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More Happiness for Young People and Less for Mature Adults: Time Period Differences in Subjective Well-Being in the United States, 1972–2014

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Jean M. Twenge¹, Ryne A. Sherman², and Sonja Lyubomirsky³

Abstract

Are Americans happier, or less happy, than they used to be? The answer may depend on life stage. We examined indicators of subjective well-being (SWB) in four nationally representative samples of U.S. adolescents (aged 13–18 years, $n = 1.27$ million) and adults (aged 18–96 years, $n = 54,172$). Recent adolescents reported greater happiness and life satisfaction than their predecessors, and adults over age 30 were less happy in recent years. Among adults, the previously established positive correlation between age and happiness has dwindled, disappearing by the early 2010s. Mixed-effects analyses primarily demonstrated time period rather than generational effects. The effect of time period on SWB is about $d = .13$ in most age groups, about the size of reported links between SWB and objective health, marital status, being a parent, and volunteering.

Keywords

happiness, subjective well-being, generations, time period, age

Are Americans happier, or less happy, than they used to be? Individuals and cultures mutually shape one another (Markus & Kitayama, 2010), creating cultural change that leads to generational and time period differences among individuals (Twenge, 2014). A reasonable, a priori case could be made for subjective well-being (SWB) either increasing or decreasing over the last few decades. SWB may increase due to rising median family income, larger homes, and more labor-saving devices (Diener, Tay, & Oishi, 2013; U.S. Census Bureau, 2007, 2013b, 2014). Furthermore, Americans today have more leisure time, obtain higher levels of education, and enjoy longer life spans and better physical health (e.g., National Center for Health Statistics, 2014a; Oeppen & Vaupel, 2002; Robinson & Godbey, 1999; U.S. Census Bureau, 2012). In addition, individualism—a cultural system promoting focus on the self over others—has increased over time in the United States (Greenfield, 2013; Twenge, Campbell, & Gentile, 2012), and individualism is correlated with higher SWB in cross-national analyses (e.g., Diener, Diener, & Diener, 1995). Traits correlated with SWB, such as extroversion, self-esteem, and narcissism, have increased over time (e.g., Gentile, Twenge, & Campbell, 2010; Scollon & Diener, 2006; Twenge & Foster, 2008, 2010).

However, other cultural changes suggest that SWB may have declined. Social support and relationships are consistent predictors of SWB (Lyubomirsky, King, & Diener, 2005), and most indicators suggest that relationships are now less stable

(e.g., lower marriage and birth rates and more people living alone; National Center for Health Statistics, 2014b; U.S. Census, 2013a). The marriage rate in the United States reached a 93-year low in 2014 (Bedard, 2014). Materialistic values, usually correlated with lower SWB, have increased (Twenge & Kasser, 2013). Rising incomes may not lead to more happiness as standards adjust (Easterlin, 1995), and the growth of income inequality may lead to unhappiness (Oishi, Kesebir, & Diener, 2011). Although individualism is linked to SWB in cross-national analyses, some have speculated that individualism sequela such as compromised social support and higher expectations may lead to more unhappiness and dissatisfaction (Myers, 2000; Seligman, 1988). Finally, traits negatively correlated with SWB, such as depression and anxiety, have increased (Cohen & Janicki-Deverts, 2012; Herbst, 2011; Twenge et al., 2010).

However, trends in SWB may differ by age group. Cultural shifts toward individualism may favor adolescence, a time of

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self-focus (e.g., Kanacri, Pastorelli, Eisenberg, Zuffiano, & Caprara, 2013). Adults may find a larger disconnect between an individualistic cultural ethos and their responsibilities to others. This may be especially true for adults over age 30 who have exited the individualistic developmental period of ages 18–29 now known as emerging adulthood (Arnett, 2004). The weakening of social ties (such as the lower marriage rate), economic circumstances such as the Great Recession, and growing income inequality may also have a larger impact on adults than on adolescents. Since the 1990s, many adolescent samples have stayed steady or even decreased in anxiety and depression (Costello, Erkanli, & Angold, 2006; Twenge & Nolen-Hoeksema, 2002; for a review, see Twenge, 2011), while adult samples have continued to increase in anxiety and stress (Cohen & Janicki-Deverts, 2012; Herbst, 2011).

The causes of SWB may also differ from one age group to another. Young people take more risks and seek novelty and information that will benefit them in the future. In contrast, older people, whose time horizon is relatively more limited, are more likely to cultivate current relationships that are fulfilling in the present (Carstensen, Isaacowitz, & Charles, 1999). Recent years have arguably allowed more information seeking, novelty, and risk taking (e.g., through technology and/or more freedom and independence) and fewer opportunities for satisfying relationships (e.g., Fukuyama, 1999; Gleick, 2011; McPherson, Smith-Lovin, & Brashears, 2006; Myers, 2000). This pattern is also typical for a culture high in individualism (Greenfield, 2013). Thus, recent times may furnish more of the experiences adolescents and young adults desire but fewer of the experiences older adults desire.

Differences over time can be caused by either *time period* (a cultural change that affects people of all ages) or *birth cohort/generation* (a cultural change that affects only those born at a certain time; Schaie, 1965). Generational shifts could be responsible for interactions between age and year. If, for example, baby boomers (born 1946–1964) are (and were) less happy than other generations, happiness might increase among adolescents as boomers left those age groups and decline among older adults as boomers entered those age groups. Alternatively, a time period change would suggest that cultural change impacted age groups differently—and thus, that the higher happiness among older individuals found in most studies (e.g., Yang, 2008)¹ may be smaller in recent years.

In this article, we examined the differences over the years in the SWB of individuals from age 13–96. In particular, we were interested in whether age interacts with year. That is, are adolescents in recent years happier than adolescents were in the past? What about young adults? Mature adults? Does the relationship between age and happiness differ by time period? We addressed these questions in four nationally representative samples of Americans spanning the 1970s to 2014 ($n = 1.32$ million), including the Monitoring the Future (MtF) study of 8th, 10th, and 12th graders and the General Social Survey (GSS) of adults.

Previous Research and the Current Study

Stevenson and Wolfers (2009) examined GSS data and found that women were happier than men in the 1970s, but by 2006, men were happier than women. Herbst (2011) analyzed DDB Needham Life Style Survey data of U.S. adults and concluded that SWB declined for both men and women between 1985 and 2005. Yang (2008) examined happiness in the GSS up to 2004, focusing on separating the effects of time period, generation, and age. She found that happiness increased with age, was lower among boomers, and showed no consistent time period effect. However, she did not examine the effect of the interaction between age and year on happiness, our primary focus in this article, nor did she include adolescent samples. In addition, we focus on the means for happiness rather than the percentage reporting “very happy” as Yang did. Analyzing happiness as a continuous rather than categorical variable allows us to account for additional variance in happiness. We also include 10 more years of recent data (up to 2014).

We broaden the scope of previous research by including data from MtF, a nationally representative sample of 8th, 10th, and 12th graders (aged 13–18 years) used in previous studies of time period differences in characteristics such as loneliness (Clark, Loxton, & Tobin, 2015) and religious orientation (Twenge et al., 2015). The MtF 12th-grade survey also includes 15 items measuring life satisfaction, providing an opportunity to examine another aspect of SWB, including a multi-item measure.

Method

Sample

MtF 8th-, 10th-, and 12th-grade surveys. MtF (Johnston, Bachman, O’Malley, & Schulenberg, 2015) surveyed a nationally representative sample of 12th graders (high school seniors) each year 1976–2013, and 8th and 10th graders 1991–2013 (n for 8th graders = 390,000; n for 10th graders = 354,467, and n for 12th graders = 527,161; total n for adolescents = 1.27 million).

GSS. The GSS is a nationally representative sample of Americans over 18, collected in most years between 1972 and 2014 ($n = 59,599$; for the happiness item, $n = 54,172$). The GSS data and codebooks are available online (Smith, Marsden, Hout, & Kim, 2015). As suggested by the GSS administrators, we weighted the analyses by the weight variable WTSSALL and excluded the Black oversamples of 1982 and 1987 to make the sample nationally representative of individuals rather than households and to correct for other sampling biases.

Measures

Happiness. All MtF forms for all age groups included the question, “Taking all things together, how would you say things are these days—would you say you’re *very happy*, *pretty happy*, or

not too happy these days?" with the response choices coded 1, 2, or 3.

The GSS asks a similar question, "Taken all together, how would you say things are these days—would you say that you are *very happy*, *pretty happy*, or *not too happy*?" with the response choices coded 1, 2, or 3. In both cases, we coded the variable so higher numbers indicated more happiness.

Life satisfaction. A subset of the 12th-grade survey asked about satisfaction in 14 areas of life: "The next questions ask how satisfied or dissatisfied you are with several aspects of your life. . . . How satisfied are you with . . .": "Your job? (if you have no job, leave blank)," "the neighborhood where you live?" "Your personal safety in your neighborhood, on your job, and in your school—safety from being attacked and injured in some way?" "The safety of things you own from being stolen or destroyed in your neighborhood, on your job, and in your school?" "Your educational experiences?" "Your friends and other people you spend time with?" "The way you get along with your parents?" "Yourself?" "Your standard of living—the things you have like housing, car, furniture, recreation, and the like?" "The amount of time you have for doing things you want to do?" "The way you spend your leisure time—recreation, relaxation, and so on?" "Your life as a whole these days?" "The way our national government is operating?" "The amount of fun you are having?" Response choices ranged from 1 to 7, with 1 labeled "*completely dissatisfied*," 4 labeled "*neutral*," and 7 labeled "*completely satisfied*." The Cronbach's α for these 14 items was .83, so we combined them into an index ($n = 66,572$). Because many students did not answer the item about a job, we also analyzed a 13-item scale ($n = 103,371$, $\alpha = .83$). The life satisfaction index was correlated with the happiness item, $r(66,208) = .43$, $p < .001$.

A single item asked of a separate subset of students is, "How satisfied are you with your life as a whole these days?" with choices of *completely dissatisfied*, *quite dissatisfied*, *somewhat dissatisfied*, *neither*, or *mixed feelings*, *somewhat satisfied*, *quite satisfied*, and *completely satisfied* coded 1 to 7 ($n = 94,600$). This item was also correlated with the happiness item, $r(93,039) = .36$, $p < .001$. The correlation between this item and the 15-item life satisfaction index could not be computed because they were asked of different subsets of participants.

Data Analysis Overview

As a first step, we report descriptive statistics by 5-year blocks of data collection, correlations with year, and effect sizes in a table. Data collected over time can be analyzed in many ways, including grouping by 20-year generation blocks, by decades, or by individual year. We felt that separating the data into 5-year intervals provided the best compromise between specificity and breadth. We calculated the effect size d (difference in terms of standard deviations [SDs]) by calculating the mean effect size difference from each 5-year block to the next,

dividing by 5, and then multiplying by the number of years of data. As the 8th- and 10th-grade data are only available since 1991, we also provide effect sizes for all age groups since the early 1990s using the same technique.

We calculated the correlation with year in two ways. First, we report the bivariate correlations between the variable and year among individual respondents. Second, we report the ecological (or alerting; Rosnow, Rosenthal, & Rubin, 2000) correlations between year and the happiness or life satisfaction mean for each year weighted by sample size. These correlations provide a view of trends at the group level.

To provide a view of the interaction between age and year, we report the descriptive statistics for roughly 10-year blocks of age (e.g., 18–29, 30–39, etc.) by 5-year blocks of year of data collection. In addition, we report the results of a regression equation including the interaction term of year and age as a continuous variable and examine the correlation between year and the r between age and happiness (by converting r s to Z s and then weighting by $n - 3$, with $n =$ respondents per year; Hedges & Olkin, 1985).

We also examine race and sex as moderators of the trend in happiness in the 12th-grade and adult samples, both through descriptive statistics and through regression equations including an interaction term. MtF coded race as only White and Black until 2005, so we can only compare those two groups. GSS codes race as White, Black, and other.

To better separate the effects of time period, generation/cohort, and age, we performed age period cohort (APC; Yang, 2008; Yang & Land, 2013) analyses on the happiness item in the GSS adult sample. Following the recommendations of Yang and Land (2013), we estimated mixed effects models allowing intercepts to vary across time periods (years) and generations (cohorts). Thus, effectively, an intercept (mean happiness) score is calculated (using empirical Bayes) for each cohort and each survey year. In addition, a fixed intercept (grand mean) is estimated along with a fixed linear and curvilinear effect of age. This model has three variance components: One for variability in intercepts due to cohorts (τ_{u0}), one for variability in intercepts due to period (τ_{v0}), and a residual term containing unmodeled variance within cohorts and periods. Variance in the intercepts across time periods and cohorts indicates period and cohort differences, respectively. Weighting could not be used for the APC analyses because proper probability weighting for variance component estimation requires taking into account pairwise selection probabilities, which is not possible with current statistical software. All of these analysis decisions (with the exceptions of the examination of the interaction term of age and year and the time trend in the r between age and happiness) were made a priori.

Results

Trends in Happiness by Age Group

Time period/generational differences in happiness vary by age group. Adolescents in recent years were happier than

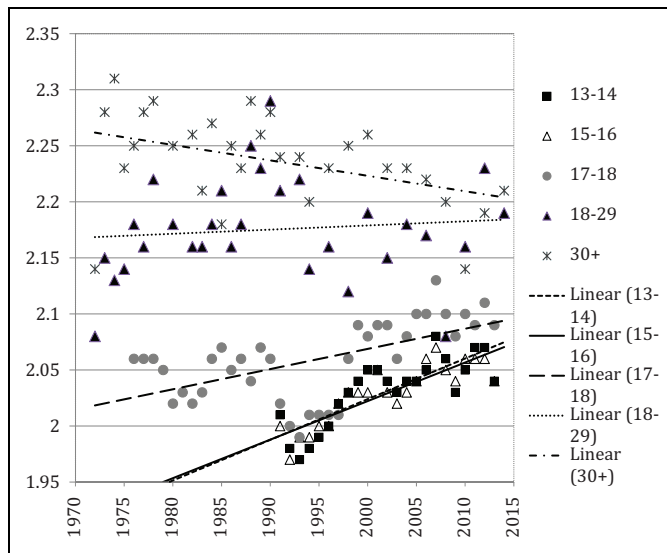


Figure 1. Year-by-year trends in happiness within age groups, scatterplot, and linear regression lines.

adolescents in previous decades, d s = .13, .11, .05 (95% confidence intervals [CIs] = [0.12, 0.14], [0.10, 0.12], [0.05, 0.05]). Recent 12th graders were more satisfied with their lives on both a 14-item index of different life domains, d = .20 [0.19, 0.21], and a single item, d = .11 [0.10, 0.12]. Young adults (aged 18–29 years) were happier in recent years, d = .12 [0.08, 0.16]. Among those over age 30, however, recent respondents were less happy than their predecessors, d = $-.13$ [-0.15 , -0.11] (see Figure 1 and Table 1).

After the age pattern became apparent, we also decided to examine those in their early 20s compared to those in their late 20s. This analysis revealed a d = .16 [0.11, 0.21] increase in happiness among those in their early 20s and no time period difference among those in their late 20s, d = .05 [0.00, 0.10] (see Table 1), further supporting the pattern of a greater increase in happiness among younger groups. A regression equation in the adult sample including age (as a continuous variable), year, and their interaction term confirmed the interaction between age and year for predicting happiness (b for Age \times Year = $-.01$, [-0.02 , -0.01]; Year, b = $-.02$, 95% [-0.03 , -0.01]; Age, b = .04, 95% [0.03, 0.05]). Thus, the time trend in happiness differs by age.

As found in previous research (e.g., Yang, 2008), older people report more happiness. We extended this finding to adolescent samples aged 13–18 years, showing that adolescents are less happy than adults. However, as Figure 1 illustrates, this gap has narrowed with time. For example, adults over age 30 in the early 1990s (M = 2.24, SD = .62, n = 5,862) were considerably happier than adolescents, d = .43 (8th, 10th, and 12th graders combined, M = 1.99, SD = .58, n = 196,844), t = 30.48, p < .001. But by the early 2010s, the age difference in happiness was cut in half, to

d = .18 (M for adults over 30 = 2.18, SD = .65, n = 5,250; M for adolescents = 2.07, SD = .59, n = 130,496), t = 7.81, p < .001.

Similarly, adults over age 30 were significantly happier than 18- to 29-year-olds in earlier eras, for example, the early 1970s, d = .18 (M for adults over 30 = 2.26, SD = .64, n = 4,338; M for 18- to 29-year-olds = 2.17, SD = .63, n = 1,674), t = 4.80, p < .001. By the early 2010s, however, there was no significant age difference in happiness between young adults and mature adults, d = $-.02$ (M for adults over 30 = 2.18, SD = .65, n = 5,250; M for 18- to 29-year-olds = 2.19, SD = .60, n = 1,266), t = .54, p = .59 (see Figure 2). This was also true when age was kept as a continuous variable, with the correlation between age and happiness declining over time, correlating negatively with year, $r(29)$ = $-.39$, p = .035 (CI = [-0.66 , -0.03]; see Figure 3). The correlation between age and happiness was significant and positive in every 5-year period except the early 2010s, when it was $r(6,516)$ = .00, p = .79 [$-.02$, .02]. (The analyses reported in the previous two paragraphs were performed after the primary results were known.)

Race and Sex as Moderators

The trends were moderated by race and sex. In the 12th-grade sample, the increase in happiness was larger for Black students than for White students, b for interaction term = $-.01$ [-0.01 , -0.004], for year = .05 [0.05, 0.05], for race = .13 [0.13, 0.13]. White adults' happiness was lower in recent years compared to the past, but Black adults' happiness was higher, b for interaction term = .02 [0.01, 0.03], for year = $-.01$ [-0.01 , 0.00], for race = $-.11$, [-0.12 , -0.10]. Adults of other races (primarily Asian American and Hispanic American) showed a decline in happiness while Black Americans increased, b for interaction term = $-.06$ [-0.08 , -0.04], for year = .02, [0.00, 0.04], for race = .10 [0.08, 0.12], and the decrease in happiness was more pronounced for adults of other races compared to Whites, b for interaction term = $-.01$ [-0.02 , -0.002], for year = $-.02$ [-0.03 , -0.01], for race = $-.03$ [-0.04 , -0.02].

Male 12th graders increased more in happiness than female 12th graders, b for interaction term = $-.03$ [-0.03 , -0.03], for year = .03 [0.03, 0.03], for sex = $-.01$ [-0.02 , -0.01]. Adult women's happiness was lower in recent years than in the past, but men's happiness was curvilinear with some recent declines, b for interaction term = $-.01$ [-0.02 , -0.01], year = $-.02$, [-0.02 , -0.01], sex = .02 [0.01, 0.02].

Separating Time Period and Generational Effects

Next, we used APC analysis (Yang, 2008; Yang & Land, 2013) to examine whether the effects for adults were driven by time period or generation. (This technique cannot be used on the adolescent samples because they do not differ enough in age.)

Table 1. Happiness and Life Satisfaction, American Adolescents and Adults, 1970s–2014s.

Variable and Age	n	72–74	75–79	80–84	85–89	90–94	95–99	00–04	05–09	10–14	r (indiv)	r (means)	d 1970s–2010s	d 1990s–2010s
8th Graders (aged 13–14 years): happiness	390,000	—	—	—	—	1.99 (0.57)	2.02 (0.58)	2.05 (0.58)	2.05 (0.59)	2.06 (0.59)	.04*	.82*	—	.13*
10th Graders (aged 15–16 years): happiness	354,467	—	—	—	—	1.99 (0.58)	2.02 (0.58)	2.03 (0.58)	2.06 (0.58)	2.05 (0.59)	.04*	.88*	—	.11*
12th Graders (aged 17–18 years): happiness	527,161	—	2.06 (.57)	2.03 (0.57)	2.06 (0.56)	2.01 (0.59)	2.03 (0.59)	2.08 (0.59)	2.10 (0.59)	2.10 (0.60)	.04*	.55*	.05*	.16*
Male	243,453	—	2.04 (.55)	2.02 (0.56)	2.07 (0.55)	2.03 (0.59)	2.06 (0.59)	2.11 (0.60)	2.13 (0.60)	2.13 (0.60)	.06*	.79*	.15*	.18*
Female	257,924	—	2.08 (0.57)	2.05 (0.57)	2.05 (0.57)	2.01 (0.58)	2.02 (0.58)	2.06 (0.58)	2.08 (0.58)	2.08 (0.58)	.01*	.10	.00	.14*
Black	64,075	—	1.89 (0.60)	1.86 (0.59)	1.91 (0.58)	1.83 (0.60)	1.87 (0.58)	1.96 (0.58)	1.97 (0.59)	1.99 (0.59)	.06*	.62*	.18*	.32*
White	356,888	—	2.10 (0.55)	2.08 (0.55)	2.10 (0.54)	2.08 (0.56)	2.10 (0.57)	2.14 (0.57)	2.16 (0.58)	2.16 (0.59)	.05*	.73*	.00	.17*
Life satisfaction (1 item, 1–7)	96,633	—	4.71 (1.54)	4.73 (1.53)	4.72 (1.55)	4.79 (1.57)	4.91 (1.57)	4.98 (1.55)	5.04 (1.53)	5.01 (1.60)	.08*	.94*	.11*	.16*
Life satisfaction (14-item, 1–7) $\alpha = .83$	66,572	—	4.98 (0.88)	5.04 (0.88)	5.02 (0.88)	4.94 (0.89)	4.96 (0.91)	5.04 (0.93)	5.08 (0.93)	5.14 (0.92)	.03*	.44*	.20*	.26*
Life satisfaction (13-item, 1–7) $\alpha = .83$	103,371	—	4.99 (0.91)	5.06 (0.91)	5.05 (0.91)	4.96 (0.93)	5.00 (0.93)	5.08 (0.95)	5.11 (0.94)	5.16 (0.94)	.05*	.54*	.19*	.24*
GSS, adults happiness	54,172	2.21 (0.67)	2.24 (0.64)	2.23 (0.64)	2.24 (0.61)	2.23 (0.61)	2.22 (0.62)	2.23 (0.62)	2.19 (0.64)	2.18 (0.64)	-.02*	-.31	-.05*	-.10*
18–29 years	12,768	2.12 (0.65)	2.17 (0.63)	2.17 (0.62)	2.21 (0.58)	2.20 (0.58)	2.14 (0.60)	2.18 (0.62)	2.14 (0.62)	2.19 (0.60)	.01	.10	.12*	.02
30 and over years	41,261	2.24 (0.67)	2.26 (0.64)	2.25 (0.65)	2.24 (0.62)	2.24 (0.62)	2.23 (0.62)	2.24 (0.63)	2.21 (0.64)	2.18 (0.65)	-.03*	-.44*	-.13*	-.12*
18–24 years	6,942	2.06 (0.66)	2.16 (0.63)	2.13 (0.62)	2.21 (0.60)	2.19 (0.57)	2.10 (0.59)	2.14 (0.62)	2.11 (0.64)	2.16 (0.60)	.01	.06	.16*	-.07*
25–29 years	5,826	2.21 (0.62)	2.19 (0.62)	2.22 (0.62)	2.21 (0.59)	2.21 (0.59)	2.20 (0.61)	2.23 (0.62)	2.17 (0.60)	2.23 (0.62)	.00	.06	.05	.10*
30–39 years	11,158	2.24 (0.65)	2.26 (0.62)	2.20 (0.62)	2.23 (0.58)	2.21 (0.61)	2.24 (0.61)	2.27 (0.61)	2.18 (0.65)	2.20 (0.63)	-.01	-.15	-.13*	-.08*
40–49 years	10,233	2.24 (0.69)	2.25 (0.61)	2.23 (0.63)	2.23 (0.60)	2.21 (0.62)	2.19 (0.62)	2.21 (0.61)	2.21 (0.62)	2.17 (0.64)	-.03*	-.49*	-.11*	-.07*
50–59 years	8,465	2.24 (0.67)	2.25 (0.65)	2.24 (0.68)	2.20 (0.66)	2.26 (0.62)	2.25 (0.63)	2.24 (0.64)	2.16 (0.65)	2.15 (0.66)	-.04*	-.43*	-.16*	-.22*
60–69 years	6,128	2.25 (0.69)	2.29 (0.65)	2.30 (0.66)	2.30 (0.63)	2.28 (0.62)	2.33 (0.64)	2.28 (0.63)	2.27 (0.64)	2.17 (0.64)	-.04*	-.34	-.18*	-.22*
70 and over years	5,419	2.22 (0.68)	2.28 (0.67)	2.33 (0.67)	2.27 (0.65)	2.24 (0.64)	2.25 (0.66)	2.24 (0.64)	2.29 (0.67)	2.23 (0.67)	-.02	-.17	.02	-.01
Male	24,846	2.17 (0.66)	2.22 (0.63)	2.20 (0.64)	2.23 (0.61)	2.23 (0.60)	2.22 (0.62)	2.23 (0.62)	2.19 (0.63)	2.16 (0.64)	-.01	-.09	-.01	-.13*
Female	29,326	2.25 (0.67)	2.25 (0.64)	2.25 (0.64)	2.24 (0.62)	2.24 (0.62)	2.22 (0.63)	2.23 (0.62)	2.20 (0.65)	2.20 (0.64)	-.03*	-.47*	-.08*	-.07*
Black	6,586	1.95 (0.70)	2.00 (0.67)	1.98 (0.67)	2.03 (0.62)	2.05 (0.62)	2.05 (0.64)	2.11 (0.67)	2.04 (0.68)	2.08 (0.67)	.06*	.48*	.08*	-.08*
White	44,602	2.25 (0.65)	2.27 (0.63)	2.25 (0.63)	2.26 (0.61)	2.26 (0.60)	2.25 (0.61)	2.26 (0.61)	2.23 (0.63)	2.22 (0.63)	-.02*	-.28	-.05*	-.08*
Other race	2,983	—	—	2.25 (0.68)	2.23 (0.61)	2.15 (0.64)	2.25 (0.67)	2.09 (0.61)	2.12 (0.64)	2.11 (0.64)	-.05*	-.44	-.26*	-.07

Note. For r (means), n = number of years (23 for 8th and 10th, 38 for 12th, and 30 for GSS). d = mean effect size from each 5-year block to the next multiplied by the number of years. *95% confidence interval does not include zero.

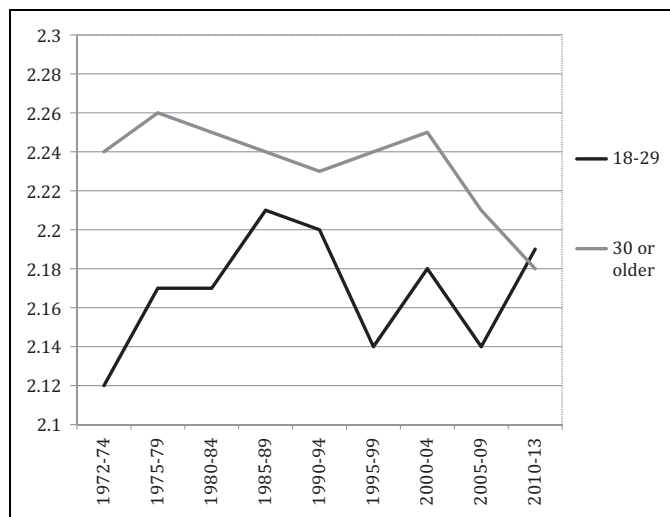


Figure 2. Happiness among 18- to 29-year-old adults and adults 30 or over by time period, U.S. General Social Survey.

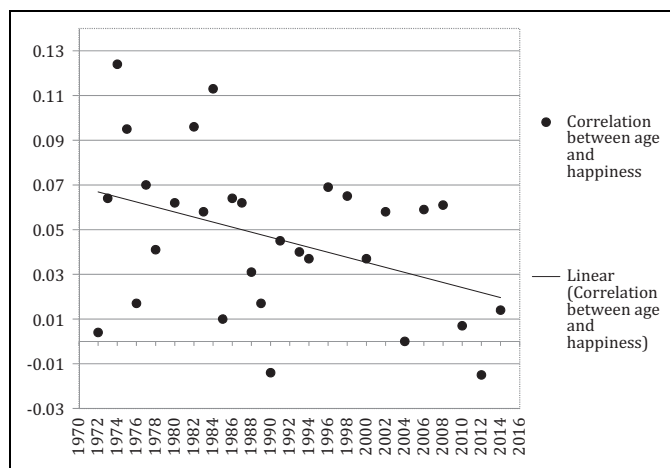


Figure 3. Year-by-year trends in the correlation between age and happiness, scatterplot and linear regression line, General Social Survey of U.S. adults, 1972–2014.

CIs (95%) were computed using 500 bootstrapped resamples. For fixed effects, the intercept was 2.20 [2.19, 2.22], approximately the mean level of happiness in the sample (2.19, $SD = .64$). There were also small, but statistically significant, fixed effects of both linear ($b = .0012$, [0.0009, 0.0016], $t = 6.77$) and quadratic ($b = -.00003$, [-0.00005, -0.00001], $t = -3.54$) age terms. For random effects, there was variation in intercepts due to time period ($SD = .033$, [0.022, 0.043]) but almost no variation due to generation ($SD = .015$ [0.000, 0.023]).

We examined the trends of these random effects over time by plotting the averages for 5-year periods and 5-year birth cohorts (see Figure 4a and b). Five-year averages were used because their larger sample sizes reduce the tendency to overinterpret yearly fluctuations and thus provide a clearer picture of the time trend. In addition, these results

were very similar to those using single-year groups (reported earlier in the paragraph), suggesting a robust pattern. Generational effects on happiness are minimal (see Figure 4a), and thus the results suggest that trends over time in happiness are largely due to time period effects (Figure 4b). The same is true when adults 18–29 and over 30 years are examined separately (see Figure 5).

Discussion

Recent adolescents are happier and more satisfied with their lives than adolescents in past decades and generations; however, adults over age 30 are less happy than their predecessors. While adults over age 30 were once happier than young adults aged 18–29, the two groups did not differ in happiness by the early 2010s, and the positive correlation between age and happiness found in past eras disappeared by the early 2010s. Similarly, the happiness advantage of mature adults over adolescents has dwindled. Mixed-effects models show that these effects were primarily due to time period rather than generation/cohort. While previous studies of adults found few time period effects in happiness (Yang, 2008), we find that the time trend differs based on age, with opposite trends for young people versus mature adults.

Although the time period differences in happiness were generally modest, SWB is multiply determined, with all demographic variables put together accounting for no more than 8% to 15% of the variance in happiness (e.g., Andrews & Withey, 1976; Diener, Suh, Lucas, & Smith, 1999). For example, happiness is correlated with marital status at r s from .02 to .09 (Diener, Gohm, Suh, & Oishi, 2000; Graham, Eggers, & Sukhtankar, 2004; Marks & Fleming, 1999) and with objective health with r s from .04 to .09 (Gil et al., 2004). Parents reported higher levels of life satisfaction and happiness at r s = .05 and .04 in the World Values Survey (Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2013). The source of the oft-cited longitudinal relationship between happiness and volunteering is $r = .04$ (Thoits & Hewitt, 2001). In a widely quoted study of country-level income and well-being, SWB was related to national income at $r = .11$ and to per capita gross domestic product at $r = .10$ (Diener, Ng, Harter, & Arora, 2010). Thus, for most age groups, the influence of time period on happiness is about as large as the influences of marital status, objective health, being a parent, and volunteering. The influence of time period on adolescents' life satisfaction is about as large as the influence of living in a rich country versus a poor one.

Although small, the time period effects within age groups were enough to eliminate the previously robust link between older age and greater happiness, a finding with potential practical importance. Even small differences in SWB are important, given the value most people place on it. For example, happiness is valued 5 times more than wealth in judging what makes for a “good life” (King & Napa, 1998). A cross-cultural sample of college students rated happiness an 8 on an importance scale from 1 to 9, the highest of any value (Diener & Oishi, 2004). Happiness is also linked to success in important life domains

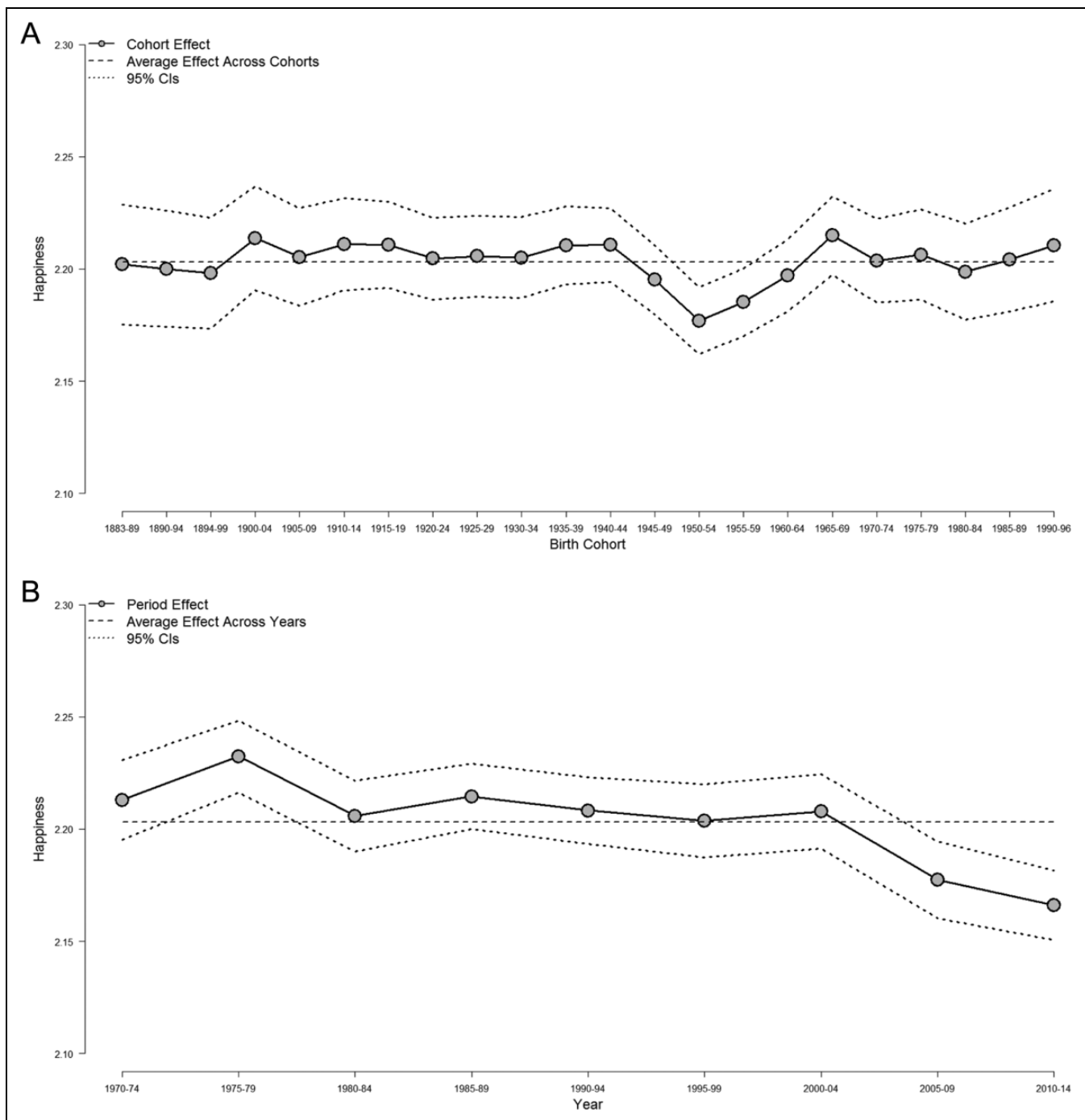


Figure 4. Generation/cohort (A) and time period (B) effects on happiness among adults, U.S. General Social Survey.

such as friendship, health, and work performance (Lyubomirsky et al., 2005).

We can only speculate about why adolescents and young adults have become happier while mature adults are now less happy. Recent changes in American culture may have benefited younger people more than mature adults. For example, growing individualism may have impacted age groups differently. Adolescence and young adulthood are self-focused life stages, but mature adulthood often involves the maintenance

of committed relationships and a setting aside of individual needs. With higher individualism, young people have more to enjoy, while mature adults may not get the social support they need. Perhaps new technology such as social media and cell phones has enhanced young people's lives while having a detrimental effect on mature adults' SWB. For example, some evidence suggests that the use of social networking sites leads to upward social comparison and diminished well-being (Kross et al., 2013), and perhaps this effect increases with age.

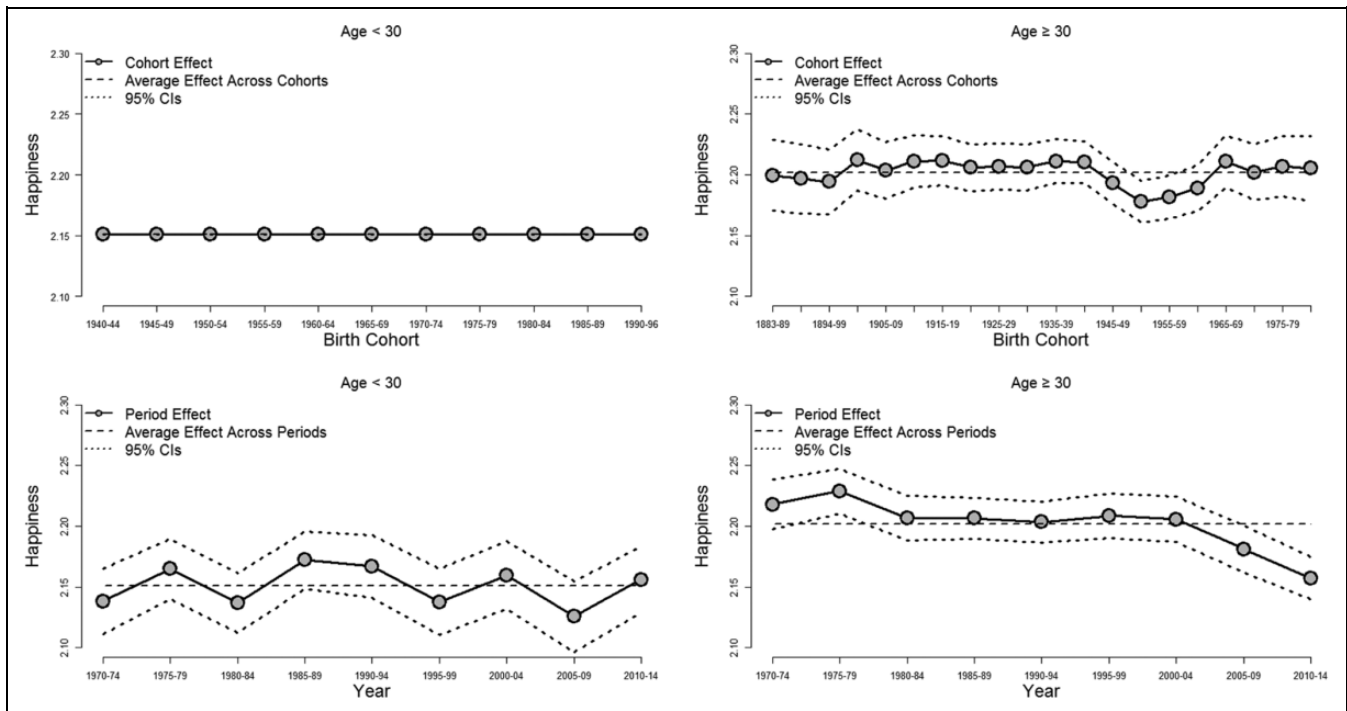


Figure 5. Generation/cohort and time period effects on happiness, aged 18–29 and 30 and over, U.S. General Social Survey.

In addition, increasingly unrealistic expectations for educational attainment, jobs, material goods, and relationships (Reynolds, Stewart, MacDonald, & Sisco, 2006; Twenge & Campbell, 2008; Twenge & Kasser, 2013) may feel good for adolescents but be disappointing for mature adults who cannot attain these goals. Similarly, rising income inequality may have more impact on the SWB of mature adults than that of adolescents: Perhaps adolescents still expect they can reach higher levels of income, while adults over 30 realize they will not. Likewise, the recession of the late 2000s may have affected mature adults more than adolescents who are still in school. However, young adults had a higher unemployment rate during the recession than mature adults, yet their happiness rebounded in the early 2010s, while mature adults' did not (see Figure 2), suggesting other factors are at work. The upswing in SWB for adolescents was concentrated in the last 20 years, and 12th-graders' SWB dipped during the early 1990s, perhaps due to the peak in violent crime or other cultural factors during that period. The decrease in violent crime between the 1990s and the 2010s may also play a role in increased SWB among adolescents. However, none of these possible explanations can be shown to be causative with the available data.

Yang (2008) found, as we did, that the boomer cohort born in the 1950s reported less happiness. Thus, it makes sense to rule out generational effects for the interaction between age and year, in case boomers moving out of adolescent samples and into mature adult samples were driving the trend. However, happiness did not noticeably decline among those in their 30s and 40s when boomers aged into these groups (during the 1980s and 1990s). In addition, the 8th- and 10th-grade surveys began in 1991, more than 20

years after those born in the 1950s exited these ages. Thus, as also shown in the mixed-effects models, generational effects explain only a small amount of the temporal trends in happiness, suggesting time period trends are primarily at work.

The results for adolescents replicated over three independently surveyed age groups (8th, 10th, and 12th graders) and over three different measures of SWB (happiness, general life satisfaction, and life satisfaction across domains). However, the results for most age groups were based on a single item measuring happiness, which is necessarily less reliable than multi-item measures. We were also not able to examine trends in eudaimonic happiness, such as meaning in life, engagement, or flourishing. These analyses were based on nationally representative samples, so the results should be generalizable to the American population at each grade level and age. However, we cannot apply these results to happiness trends in other countries.

The results differed somewhat by sex and race. The increase in happiness among adolescents was more reliable among males, and the decline among adults was more reliable among females. Black adolescents and adults were higher in happiness in recent years. This suggests that cultural forces impact racial and gender groups differently. For example, diminished racial prejudice would have clear benefits for Black Americans. However, less racial prejudice should also improve the situation of Hispanic Americans and Asian Americans, and they have declined in happiness. In addition, gender prejudice has also waned (Donnelly et al., 2015); however, adult women's happiness was lower in recent years. Future research should explore why declines in prejudice may benefit the SWB of some historically underrepresented groups more than others.

Most previous studies found that people become happier and enjoy greater SWB with age and experience (e.g., Yang, 2008).¹ We found that this is less true in recent years, as adolescents and young adults are higher in happiness than they once were and mature adults are less happy. Mature adults' age advantage over adolescents in happiness has dwindled, and the once reliable positive correlation between age and happiness among adults has disappeared, reaching zero in the early 2010s. Overall, the cultural changes between the 1970s and the 2010s appear to have had a favorable impact on the SWB of young people and a negative impact on the SWB of adults over age 30.

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Note

1. As individuals age, their well-being typically increases until they reach their 60s or 70s, depending on the sample (e.g., Carstensen et al., 2011; Charles, Reynolds, & Gatz, 2001; Mroczek & Spiro, 2005; Yang, 2008). However, some studies have revealed a U-shaped or no relationship between well-being and age but only after statistically controlling for circumstantial factors like employment and marital status (e.g., Blanchflower & Oswald, 2008).

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