survivors (Taber et al., 2015b). Together, these findings suggest that spontaneous self-affirmations are linked to health benefits (although measurement of spontaneous self-affirmation varies across these studies).

To date, there are many unexamined questions concerning spontaneous self-affirmation. In the present study, we examined two primary questions: 1) Given that spontaneous self-affirmations occur frequently in the general population (Taber et al., 2015), are standard demographic factors (i.e., age, gender, race/ethnicity, education) associated with the extent to which people spontaneously self-affirm?, and 2) Is the tendency to spontaneously self-affirm associated with more positive well-being (i.e., positive affect, greater optimism, health efficacy,

and subjective health) controlling for demographics? We had no predictions about demographic correlates. Most importantly, we expected that spontaneous self-affirmations would be associated with more positive well-being.

Methods

Study Design and Participants

We analyzed data from HINTS 4, Cycle 3 (<http://hints.cancer.gov>). Details of the sampling design, methodology, and materials are available at http://hints.cancer.gov/docs/HINTS_4_Cycle_3_Methods_Report_FINAL_508c_03_21_2014.pdf and are discussed in prior research (Nelson et al., 2004; Finney Rutten et al., 2012). We summarize this information here. Initially, a stratified sample of addresses was selected from a database of a random sample of addresses. Sampling frames included areas with high and low concentrations of minority populations and addresses located in Central Appalachia. The high-minority stratum was over-sampled. The initial sampling included 12,010 possible respondents. Participants received four mailings as needed: the initial mailing, a reminder postcard, and two follow-up mailings. Spanish mailings were sent to households in linguistically-isolated areas or with potentially Hispanic surnames. Mailings included a \$2 incentive to encourage completion, and participants were given toll-free numbers to call with questions. One adult from each sampled household (with the next birthday) completed the survey. Data collection occurred from 9/13-12/13. Completed surveys were returned by 3,185 people. The response rate for HINTS 4 Cycle 3 is similar to that of other mailed surveys (Dillman, 2000). We used jackknife replicate sample weights in all analyses to account for the complex sampling design and to generate statistical estimates that can be generalized to the non-institutionalized US adult population (see hints.cancer.gov for further details on recommended statistical approaches).

The survey was deemed exempt from IRB review by the NIH Office of Human Subjects Research. All research was conducted in accordance with the principles expressed in the Declaration of Helsinki.

As noted in the Introduction, the associations of spontaneous self-affirmation with affect (i.e., happiness, anger, anxiety, hopefulness, sadness) and self-reported health, as well as several measures *not* examined in the present study, have been examined elsewhere using a subsample of the 326 cancer survivors in HINTS 4, Cycle 3 (Taber et al., 2015). The pattern of results and magnitude of effects reported in the present study do not change when excluding the 326 survivors from analyses. We retained survivors in the analyses reported here so that prevalence estimates of spontaneous self-affirmation would be nationally representative.

Measures

Spontaneous Self-Affirmation. Two items measured the extent to which participants spontaneously self-affirmed (“When I feel threatened or anxious I find myself thinking about my values [strengths];” $r=0.69, p<.001$). These items were summed and averaged to form the two-item index. These items were taken from a longer scale currently in development. The longer scale includes two key subscales assessing strengths and values with high reliability; the two items load highly on their respective subscales, and reliability decreases when these particular items are omitted (Harris et al., 2016). Moreover, a version of this two-item index has been used successfully in earlier research examining spontaneous self-affirmation (Taber et al., 2014; Ferrer et al., 2014). Participants selected one of four response options: *strongly agree, somewhat agree, somewhat disagree, strongly disagree*.

Affective States. Using items adapted from another national survey (Ryff et al., 2012), participants indicated “how often [they] felt” five specific emotions (*happy, angry, anxious,*

hopeful, sad) “in the past 30 days” using five response options: *all of the time, most of the time, some of the time, a little of the time, none of the time*.

Personal Health Efficacy. Participants rated their perceived personal health efficacy with the question “Overall, how confident are you about your ability to take good care of your health?” selecting one of five response options: *completely confident, very confident, somewhat confident, a little confident, not at all confident*.

Subjective Health. Participants indicated whether “In general, [they] would say [their] health is...” by selecting one of five options: *excellent, very good, good, fair, or poor*.

Optimism. Using a single item from Scheier et al. (1994), participants indicated their dispositional optimism on the item “I’m always optimistic about my future” selecting one of four response options: *strongly agree* to *strongly disagree* outlined earlier. Although optimism is dispositional, it is also an indicator of psychological well-being.

Sociodemographic Factors. Participants indicated their age, gender, race/ethnicity, and education. We collapsed race/ethnicity responses into four categories (White/Black/Hispanic/Other). We used a 3-level indicator (less than high school, high school or some college, college graduate or post-baccalaureate) for education (Almeida et al., 2005).

Analysis

First, to test the association between demographic factors and spontaneous self-affirmation, we conducted weighted linear regressions using spontaneous self-affirmations as the outcome and demographic items (i.e., age, gender, race/ethnicity, and education) simultaneously entered as predictors. To answer our second question, we conducted separate weighted linear regressions using spontaneous self-affirmation as the predictor and well-being variables as the outcome variables, controlling for sociodemographic factors. Finally, we computed the overall

meta-analytic association between affirmation and well-being outcomes. All analyses were completed using Stata 13. All outcome variables were normally distributed. We reverse-coded items so that higher values indicated higher levels of the construct. We used $p < .05$ as a guideline for statistical significance.

Results

The sample was primarily White (66.69%; 14.27% Black, 11.92% Hispanic, 7.12% other) with a mean age of 47.12 years ($SD=1.13$). Approximately half were men (48.39%) and most had an educational level of high school or some college (57.12%) or college graduate or post-baccalaureate degree (33.21%; 9.67% had less than high school education).

Spontaneous Self-Affirmation: Prevalence and Demographic Correlates

Overall, people indicated a relatively high degree of spontaneous self-affirmation ($M=2.74$ out of 4, $SD=0.14$), with 76% agreeing on at least one item, suggesting the majority of the population spontaneously self-affirms (Taber et al., 2015). The distribution of responses for affirmation of values was 17.9% strongly agree, 48.2% somewhat agree, 22.2% somewhat disagree, and 11.8% strongly disagree. For affirmation of strengths, the distribution was 20.5% strongly agree, 48.1% somewhat agree, 19.2% somewhat disagree, and 12.2% strongly disagree.

Age, gender, race/ethnicity, and education were simultaneously entered as predictors of self-affirmation in a linear regression. Older individuals were more likely than younger individuals to spontaneously self-affirm, $b=.003$, $SE=.002$, $t=2.06$, $p=.045$, $r=.28$. Race was also significantly associated with affirmation such that Black ($M=2.90$, $SD=0.42$, $b=.23$, $SE=.06$, $t=3.43$, $p < .01$, $r=.44$) and Hispanic ($M=2.93$, $SD=0.35$, $b=.26$, $SE=.06$, $t=4.23$, $p < .01$, $r=.52$) respondents were more likely to spontaneously self-affirm than were White respondents ($M=2.67$, $SD=0.21$). Gender and education were not significantly associated with spontaneous self-

affirmation. In sum, older individuals and ethnic minorities were most likely to spontaneously self-affirm.

Psychological Well-being and Affirmation

People who were more likely to spontaneously self-affirm reported more positive and less negative affect including greater happiness, $b=0.14$, $CI_{95\%}=[.08,.22]$, $SE=0.03$, $t=4.28$, $r_{\text{partial}} = .52$, $p<.01$, greater hopefulness, $b=0.39$, $CI_{95\%}=[.31,.48]$, $SE=0.04$, $t=9.39$, $r_{\text{partial}} = .80$, $p<.01$, less sadness, $b=-0.09$, $CI_{95\%}=[-.15,-.03]$, $SE=0.03$, $t=-2.97$, $r_{\text{partial}}=.39$, $p =.01$, and less anger, $b = -0.10$, $CI_{95\%}=[-.16,-.05]$, $SE =0.03$, $t=-3.86$, $r_{\text{partial}} =.48$, $p<.01$. Individuals high in spontaneous self-affirmation also tended to be more dispositionally optimistic, $b=0.40$, $CI_{95\%} = [.07,.21]$, $SE=0.03$, $t=12.11$, $r_{\text{partial}} =.86$, $p<.01$. Spontaneous self-affirmation was unrelated to anxiety, $b=-0.07$, $CI_{95\%}=[-.16,-.02]$, $SE=0.04$, $t=-1.59$, $r_{\text{partial}} =.22$, $p=.12$.

Participants reporting higher self-affirmation tendencies also reported greater personal health efficacy, $b=0.15$, $CI_{95\%}=[.08,.24]$, $SE=0.04$, $t=3.96$, $r_{\text{partial}} =.49$, $p<.01$, and better subjective health, $b=0.09$, $CI_{95\%} = [.02,.16]$, $SE=0.03$, $t=2.68$, $r_{\text{partial}} =.35$, $p=.01$. In sum, across seven of eight predictors spontaneous self-affirmation was associated with more positive psychological well-being, controlling for demographics.

Figure 1 presents a forest plot of the partial correlations and 95% confidence intervals ($CI_{95\%}$) between affirmation and each measure of well-being, and the overall meta-analytic association between affirmation and well-being outcomes. An examination of the weighted partial correlations between affirmation and the constructs of psychological well-being presented in the forest plot suggested that the size of the effects of affirmation ranged from $r_{\text{partial}} = .86$ (the correlation with optimism) to $r_{\text{partial}} = -.22$ (the correlation with anxiety) and culminated in an average, sample size weighted, correlation of absolute- $r_{\text{partial}} =.53$, $CI_{95\%} = [.46,.60]$. Notably, the

relationship between affirmation and mental health was significantly larger among facets of positive well-being (e.g., optimism, happiness, efficacy), $r_{\text{partial}} = .62$, $CI_{95\%} = [.54, .69]$, than among negative well-being (e.g., sadness, anger), $r_{\text{partial}} = -.35$, $CI_{95\%} = [-.48, -.20]$.

Discussion

Spontaneous self-affirmation was associated with better mental and physical well-being including greater happiness, hopefulness, optimism, personal health efficacy, and subjective health, and less sadness and anger.

This is the first study to assess the frequency and mental health correlates of spontaneous self-affirmation in a large, national sample. Older adults were higher in spontaneous self-affirmation tendencies, as were Blacks and Hispanics compared to Whites. Education and gender were unrelated to spontaneous self-affirmation. Although we did not have firm *a priori* predictions about demographic correlates, the pattern of results is consistent both with evidence suggesting that stigmatized individuals (e.g., older people, racial minorities) may be better at managing threats to the self (Crocker and Major, 1989).

The present research links prior work suggesting that self-affirmation is an effective psychological threat-management strategy (Sherman and Cohen, 2006) with work suggesting that better psychological-threat management improves well-being (Taylor and Broffman, 2011) and establishes a more direct association between spontaneous self-affirmation and well-being. Moreover, the present work adds to a growing body of literature examining the effects of spontaneous affirmations (e.g., Toma and Hancock, 2013), suggesting affirmations occur without researcher prompting.

Although these results are promising, the cross-sectional design prevents us from concluding that there is a temporal, causal effect between spontaneous self-affirmation and well-

being. Induced self-affirmations have been linked to increased well-being for up to 4 weeks (Nelson et al., 2014) and to increased other-directed positive affect (Crocker et al., 2008), providing support for such a causal relationship. Nevertheless, it is also possible that greater levels of well-being allow people to spontaneously self-affirm. This may be especially true for optimism, which is regarded as a trait and therefore may increase the propensity to spontaneously self-affirm. Consistent with this idea, research suggests that people in negative moods benefit less from induced self-affirmation (Ferrer et al., 2012) and studies suggest that induced self-affirmation does not influence general positive affect (Harris and Napper, 2005). As such, future research should more directly examine the directional influence of spontaneous self-affirmation on well-being.

Another limitation is the use of several one- or two-item measures, as is common on national surveys limited in space. Although we do not suspect that an investigation using more items would yield different results, the results should be interpreted with caution and be replicated using multi-item, psychometrically validated, measures of our constructs.

One possible explanation for our results is that people who spontaneously self-affirm may also hold more positive self-concepts. However, recent research has shown that people low in self-esteem benefit more from a self-affirmation manipulation than do individuals high in self-esteem (Düring and Jessop, 2014), suggesting that the relationship between self-affirmation and self-esteem may be complex. Also, in previous research, correlations between the two spontaneous self-affirmation items and the Rosenberg Self-Esteem Scale (Rosenberg, 1965) were significant but modest ($r=.27$) (Harris et al., 2016). Thus, self-affirmation does not appear to be simply a proxy for self-esteem.

Future research might examine differences and similarities between spontaneous and manipulated self-affirmations. Because spontaneous self-affirmations are employed at the exact moment of threat, they may be more powerful than manipulated self-affirmations when such inductions are unable to be ideally timed. Whether spontaneous self-affirmation leads to better physiological health outcomes is also unknown. Future research is also needed to test whether spontaneous self-affirmation is unique from other psychological resources such as resilience and trait self-esteem.

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