

# Birth Cohort Differences in Self-Esteem, 1988–2008: A Cross-Temporal Meta-Analysis

Brittany Gentile  
University of Georgia

Jean M. Twenge  
San Diego State University

W. Keith Campbell  
University of Georgia

Three meta-analyses find increases over the generations in Rosenberg Self-Esteem scale (RSE) scores between 1988 and 2008 among American middle school ( $d = 0.78$ ,  $n = 10,119$ ), high school ( $d = 0.39$ ,  $n = 16,669$ ), and college students ( $d = 0.30$ ,  $n = 28,918$ ). The changes are consistent with an increasing emphasis on self-worth in American culture and, for high school students, with small increases in academic competence over time. College students' scores change only when the RSE is administered with a 4-point Likert scale with no midpoint. By 2008, a score of 40 (perfect self-esteem) was the modal response of college students, chosen by 18% of participants; 51% scored 35 or over. Given these shifts in responses, the possibility of revising the RSE is discussed.

**Keywords:** self-esteem, generational differences, meta-analysis

**Supplemental materials:** <http://dx.doi.org/10.1037/a0019919.supp>

Self-esteem is one of the most prolifically researched topics in modern psychology and has transitioned from a term used solely in scientific literature to a concept widely recognized among the general public. Baumeister, Campbell, Krueger, and Vohs (2003) note that Americans in particular have latched onto the idea that self-esteem is related to “all matter of positive behaviors and outcomes” (p. 3). Indeed, self-esteem is positively related to happiness (Lyubomirsky, Tkach, & DiMatteo, 2006) and to life-satisfaction, especially in individualistic societies (Diener & Diener, 1995). However, self-esteem also has a more negative side, as high self-esteem individuals react with defensiveness when threatened (e.g., Heatherton & Vohs, 2000). High self-esteem can also result in “nonproductive persistence,” pursuing a task even when it is useless to do so (McFarlin, Baumeister, & Blascovich, 1984). The mix of positive and negative aspects of self-esteem has resulted in a dichotomy between those who advocate its benefits and those who criticize its usefulness. Hewitt (1998) regards this divided view as “evidence that the word *self-esteem* touches a sensitive cultural nerve” (p. 3).

With the cultural importance of self-esteem increasing over time, trait levels of self-esteem among individuals might also have changed over the generations. In an initial investigation of changes in self-esteem over time, Twenge and Campbell (2001) conducted a cross-temporal meta-analysis of the Coopersmith Self-Esteem Inventory (SEI) and Rosenberg Self-Esteem Scale (RSE). College

students' self-esteem on the RSE increased markedly between 1968 and 1994, consistent with the growing cultural emphasis on self-esteem. However, children's scores on the SEI followed a curvilinear pattern, decreasing until 1979 and increasing thereafter among both elementary school and middle school students. Children's self-esteem closely followed patterns in social indicators over time (e.g., divorce, crime) and, after 1980, were influenced by what Twenge and Campbell (2001) labeled the “culture of self-worth.” Birth cohort effects for high school students were not significant. This study concluded that increases in self-esteem were an individual-level manifestation of the cultural shift toward focusing on the individual (e.g., Fukuyama, 1999; Seligman, 1990).

The last data points in Twenge and Campbell's (2001) analysis were collected in 1994, more than 15 years ago. The current study aims to explore generational changes in college students', high school students', and middle school students' self-esteem in articles published after the search for the Twenge and Campbell (2001) data was completed in 1995. In 1994, college students' average scores had already reached 32.86 (out of a possible 40; the scale midpoint is 25), so it is possible that scores have leveled off or even decreased since then. In support of this possibility, one analysis found that high school students' overall self-esteem, measured with six items from the RSE, did not change between the mid-1970s and 2006 (Twenge & Campbell, 2008); however, high school students were also the only age group that did not show significant change in Twenge and Campbell (2001). Alternatively, the continued cultural changes in the United States in the direction of self-worth may have led to further increases in self-esteem. For example, college students' narcissism scores increased over this time period (Twenge, Konrath, Foster, Campbell, & Bushman, 2008; Twenge & Foster, 2010), and narcissism is positively correlated with self-esteem (e.g., Bosson et al., 2008). And although high school students' overall self-esteem did not change, they did

---

Brittany Gentile and W. Keith Campbell, Department of Psychology, University of Georgia; Jean M. Twenge, Department of Psychology, San Diego State University.

Correspondence concerning this article should be addressed to Brittany Gentile, Department of Psychology, Psychology Building, University of Georgia, Athens, GA 30602-3013. E-mail: [bgentile@uga.edu](mailto:bgentile@uga.edu)

score higher over time in self-satisfaction and were more optimistic about their future performance than their counterparts in the mid 1970s (Twenge & Campbell, 2008).

### Theories of Cross-Temporal Self-Esteem Change

Two models of self-esteem seem most relevant for explaining birth cohort change: a *competencies model* asserting that self-esteem is a product of the individual's proficiency in certain aspects of his or her life; and a *culture of self-worth model* positing that self-esteem increases because of the importance that the culture places on self-liking. These models address the focal point in the self-esteem debate: Is self-esteem a function of competence, or is it more influenced by a culture's emphasis on the self? A third possibility is that self-esteem scores have plateaued due to ceiling effects in the RSE.

### Competencies Model

According to James (1890), self-esteem is based on beliefs of one's competence. In his view, there is a discrepancy between the actual and ideal self; self-esteem may be formulated as success over pretensions (James, 1890). Harter (1986) further argued that global self-worth reflects whether the individual is successful in areas s/he believes to be important. These areas may include physical characteristics, social identity, and specific actions, interests, or abilities (Rosenberg, 1979). Areas in which the individual feels competent are given precedence over areas in which s/he is less competent (Harter, 1986). However, two people who are equally competent on a task may have vastly different self-concepts (Pelham & Swann, 1989). As James' (1890) formula points out, self-esteem can be increased if one either raises his or her successes or lowers his or her pretensions. This theory predicts that people with high self-esteem will have congruent beliefs about their domain-specific competence and beliefs of success (Harter, 1986). According to the competencies model, if young people have been more successful over this time period, then their self-esteem should also rise.

Between 1995 and 2008, scores on Scholastic Aptitude Test (SAT) critical reading (once called the verbal section) have not changed and math scores have increased slightly (College Board, 2008b). However, the *perception* of success has increased; twice as many high school students report earning an A average as did in the 1970s, even though fewer report doing more than 15 hours of homework a week (Twenge & Campbell, 2010).

Other measures of success have declined. For example, college admissions have become more selective (Isaacs, 2001; Sireci, Zanetti, & Berger, 2003). In 2006, the percentage of college freshmen/women who reported they were attending their first choice school fell to 67.3% (Pryor, Hurtado, Saenz, Santos, & Korn, 2007). Thus, even while competence has been flat, competition and the demand for higher education have increased. If, as James (1890) predicted, perceptions of competence (e.g., grades) are more important than actual competence, students' self-esteem should increase. If actual competence (outcomes) is more important, self-esteem should stay the same (as suggested by flat SAT scores) or even decrease (based on more college rejections).

### Culture of Self-Worth Model

The culture of self-worth model maintains that self-esteem changes according to normative social influence or its level of acceptance by society (Deutsch & Gerard, 1955). While American culture has always nurtured the belief that an individual can singularly improve his or her situation, the concept of the "self" did not reach prominence until much later (Hewitt, 1998). Beginning in the 1970s, it became increasingly acceptable for adults to focus inward and emphasize the self (Frum, 2000). The self-esteem movement later extended to children and programs emerged to boost children's self-esteem (Haney & Durlak, 1998).

These changes can be conceptualized within a cultural psychological framework (e.g., Fiske, Kitayama, Markus, & Nisbett, 1998). In other words, generational or *cross-temporal* changes within a single society can usefully be understood with the same models as *cross-cultural* changes. If the self and the social system operate in a mutually constitutive, interactive fashion as proposed by the Mutual Constitution Model (Fiske et al., 1998), then changes in the core ideas and values of the culture (e.g., it is important to admire the self) should be reflected in changes in social institutions (e.g., education system, parenting), specific social interactions (e.g., inflated grades), and finally changes in the individual psyche (e.g., higher self-esteem).

During the last few decades, the importance of self-worth has increased (see Twenge & Campbell, 2009, for a review). For example, during the 1980s and 1990s, educational practices shifted to incorporate self-esteem into school curricula, in some cases obscuring academic goals by discontinuing practices such as graded report cards, competition, and correcting wrong answers (see Sykes, 1995; Twenge, 2006, for reviews). Self-esteem became independent of, rather than a result of, academic competence.

The expansion of the self-esteem movement was partially due to the belief that self-esteem was a solution to societal problems. In 1990, the California Task Force on Self-Esteem hoped to find evidence that self-esteem could be a "social vaccine" for substance abuse, teen pregnancy, child abuse, welfare dependency, violent crime, and educational failure (California State Department of Education, 1990). The task force enlisted research professors from the best California universities, but no causal relationships were found between self-esteem and any of the social problems examined. Nonetheless, the report retained its assertion that self-esteem is a viable solution. The Masters Coalition subsequently formed to "facilitate the actualization of society and lead to the amelioration, if not elimination of various negative influences" (National Association for Self-Esteem, 2008). These programs operate under the assumption that too many people, particularly adolescent girls, have low self-esteem (Baumeister et al., 2003). In 2002, the Girl Scouts of America designed a program called Uniquely Me! to "address the critical nationwide problem of low self-esteem among adolescent and preadolescent girls" (Girl Scouts of America, 2007). Although the prevalence of these programs is unknown, a meta-analysis by Haney and Durlak (1998) showed them to be effective in increasing self-esteem among children, especially among those with preexisting problems.

With self-esteem emphasized both in and out of school, children are being immersed in the culture of self-worth. Self-esteem is so widely known today that the single item "I have high self-esteem" provides a valid measure of self-esteem (Robins, Hendin, & Trz-

esniewski, 2001). Since entering the public consciousness, self-esteem has only grown in popularity and is widely exhibited in magazines, TV, and music (see Twenge, 2006). Since the mid1990s, the Internet has become a rapidly growing medium for self-expression with websites like Facebook, MySpace, and Twitter enabling the creation of personal websites listing interests, friends, and status updates. YouTube, which bears the slogan "Broadcast Yourself," allows ordinary people to reach millions. Thus the culture of self-worth model predicts that self-esteem will continue to increase after the mid1990s among children, adolescents, and college students.

### The Self-Esteem Score Ceiling Model

Lastly, it is possible that college students' self-esteem scores in 1994 may have reached a ceiling in measurement. Rather than displaying a normal distribution, self-esteem scores are heavily skewed to the left (Baumeister, Tice, & Hutton, 1989; Blascovich & Tomaka, 1991). In most samples, the mean self-esteem score is higher than the theoretical midpoint, so individuals with high self-esteem are actually very high and individuals with "low" self-esteem actually have moderate scores (Baumeister et al., 1989; Schmitt & Allik, 2005). This pattern has been found across self-esteem scales (Baumeister et al., 1989) and although some research suggests it is less pronounced in non-Western nations (Diener & Diener, 1995; Heine, Lehman, Markus, & Kitayama, 1999), more recent research suggests left-skewed self-esteem scores are now appearing across cultures (Cai, Wu, & Brown, 2009; Schmitt & Allik, 2005). Thus, it is not a statistical artifact but a psychometric limitation.

College students' average score on the RSE had already reached 32.86 (out of a possible 40) in 1994 (Twenge & Campbell, 2001). It is thus possible that already high scores on self-esteem may have reached a ceiling and leveled off. The ceiling effect model predicts that self-esteem scores will stay constant. This leveling off, however, should be most pronounced among college students, and least in middle school students, as they typically have lower self-esteem than high school or college students (Twenge & Campbell, 2001). Even if college students' self-esteem has hit a ceiling, there is still room for the self-esteem of younger students to catch up.

## Method

### Self-Esteem Data Points

Two computer databases were searched to find articles using the RSE published between 1995 and 2008. The Social Sciences Citation Index (part of the Web of Science) was used to locate studies citing the original sources of the RSE (Rosenberg, 1965, 1979). This database includes citations from the majority of social science journals and was the primary source of information. The PsycINFO database was also searched using the keyword "Rosenberg Self-Esteem." To locate unpublished data points, we sent a message to the Society for Personality and Social Psychology member listserv. While Twenge and Campbell (2001) included the SEI in their analysis, preliminary searches indicated that there were not enough studies using this measure during the years 1995–2008 to update that part of the study.

Studies had to meet the following criteria to be included in the analysis: (a) the sample tested elementary school, middle school, high school, or college students; (b) data were collected in the United States; (c) the study participants were not preselected on any relevant variable (e.g., extreme depression scores, at-risk status, learning disabled, high or low scores on self-esteem or any other measure, etc.); (d) there were at least 10 participants; (e) the study used the full scale (the 10-item RSE); (f) the RSE was scored using a 4- or 5-point Likert scale (we excluded the few studies using 7- or 9-point scales); (g) the authors reported means for the sample on the RSE. If multiple articles used the same dataset, only one data point was entered.

For studies that did not report the year of data collection, the authors were contacted by e-mail—when possible—to determine the year. Some authors reported that their data was collected prior to 1993, but published much later. Studies were included as long as they had not been included in the Twenge and Campbell (2001) analysis. We also added data from a sample collected at San Diego State University in spring 2008. Thus, the data here span the years 1988–2008. When the authors could not be contacted, year was computed as 2 years prior to the year of publication. We were able to obtain exact years of data collection for 81% of the samples.

In studies providing enough information, control variables were coded. The region of each sample was coded according to U.S. Census divisions (East, Midwest, South, or West). For studies in which means were reported separately by racial group, each was considered a separate sample. Samples where one racial group was 90% or more of a sample were coded as that group. (Most studies were not 90% or more one group and were thus coded as diverse in race). Socioeconomic status was coded as a continuous variable (low income, low to middle class, middle class, and middle to upper class). However, less than half of the studies reported information on SES and as a result it could not be included as a covariate. In many cases, there were not enough samples for region, race, or Likert scale type (4 or 5) to be included as a covariate, but we report those analyses when enough information was available.

Mean scores from studies using 5-point Likert scales were converted to a 4-point scale with a range of 10–40. Analyses were also performed separately for studies using 4- and 5-point scales to examine the possibility of measurement effects. Data points that were originally reverse scored, with higher scores reflecting low self-esteem, were recorded so that higher scores reflected high self-esteem.

Samples were coded for age using the categories established in Kling, Hyde, Showers, and Bushwell (1999): elementary school (Grades 1–5, ages 6–10), middle school (Grades 6–8, ages 11–13), high school (Grades 9–12, ages 14–17), and college (ages 18–23). Discrepancies between age and type of school were resolved by classifying the samples according to type of school. Studies that reported separate means for different age categories were entered as separate samples. As a time-lag study must use samples of similar age, studies that reported a single mean spanning five or more grades were not included. When studies reported a mean for a sample spanning three or four grades, the average age was used to assign the sample to an age category.

This method yielded 214<sup>1</sup> samples using the RSE for a total of 50,734 college students (16,812 males and 30,345 females; average age 20.48), 28 samples of 16,669 high school students (7,506 males and 8,043 females; average age 15.22), and 22 samples of 10,119 middle school students (4,837 males and 5,223 females; average age 12.75). A list of the data points and citations used in this meta-analysis is available online as supplemental material. Only eight studies using the RSE with elementary school-children were found, too few to include them in the analysis.

## Cross-Temporal Meta-Analysis Method

The cross-temporal meta-analysis method was developed across several studies by Twenge (e.g., Twenge, 2000; Twenge & Campbell, 2001). Methods of data identification and collection operate similar to those in a traditional meta-analysis. Whereas traditional meta-analyses record the effect size for each study, however, a cross-temporal meta-analysis records sample means and the year of data collection.

Data are weighted by sample size and analyzed using traditional statistical methods. The weights necessarily differ from those in traditional meta-analyses, which utilize a formula involving effect size and sample size (see Hedges & Becker, 1986). Sample size is used as a weight here because means do not display the same bias as effect sizes.<sup>2</sup>

As a time-lag analysis, this study relies on samples of the same age collected at different points in historical time. This allows for the examination of birth cohort differences without the confound of age. Thus, separate analyses were performed for each age group (middle school, high school, and college). We also included possible confounding variables such as sample gender composition, ethnic composition, and region of the United States.

To calculate the magnitude of change in RSE scores, we used the regression equation and the averaged standard deviation (*SD*) of the individual samples. To compute the mean scores for specific years (e.g., 1988 or 2008), we used the regression equation, which follows the algebraic formula  $y = Bx + C$ , where  $B$  = the unstandardized regression coefficient,  $x$  = the year,  $C$  = the constant or intercept, and  $y$  = the predicted mean RSE score. This formula yielded the position of the regression line (the mean RSE score, on the  $Y$  axis) for particular years. We obtained the average standard deviation (*SD*) by averaging the within-sample *SD*s reported in the data sources; thus this reflects the average variance of the measure in a sample of individuals. It is important to note that this method avoids the ecological fallacy (a.k.a. alerting correlations: Rosenthal, Rosnow, & Rubin, 2000), which can occur when the magnitude of change is calculated using the variation in mean scores rather than the variation within a population of individuals. The method used here, in contrast, uses the *SD* of the individual studies to capture the variance of the scale among a population of individuals. Thus the ecological fallacy is not an issue, as the effect size reflects individual-level variance.

## Results

### Birth Cohort Differences

**Middle school.** American middle school students' self-esteem increased markedly between 1988 and 2006. The correlation be-

tween self-esteem and year was strong and positive and the effect was very linear (see Table 1 and Figure 1). Eleven- to 13-year-old children's RSE scores rose from 28.90 in 1988 to 32.74 in 2006 ( $SD = 4.94$ ),  $d = 0.78$ . The effect was similar when controlled for the percentage of females in each study among all data points,  $r(22) = .87$ ,  $p < .001$ , and among only those using the 4-point RSE,  $r(18) = .87$ ,  $p < .001$ .

**High school.** High school students' self-esteem also increased between 1988 and 2004 (see Table 1 and Figure 2). Fourteen to 17-year-old teens' scores rose from 29.86 in 1988 to 31.84 in 2004 ( $SD = 5.09$ ),  $d = 0.39$ . The correlation was significant when controlled for the percentage of females in each study and ethnicity,  $r(28) = .30$ ,  $p = .04$ . When only samples using the 4-point RSE were controlled for the percentage of females in each study, the correlation was significant,  $r(24) = .68$ ,  $p = .002$ , but became nonsignificant when controlled for ethnicity,  $r(24) = .17$ , *ns*. This suggests ethnicity may be a confounding variable; this may have occurred because the majority of Black samples, which scored higher on the RSE, were collected between 1998 and 2002. When the Black samples were excluded, the correlation was still significant,  $r(17) = .53$ ,  $p = .03$ ; it was also significant when only White and samples diverse in race were examined,  $r(13) = .72$ ,  $p = .005$ . The effect sizes for these analyses were smaller than those found when all samples were considered ( $d = 0.17$  and  $d = 0.23$ , respectively).

**College students.** College students' self-esteem on the 4-point scale RSE increased over time (see Table 1 and Figure 3).<sup>3</sup> No differences were found when scores on the 4- and 5-point RSE were analyzed together,  $r(214) = .04$ , *ns*, or when scores on the 5-point RSE were analyzed separately,  $r(87) = -.10$ , *ns*. The effect for 4-point RSE scores was similar when controlled for region, ethnicity, and the percentage of females in each study,  $r(127) = .21$ ,  $p = .01$ . College samples rose from 31.83 in 1988 to 33.37 in 2008 on the 4-point RSE ( $SD = 5.13$ ),  $d = 0.30$ . This average score is about 1.33 *SD*s from the top of the scale, suggesting that college students' self-esteem may be reaching a ceiling.

To get a view of the score distribution of the RSE in a recent sample, we examined the spring 2008 sample of 154 San Diego State University (SDSU) students (67 males, 87 females). In this dataset, the modal (most common) score was a 40, the highest score possible on the RSE (which might be considered "perfect" self-esteem). Eighteen percent of participants scored a 40, and the majority of respondents (51%) scored a 35 or over on the RSE.

<sup>1</sup> Seventeen data points were collected from unpublished sources.

<sup>2</sup> We performed additional analyses using a weight of inverse variance. The method was modified from Shadish and Haddock (1994) to weight data by the variance and sample size. In this method the standard deviation for each study was squared and multiplied by  $1/n$  of each study. This was inverted to create a weighting variable of  $1/v$ . The results of these analyses were similar to those weighting by sample size are thus not presented here.

<sup>3</sup> We also did a separate analysis including only the data collected after 1993. This yielded results similar to the overall dataset among college, (4-point RSE only,  $r(117) = .23$ ,  $p = .01$ ,  $d = .25$ ; 5-point RSE only,  $r(82) = .04$ , *ns*,  $d = .03$ ; combined,  $r(199) = .10$ , *ns*,  $d = .09$ ) and middle school samples (combined RSE,  $r(20) = .53$ ,  $p = .02$ ,  $d = .40$ ). High school samples' self-esteem did not increase significantly over time in this analysis (combined RSE,  $r(26) = .17$ , *ns*,  $d = .18$ ).

Table 1  
*Linear Correlations Between Mean Self-Esteem Scores and Year of Administration by Age Group and Effect Size (*d*) of Birth Cohort on Mean Self-Esteem, Weighted by Sample Size*

	Year range	All	4-point scale	5-point scale
Middle school	1988–2006	.77*** (22) <i>d</i> = .78	.75*** (18) <i>d</i> = .65	—
High school	1988–2004	.63*** (28) <i>d</i> = .39	.67*** (24) <i>d</i> = .44	—
College	1988–2008	.04 (214) <i>d</i> = .05	.23* (127) <i>d</i> = .30	–.10 <sup>a</sup> (87) <i>d</i> = –.10

Note. The number of samples in each group (*k*) is shown in parentheses. Correlations reflect changes in averages (group-level effects), whereas *d*'s are based on individual-level effects.

<sup>a</sup> 1990–2007.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Competencies model.** When matched by year, college students' average scores on the 4-point RSE were significantly correlated with average total scores on the SAT (College Board, 2008b),  $r(127) = .18$ ,  $p = .04$ , and scores on the quantitative section,  $r(127) = .21$ ,  $p = .02$ , although effect sizes were modest ( $d = 0.13$  and  $d = 0.21$ , respectively). High school students' self-esteem was also significantly correlated with total scores on the SAT,  $r(28) = .59$ ,  $p = .001$ , and scores on the quantitative section,  $r(28) = .62$ ,  $p < .001$ . The effect size for each of these correlations with total and quantitative SAT was larger than for the college sample when all RSE scores were considered ( $d = .30$  and  $d = .34$ , respectively) as well as when only scores on the 4-point RSE were considered ( $d = .39$  and  $d = .42$ , respectively). The correlation with scores on the verbal section was not significant for either age group. Thus, the correlation with scores on the SAT is mostly dependent upon increases in scores on the SAT quantitative section; this provides some support for the competencies model.

**Ceiling effects.** The overall pattern of change, which is greatest for the middle school students and least for college students, is consistent with a ceiling effect. The self-esteem of all groups ended at a similarly high level, so the largest changes across time

were seen in the younger groups who started at the lowest levels (see Figure 4). An RSE score of 33 is roughly 1.5 standard deviations from 40, the absolute ceiling score of the RSE. Still, the high school students have not reached as high a level as the other groups, so it is possible there is more room for increases in their self-esteem.

## Discussion

Three meta-analyses showed that middle school, high school, and college students' self-esteem increased from the late 1980s to the mid2000s. These analyses included different samples, yet yielded similar results. The largest increase appeared among middle school students, who once reported lower self-esteem than other age groups (Twenge & Campbell, 2001) but whose self-esteem now nearly reaches the level of college students' scores. The rise in early adolescents' self-esteem may partially be due to school programs encouraging self-esteem, many of which began in the 1980s (Haney & Durlak, 1998). The large increase in self-esteem occurred over a relatively short time span (18 years), with a larger yearly rate of change ( $d = 0.04$  per year) than the previous

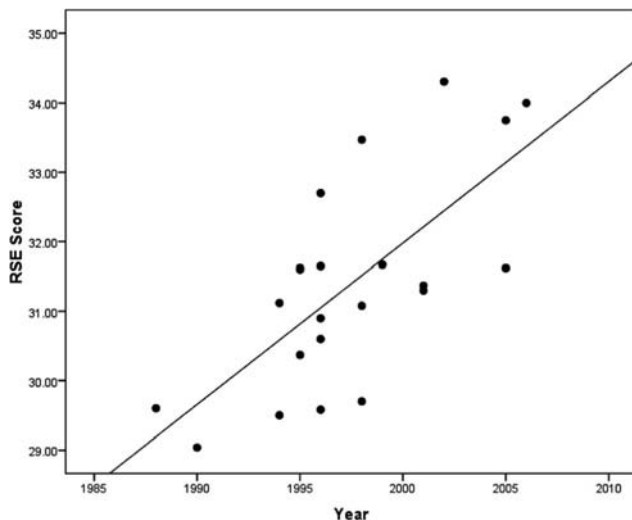


Figure 1. Middle school students' self-esteem over time.

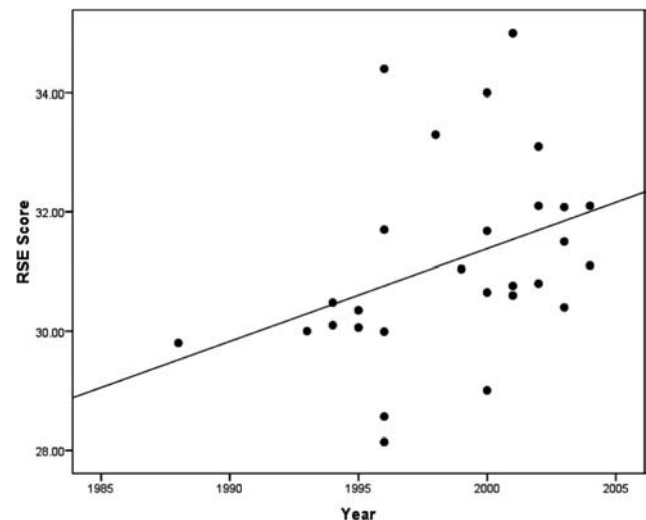


Figure 2. High school students' self-esteem over time.

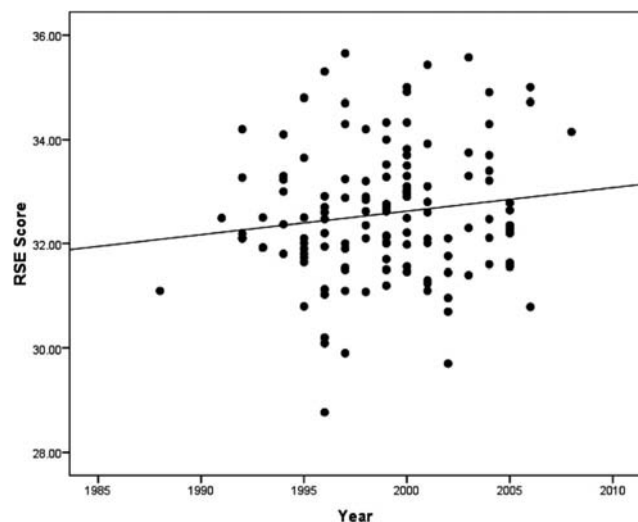


Figure 3. College students' self-esteem over time, 4-point Likert scale only.

analysis found for college students 1968–1994 ( $d = 0.02$  per year; Twenge & Campbell, 2001). These results provide support for the culture of self-worth model.

When confounding between ethnicity and time is eliminated, high school students' self-esteem rose only a modest amount ( $d = 0.17$ ). However, this is higher than the  $d = 0.10$  increase found between 1975 and 2006 in Twenge and Campbell's (2008) analysis of the responses to 6 RSE items in the nationally representative Monitoring the Future (MTF) dataset of high school seniors. Although the MTF uses a more random sampling strategy—a clear advantage—it also has two other differences from the current analysis that might be disadvantageous. First, it uses only 6 of the 10 RSE items, and these items are presented mixed together with locus of control and other items on the survey. The item order has also changed many times over the years (see Twenge & Campbell, 2010, for a more detailed discussion). Second, MTF samples only high school seniors, so those who dropped out before making it to the spring semester of their senior year would not be included in the MTF but would be included in the samples in this analysis, in which the average age was 15. Even with these differences, however, the results from the two analyses are not vastly different; both show small increases over time.

### Competencies Models

For high school students, increasing SAT scores—an indicator of competence—may have played a role in increasing self-esteem scores. Yet much of this increase is an illusion of competence, as SAT scores were recentered in 1995. A verbal score of 420 on the original scale is now a 500 and a quantitative score on the original scale of 470 is now a 500 (College Board, 2008a). As such, many previously below-average scores would now be considered average. Although quantitative scores have been increasing, the change is small, with the highest average of 520 in 2005. However, high school students are getting better grades: In the MTF dataset, twice as many high school seniors report earning A averages in 2006

versus 1976. However, because fewer students report doing 15 hours or more of homework a week, they are earning better grades for less work (Twenge & Campbell, 2010). Thus the perception of competence appears to be more important than actual competence.

### Measurement Issues and Ceiling Effects

College students' self-esteem continued to increase even after the large gains made between the 1960s and the 1990s. The small to moderate increase ( $d = 0.30$ ) from the late 1980s to the mid2000s was smaller than that found for the 1960s to the 1990s ( $d = 0.62$ ). College students' RSE scores may have almost reached a ceiling in the 1990s, but still rose slightly into the 2000s. With 51% of 2008 SDSU students scoring above 35, and a perfect 40 the modal response, it would be difficult for college students' self-esteem to rise any higher. Middle school students' self-esteem is not far behind. In Twenge and Campbell (2001), analyses for age differences showed self-esteem increasing with age. However, the current analysis showed that all three samples had approximately equal levels of self-esteem by the late 00s. RSE scores have had a skewed distribution for several decades (Baumeister et al., 1989; Blascovich & Tomaka, 1991), and this appears to be spreading to younger age groups. These results were not corroborated by the 5-point RSE, which did not show increases in self-esteem. This may be due to the presence of a neutral midpoint. Twenge and Campbell (2001) found that the relationship between self-esteem and social desirability increased over time. Thus, respondents who do not wish to be seen as having low self-esteem might choose the neutral option on the 5-point scale rather than the two options indicating low self-esteem. Alternately, they would choose "agree" on the 4-point RSE, which would increase scores. This is speculation, however, as we have no clear evidence of this.

Is this a statistical ceiling of the RSE or actual ceiling in levels of self-esteem? On the one hand, a group with a mean of 33 out of 40 (with an  $SD$  of 5) is unlikely to show much increase in the mean. This is the statistical ceiling of self-esteem measured on the RSE. On the other hand, the endpoints of the RSE are already extreme, ranging from "strongly disagree" to "strongly agree," so it does not seem wise to change these to "very strongly disagree"

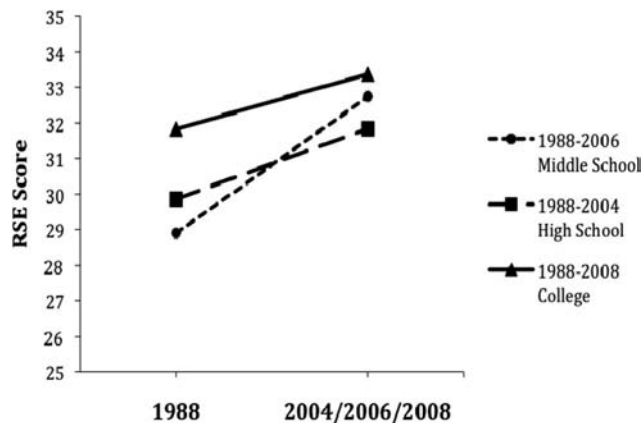


Figure 4. Change over the generations in self-esteem among age groups.

and “very strongly agree.” That leaves the possibility of changing the items themselves. If the items on the RSE fail to tap into the highest possible conceptualization of self-esteem, then conceivably self-esteem scores could be increased by increasing the positivity of the items themselves. For example, the current item “I take a positive attitude toward myself,” could be changed to “I take an extremely positive attitude toward myself.” Such item changes would potentially lower the individual’s self-esteem score if a true ceiling in self-esteem had been reached. However, if the ceiling in self-esteem is merely statistical, the scores with the revised RSE would be similarly elevated. This is an important avenue for future research.

### Limitations

Few studies report scores on the RSE for elementary school students. Thus, this study was not able to examine changes in their levels of self-esteem. In addition, there were not enough studies administering the 5-point RSE to either middle school or high school samples for measurement differences between the two forms of the RSE to be analyzed for these age groups.

As in any meta-analysis, interpretations of the results of this study are limited to the samples available. The respondents here were from convenience samples of middle school, high school, and college students. As a result, these trends cannot be generalized to individuals who are not enrolled in school or to the American population as a whole. However, the goal of this cross-temporal meta-analysis is to examine the relationship between time and self-esteem. We are not attempting to determine the national mean level of self-esteem for all adolescents and young adults, for which a large random sample might be more appropriate. However, our findings show that among the samples examined, self-esteem has been increasing. This has implications for the measurement of self-esteem as these samples, especially the college samples, reflect the students most likely to be participants in psychological studies.

### Conclusions: Mission Accomplished

The overall pattern of data shows increasing self-esteem among adolescents and young adults, apparently caused by the cultural emphasis on self-worth and increases in perceived competence. At least for now, those focused on elevating self-esteem might want to declare: “Mission Accomplished.” The RSE, written in the 1960s, has nearly reached a ceiling, at least in the samples we examined. Yet despite these increases, there is little evidence that any of the societal problems allegedly tied to self-esteem have been ameliorated, let alone eradicated. During the years examined in this study SAT scores and proficiency levels in key subjects were stable, while U.S. students continued to underperform in comparison to students from other developed countries (OECD Programme for International Student Assessment, 2007; U.S. Department of Education, 2009). Substance use among adolescents was also stable while teen mental health issues increased (Johnston, O’Malley, Bachman, & Schulenberg, 2009a, 2009b; Twenge et al., 2010). The only areas of improvement were in decreasing rates of violent crime and welfare dependency (U.S. Bureau of the Census, 2009), and it is uncertain whether increasing self-esteem was the cause.

Going forward, there are two important avenues for change. First, research psychologists should consider modifying the RSE so self-esteem measurement is not so limited by ceiling effects and skewed distributions. Second, we as a society can focus our national attention on increasing levels of other psychological/behavioral constructs that might have a great societal pay-off, such as self-control, educational competence, happiness, or positive social functioning.

### References

- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness or healthier lifestyles? *Psychological Science in the Public Interest*, 4, 1–44.
- Baumeister, R. F., Tice, D. M., & Hutton, D. G. (1989). Self-presentational motivations and personality differences in self-esteem. *Journal of Personality*, 57, 547–579.
- Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychology attitudes* (pp. 115–160). New York: Academic.
- Bosson, J. K., Lakey, C. E., Campbell, W. K., Zeigler-Hill, V., Jordan, C. H., & Kernis, M. H. (2008). Untangling the links between narcissism and self-esteem: A theoretical and empirical review. *Social and Personality Psychology Compass*, 2, 1415–1439.
- Cai, H., Wu, Q., & Brown, J. D. (2009). Is self-esteem a universal need? Evidence from the People’s Republic of China. *Asian Journal of Social Psychology*, 12, 104–120.
- California State Department of Education. (1990). *Toward a state of esteem: The final report of the California Task Force to Promote Self-Esteem and Personal and Social Responsibility*. Sacramento, CA: Author. (ERIC Document Reproduction Service No. ED321170)
- College Board. (2008a). *SAT I Individual Score Equivalents*. Retrieved from <http://professionals.collegeboard.com/data-reports-research/sat/equivalence-tables/sat-score>
- College Board. (2008b). *College-bound seniors 2008*. Retrieved from <http://professionals.collegeboard.com/data-reports-research/sat/cb-seniors-2008>
- Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. *Journal of Abnormal and Social Psychology*, 51, 629–636.
- Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology*, 68, 653–663.
- Fiske, A., Kitayama, S., Markus, H. R., & Nisbett, R. E. (1998). The cultural matrix of social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., pp. 915–981). San Francisco: McGraw-Hill.
- Frum, D. (2000). *How we got here: The 70s, the decade that brought you modern life (for better or worse)*. New York: Basic Books.
- Fukuyama, F. (1999). *The great disruption: Human nature and the reconstitution of social order*. New York: Free Press.
- Girl Scouts of America. (2007). *Uniquely me! The Girl Scout/Dove self-esteem program*. Retrieved from [http://www.girlscouts.org/program/program\\_opportunities/leadership/uniquelyme.asp](http://www.girlscouts.org/program/program_opportunities/leadership/uniquelyme.asp)
- Haney, P., & Durlak, J. A. (1998). Changing self-esteem in children and adolescents: A meta-analytic review. *Journal of Clinical Child Psychology*, 27, 423–433.
- Harter, S. (1986). Processes underlying the construction, maintenance, and enhancement of the self-concept. In J. Suls, & A. G. Greenwald (Eds.), *Psychological perspectives on the self: Vol. 3.* (pp. 137–181). Hillsdale, NJ: Erlbaum, Inc.

- Heatherington, T. F., & Vohs, K. D. (2000). Interpersonal evaluations following threats to self: Role of self-esteem. *Journal of Personality and Social Psychology*, 78, 725–736.
- Hedges, L. V., & Becker, B. J. (1986). Statistical methods in the meta-analysis of research in gender differences. In J. S. Hyde & M. C. Linn (Eds.), *The psychology of gender: Advances through meta-analysis* (pp. 14–50). Baltimore: Johns Hopkins University Press.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review*, 106, 766–794.
- Hewitt, J. P. (1998). *The myth of self-esteem: Finding happiness and solving problems in America*. New York: St. Martin's Press.
- Isaacs, T. (2001). Entry to university in the United States: The role of SATs and advanced placement in a competitive sector, *Assessment in Education*, 8, 391–406.
- James, W. (1890). *The principles of psychology* (Vol. 1). New York: Holt.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2009a). *Monitoring the Future national survey results on drug use, 1975–2008*. Volume I: Secondary school students (NIH Publication No. 09–7402). Bethesda, MD: National Institute on Drug Abuse.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2009b). *Monitoring the Future national survey results on drug use, 1975–2008*. Volume II: College students and adults ages 19–50 (NIH Publication No. 09–7403). Bethesda, MD: National Institute on Drug Abuse.
- Kling, K. C., Hyde, J. S., Showers, C. J., & Bushnell, B. N. (1999). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin*, 125, 470–500.
- Lyubomirsky, S., Tkach, C., & DiMatteo, M. R. (2006). What are the differences between happiness and self-esteem? *Social Indicators Research*, 78, 363–404.
- McFarlin, D. B., Baumeister, R. F., & Blascovich, J. (1984). On knowing when to quit: Task failure, self-esteem, advice, and nonproductive persistence. *Journal of Personality*, 52, 138–155.
- National Association for Self-Esteem. (2008). *Masters Coalition—a work in progress*. Retrieved <http://www.self-esteem-nase.org/masters.php>
- OECD Programme for International Student Assessment. (2007, April 12). PISA 2006: Science Competencies for tomorrow's world. Retrieved from [http://www.pisa.oecd.org/document/2/0,3343,en\\_32252351\\_32236191\\_39718850\\_1\\_1\\_1\\_1,00.html](http://www.pisa.oecd.org/document/2/0,3343,en_32252351_32236191_39718850_1_1_1_1,00.html)
- Pelham, B. W., & Swann, W. B., Jr. (1989). From self-conceptions to self-worth: On the sources and structure of global self-esteem. *Journal of Personality and Social Psychology*, 57, 672–680.
- Pryor, J. H., Hurtado, B., Saenz, V. B., Santos, J. L., & Korn, W. S. (2007). *The American freshman: Forty-year trends, 1966–2006*. Los Angeles: Higher Education Research Institute.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 27, 151–161.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Middletown, CT: Wesleyan University Press.
- Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.
- Rosenthal, R., Rosnow, R. L., & Rubin, D. B. (2000). *Contrasts and effect sizes in behavioral research: A correlational approach*. Cambridge, U.K.: Cambridge University Press.
- Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology*, 89, 623–642.
- Seligman, M. E. (1990). Why is there so much depression today? The waxing of the individual and the waning of the commons. In R. E. Ingram (Ed.), *Contemporary psychological approaches to depression: Theory, research, and treatment* (pp. 1–9). New York: Plenum Press.
- Shadish, W. R., & Haddock, C. K. (1994). Combining estimates of effect size. In H. Cooper & L. V. Hedges (Eds.), *The handbook of research synthesis* (pp. 261–281). New York: Russell Sage Foundation.
- Sireci, S. G., Zanetti, M. L., & Berger, J. B. (2003). Recent and anticipated changes in postsecondary admissions: A survey of New England colleges and universities. *The Review of Higher Education*, 26, 323–342.
- Sykes, C. J. (1995). *Dumbing down our kids: Why American children feel good about themselves but can't read, write, or add*. New York: St. Martin's Press Griffin.
- Twenge, J. M. (2000). The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952–1993. *Journal of Personality and Social Psychology*, 79, 1007–1021.
- Twenge, J. M. (2006). *Generation me: Why today's young Americans are more confident, assertive, entitled—and more miserable than ever before*. New York: Free Press.
- Twenge, J. M., & Campbell, W. K. (2001). Age and birth cohort differences in self-esteem: A cross-temporal meta-analysis. *Personality and Social Psychology Review*, 5, 321–344.
- Twenge, J. M., & Campbell, W. K. (2008). Increases in positive self-views among high school students: Birth-cohort changes in anticipated performance, self-satisfaction, self-liking, and self-competence. *Psychological Science*, 19, 1082–1086.
- Twenge, J. M., & Campbell, W. K. (2009). *The narcissism epidemic: Living in the age of entitlement*. New York: Free Press.
- Twenge, J. M., & Campbell, W. K. (2010). Birth cohort differences in the Monitoring the Future dataset and elsewhere: Further evidence for Generation Me. *Perspectives in Psychological Science*, 5, 81–88.
- Twenge, J. M., & Foster, J. D. (2010). Birth cohort increases in narcissistic personality traits among American college students, 1982–2009. *Social Psychological and Personality Science*, 1, 99–106.
- Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI. *Clinical Psychology Review*, 30, 145–154.
- Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. (2008). Egos inflating over time: A cross-temporal meta-analysis of the narcissistic personality inventory. *Journal of Personality*, 76, 875–902.
- U.S. Bureau of the Census. (2009). *Statistical abstracts*. Retrieved from <http://www.census.gov/prod/www/abs/statab.html>
- U.S. Department of Education. (2009, April). The nation's report card: Long-term trend 2008 (Publication No. NCES 2009479). Retrieved February 17, 2010, from IES National Center for Education Statistics: <http://nces.Ed.gov/pubsearch/pubsinfo.asp?pubid=2009479>

Received September 17, 2009

Revision received April 22, 2010

Accepted April 23, 2010 ■