

The Happiness of Single Mothers: Evidence from the General Social Survey

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Abstract A vast “single mothers’ well-being” literature exists but has not studied single mothers’ subjective well-being (SWB). This shortcoming is important since it has been shown that there are potentially large slippages between economic indicators and SWB. Using repeated cross-sectional data from the General Social Survey 1972–2008, we examine single mothers’ happiness in the US both in absolute terms and relative to other groups: all respondents who are not single mothers, all female respondents who are not single mothers, single childless women, and married mothers. In levels, we find a significant single-mother happiness deficit compared to other groups. This deficit is explained by being single, with the happiness of single mothers statistically indistinguishable from single women without children. Over time, however, the deficit has shrunk relative to all other groups except married mothers. We discuss possible explanations for our findings, including: changes to social welfare programs, increased labor force participation, compositional shifts in single motherhood, and stigma. Our findings are most consistent with compositional shifts and changes in the stigma associated with being a single mother.

Keywords Single mothers · Happiness · Subjective well-being · General Social Survey · Time-trends

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1 Introduction

Births to unmarried women in the US have soared since 1970, growing from approximately 10 % of all births to over 40 % today; further, over 25 % of children in the US today live with only one parent (Grogger and Karoly 2005; Grail 2009). Among African Americans, over 70 % of births are to unmarried women and almost half of all children live with one parent. This is important, as single mothers are twice as likely as others to be impoverished (24.6 vs 12.5 % in 2007) and are, on average, less educated and in worse health (Grail 2009; Meyer and Sullivan 2010). Compared to children who live with two parents, children of single mothers are at a higher risk of negative outcomes, including dropping out of high school and becoming a teenage parent (McLanahan and Sandefur 1994).

Given the surge in single motherhood in the US, many policy makers and academics have made single mothers the focus of their work. Policy makers have designed and implemented numerous social welfare programs intended to help them, and academics have investigated the causes and effects of single motherhood as well as the impact of programs intended to help them. For example, there is a vast literature that examines the effect of US welfare reform on single-mothers' well-being, exploring the resulting changes in welfare use, employment, earnings, consumption, health, family structure, and child welfare (reviews include Bitler and Hoynes 2010; Blank 2002; Grogger and Karoly 2005; Moffitt 2003). This body of research appears to indicate that, at least in the short run, the reforms had the intended effect, reducing welfare use and increasing employment. Further, the reforms do not appear to have exacerbated poverty nor reduced the well-being of children (Bitler and Hoynes 2010). While some questions remain, including what role the robust economy played (Blank 2002), it appears that the reforms were a success.

One important measure of single-mothers' well-being, however, has received less attention: subjective well-being (SWB). The use of SWB measures in economic research has grown markedly in recent years (Kahneman and Krueger 2006). This has come about for at least two reasons. First, the measures have been systematically validated as being reliable for examining a large range of questions (Krueger and Schkade 2008). For example, many objective measures of well-being are positively correlated with self-reported happiness: individuals who report being happier are rated to be happier by others; absent from work less; more optimistic about the future; more energetic, flexible, and creative; and less likely to need psychological counseling (Frey and Stutzer 2002). Second, researchers have shown that there are potentially large slippages between economic indicators and subjective well-being (Diener and Seligman 2004). Thus, it is important to study single-mothers' SWB to extend our understanding of single mother's well-being.

Three recent papers have started to explore the SWB of single mothers in the US. All three attempt to determine the impact of welfare reform on single mothers' SWB. Ifcher (2011) and Herbst (2013) use a difference-in-differences approach; this is a quasi-experimental technique for identifying the impact of a policy change, in which the impact of the policy change on the intended target group is compared to the impact on a comparison group. Both papers find that single mothers' SWB was greater after welfare reform than before. Ifcher's paper uses the same dataset as the current paper, the General Social Survey (GSS), and the same measure of SWB, self-reported happiness; the GSS and its self-reported happiness measure are the most commonly used data for studying SWB in the US. Herbst's paper uses other measures of SWB, and an alternative dataset, the DDB Life Style Survey; this is an annual survey of Americans commissioned by the advertising agency DDB Worldwide Communications and includes SWB measures as well as questions regarding consumers' preferences and habits. The third investigates trends in single

mothers' SWB between 1985 and 2005 (Herbst 2012). Like Herbst's other paper, it uses the DDB Life Style Survey and other measures of SWB (other than self-reported happiness). In Herbst (2012), the author constructs an index of SWB, which is a composite of, among other indices, a measure of life satisfaction and measures of physical and mental health. Trends for single mothers are compared to trends for both single childless women and married mothers. Herbst finds that single mothers' life satisfaction appears to have increased both absolutely and relative to single childless women and married mothers, but that single mothers' physical and mental health has declined both absolutely and relative to single childless women and married mothers. Hence the trend in the single mothers' composite SWB index is statistically indistinguishable from those of the comparison groups.

Two other papers are relevant to the current paper, both of which use the GSS and its happiness measure to explore SWB trends (Stevenson and Wolfers 2009, 2010). The first paper investigates trends in the SWB of women in the US between 1972 and 2006. It finds that women's happiness has declined, both absolutely and relative to men, during this period. The second paper investigates trends in the SWB of African Americans in the US between 1972 and 2008. It finds that African Americans' happiness has increased, both absolutely and relative to whites, during this period. Each paper explores potential reasons for the observed trend, juxtaposing the trend with societal and demographic changes that occurred during the period. These results are directly relevant to the current paper since all single mothers are women and since single mothers are more likely to be African American than are all other respondents (33.2 vs 10.8 % in the current sample).

The current paper adds to this emerging literature in the following four ways: first, we carefully examine the correlates of the gap between single mothers' SWB and that of comparison groups; Herbst (2012) is primarily focused on estimating the SWB trends themselves. Second, we estimate trends in single mothers' SWB over a period almost twice as long as Herbst (2012), from 1972 to 2008 (vs 1985–2005). Third, we use the GSS, which is the most commonly used survey for studying SWB in the US. Finally, we explore possible explanations for our observed SWB trends including policy, demographic, and cultural causes. The results appear to indicate that single mothers are less happy than other groups; and single mothers are both more likely to report being “not too happy” and less likely to report being “very happy” than are other respondents. The results also indicate that the gap between single mothers' happiness and all other respondents' happiness shrank between 1972 and 2008.

The paper unfolds as follows: the next section discusses the methods and data (which are largely drawn from those used by economists studying happiness); the third section presents the results; the fourth section discusses the results and begins to probe contending explanations, including changes in social welfare programs, labor force participation rates, single mothers' demographic characteristics, and the stigma associated with being a single mother; the fifth section concludes.

2 Methods

2.1 Data

The data for this study comes from the GSS, a standard data source for studying self-reported happiness in the US. The GSS was administered annually to approximately 1,500 individuals between 1972 and 1993 (with the exception of 1979, 1981, and 1992) and was administered biennially to approximately 4,500 individuals thereafter. The GSS contains a set of demographic and attitudinal questions including those that would traditionally be of interest to

economists, for example, regarding income and educational attainment, as well as a range of other questions regarding religion, politics, and personal values. The GSS is designed to include a representative sample of US households. The sample is created using multi-stage area probability sampling except at the block level where quota sampling is used with quotas for sex, age, and employment status (GSS, 1972–2010: Cumulative Codebook 2011). The first stage selects primary sampling units (standard metropolitan statistical areas or non-metropolitan counties) and is stratified by region, age, and race; the second stage selects block groups or enumeration districts and is stratified by race and income; the third stage selects blocks with probabilities proportional to size; and finally, interviewers proceed along a prescribed route conducting face-to-face interviews until their quota is fulfilled (interviews are conducted after 3 p.m. on weekdays and during the weekend in an attempt to limit not-at-home bias). For additional details regarding the GSS sample see Appendix A of the GSS, 1972–2010: Cumulative Codebook (2011). The National Opinion Research Center, which administers the GSS, states that, “In general, the GSS samples closely resemble distributions reported in the Census and other authoritative sources.”

The GSS is of special interest because it includes questions regarding respondents’ SWB. Specifically, it asks a standard “happiness” 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?” Similar happiness questions are widely used in surveys and are classified as measures of life evaluation (global happiness), a measure of subjective well-being distinct from emotional or hedonic well-being (experienced happiness) and eudemonic well-being (sense of purpose); for discussions of the distinction see Diener (1984), Dolan and Metcalfe (2012), and Kahneman and Deaton (2010).

The happiness question in the GSS has remained the same since 1972. There have been, however, three changes to the survey and sampling that might impact trends in self-reported happiness: (1) there was an oversample of blacks in the 1982 and 1987 GSS; (2) surveys were administered in Spanish that could not have been completed by respondents in English in the 2006 GSS; and (3) the question that directly preceded the happiness question was different in the 1972 and 1985 GSS. It has been shown that responses to the happiness question in the GSS are sensitive to the question that directly precedes it, a “question-order effect” (Smith 1990).

Stevenson and Wolfers (2008b, 2009, 2010) have written a series of papers examining trends in self-reported happiness in the US using the GSS. We follow their methodology for creating a consistent measure of self-reported happiness. We drop the black oversamples so that the 1982 and 1987 samples will be nationally representative. We drop surveys that were conducted in Spanish that could not have been completed in English so the 2006 sample is consistent with the other samples. We use the split-ballot experiments that were conducted in the 1980, 1986, and 1987 GSS to estimate the happiness question-order effect and then adjust for the estimated question-order effect in the 1972 and 1985 GSS (for a discussion of using the split-ballot experiments to adjust for the happiness question-order effect see Appendix A of Stevenson and Wolfers 2008b). Finally, we use the GSS weight, WTSSALL, which adjusts for the multi-stage probability sampling (described above) and ensures that the sample is nationally representative. After these adjustments, the GSS is well suited to studying trends in self-reported happiness in the US (Stevenson and Wolfers 2009).

The GSS asks four questions regarding the respondent’s parental status. First, “How many children have you ever had? Please count all that were born alive at any time (including any you had from a previous marriage)?” (age unspecified); second, how many children (ages 0–6) live in the respondent’s household; third, how many children (ages

7–12) live in the respondent's household; and fourth, how many children (ages 13–17) live in the respondent's household. To be defined as a single mother a respondent must: (1) be female, (2) be single (this includes women who are widowed, divorced, separated, or never married), (3) report having at least one child of her own, (4) report at least one child (not necessarily her own, ages 17 or under) living in the household, and (5) be at most 45 years old. The reasons for some of these criteria are self-evident—for example, being female and single—the reasons for other criteria warrant further explanation. In particular, respondents were not asked the age of their children or whether their children lived with them. Thus, a single female that reports “having children” could be a grandparent, a non-custodial parent, or an empty-nester. To focus the analysis on those respondents who are most likely to be single mothers, a respondent is coded as a single mother only if she: (1) reports having at least one child of her own, (2) reports having at least one child (not necessarily her own, age 17 or under) living in her household, and (3) is at most 45 years old. Finally, all respondents who are not single mothers and are over 45 years old are dropped from the analysis so that respondents who are not single mothers are comparable to single mothers in the sample; our definition is identical to Ifcher (2011) and Herbst (2012) except that Herbst restricts the sample to ages between 18 and 60.

This leaves 26,005 respondents, of whom 2,799 are identified as single mothers. The average happiness of all respondents is 2.211, where “not too happy” (10.6 % of responses), “pretty happy” (57.6 % of responses), and “very happy” (31.7 % of responses) are coded as one, two, and three, respectively (see Table 1). Respondents are likely to be high school graduates, white, in good or excellent health, and employed (see Table 1).

2.2 The Unhappiness of Single Mothers

Single mothers are less happy on average than are respondents who are not single mothers. Single mothers' average happiness is 1.966 (see Table 1). That is 0.265 fewer *happiness points* than the average for respondents who are not single mothers (2.231). The “single-mother happiness gap,” the difference between the average happiness of single mothers and the average happiness of all other respondents, is the result of single mothers being: (1) less likely to report high levels of happiness (“very happy”) and (2) more likely to report low levels of happiness (“not too happy”) than all other respondents. Single mothers are 15.2 % points, or 46 %, less likely to report being “very happy” and 11.4 % points, or 111 %, more likely to report being “not too happy” than all other respondents. A difference of means test reveals that each of these differences is statistically significant. As shown in Table 1, single mothers are also significantly less happy than the following comparison groups: all female respondents who are not single mothers, all single childless women, and all married mothers. Note, as a result of the definition of single mothers, all of the comparison groups could include some mothers. For example, single women who report having children and also report zero children (age 17 or under) living in their household are categorized as single childless women. Finally, Table 1 also presents additional descriptive statistics for single mothers and each comparison group, and reports the results of difference of means tests between single mothers and each comparison group for the additional descriptive statistics.

2.3 The Magnitude of the Single-Mother Happiness Gap

To illustrate the magnitude of the single-mother happiness gap one can compare the magnitude of the single-mother happiness gap to the happiness gap associated with known happiness correlates. For example, it is well known that in cross-sectional studies individuals

Table 1 Descriptive statistics

| | All | Single mothers | All except single mothers | All women except single mothers | Single childless women | Married mothers |
|---------------------------------|--------------------|------------------|---------------------------|---------------------------------|------------------------|--------------------|
| Average happiness ^a | 2.211** (0.004) | 1.966 (0.013) | 2.231** (0.004) | 2.281** (0.006) | 2.160** (0.012) | 2.330** (0.008) |
| Very happy | 0.317** (0.003) | 0.177 (0.008) | 0.329** (0.003) | 0.365** (0.005) | 0.268** (0.009) | 0.399** (0.007) |
| Pretty happy | 0.576** (0.003) | 0.611 (0.010) | 0.573** (0.003) | 0.552** (0.005) | 0.625 (0.010) | 0.531** (0.007) |
| Not too happy | 0.106** (0.002) | 0.212 (0.009) | 0.098** (0.002) | 0.083** (0.003) | 0.107** (0.006) | 0.070** (0.003) |
| Did not complete high school | 0.155** (0.002) | 0.244 (0.009) | 0.148** (0.003) | 0.137** (0.003) | 0.115** (0.007) | 0.152** (0.005) |
| Completed high school | 0.577 (0.003) | 0.593 (0.011) | 0.575 (0.003) | 0.587 (0.005) | 0.588 (0.010) | 0.602 (0.007) |
| Completed more than high school | 0.268** (0.003) | 0.163 (0.008) | 0.277** (0.003) | 0.276** (0.004) | 0.297** (0.009) | 0.245** (0.006) |
| Black | 0.125** (0.002) | 0.332 (0.010) | 0.108** (0.002) | 0.107** (0.003) | 0.134** (0.007) | 0.091** (0.004) |
| White | 0.817** (0.003) | 0.600 (0.011) | 0.835** (0.003) | 0.841** (0.004) | 0.801** (0.008) | 0.863** (0.005) |
| Other | 0.058 (0.002) | 0.067 (0.006) | 0.057* (0.002) | 0.052** (0.002) | 0.066 (0.006) | 0.046** (0.003) |
| Excellent health | 0.286** (0.003) | 0.204 (0.009) | 0.292** (0.003) | 0.282** (0.004) | 0.300** (0.010) | 0.272** (0.006) |
| Good health | 0.355 (0.003) | 0.366 (0.010) | 0.354 (0.003) | 0.352 (0.005) | 0.344 (0.010) | 0.361 (0.007) |
| Fair health | 0.100** (0.002) | 0.149 (0.007) | 0.096** (0.002) | 0.098** (0.003) | 0.093** (0.006) | 0.102** (0.004) |
| Poor health | 0.014** (0.001) | 0.028 (0.004) | 0.013** (0.001) | 0.015** (0.001) | 0.011** (0.002) | 0.014** (0.002) |
| Married | 0.570** (0.003) | 0.000 (0.000) | 0.617** (0.004) | 0.695** (0.005) | 0.000 (0.000) | 1.000** (0.000) |
| Widowed | 0.007** (0.001) | 0.050 (0.005) | 0.004** (0.000) | 0.003** (0.000) | 0.004** (0.001) | 0.000** (0.000) |
| Divorced | 0.080 (0.002) | 0.401 (0.010) | 0.053** (0.001) | 0.039** (0.002) | 0.078** (0.005) | 0.000** (0.000) |
| Separated | 0.028** (0.001) | 0.189 (0.008) | 0.015** (0.001) | 0.010** (0.001) | 0.013** (0.002) | 0.000** (0.000) |
| Never married | 0.315** (0.003) | 0.361 (0.010) | 0.311** (0.003) | 0.252** (0.005) | 0.904** (0.005) | 0.000** (0.000) |
| Employed | 0.715** (0.003) | 0.625 (0.010) | 0.722** (0.003) | 0.623 (0.005) | 0.698** (0.010) | 0.548** (0.007) |
| Unemployed | 0.041 (0.001) | 0.041 (0.004) | 0.042 (0.001) | 0.021** (0.002) | 0.044 (0.004) | 0.008** (0.001) |
| Keeping house | 0.147** (0.002) | 0.254 (0.009) | 0.138** (0.002) | 0.264 (0.004) | 0.048** (0.004) | 0.403** (0.007) |
| Female | 0.536** (0.003) | 1.000 (0.000) | 0.498** (0.004) | 1.000 (0.000) | 1.000 (0.000) | 1.000 (0.000) |

Table 1 continued

| | All | Single mothers | All except single mothers | All women except single mothers | Single childless women | Married mothers |
|----------------------------|------------------------|----------------------|---------------------------|---------------------------------|------------------------|------------------------|
| Number of children | 1.423** (0.010) | 2.289 (0.031) | 1.352** (0.011) | 1.480** (0.016) | 0.000** (0.000) | 2.455** (0.018) |
| Family income ^b | \$32,850** (186.00) | \$17,090 (350.90) | \$34,130** (196.60) | \$33,440** (272.10) | \$29,290** (535.80) | \$32,070** (334.60) |
| Native born | 0.767** (0.003) | 0.839 (0.008) | 0.761** (0.003) | 0.759** (0.004) | 0.820* (0.008) | 0.711** (0.006) |
| Age | 31.60** (0.055) | 32.55 (0.161) | 31.52** (0.058) | 31.65** (0.082) | 25.51** (0.124) | 34.14** (0.089) |
| Observations | 26,005 | 2,799 | 23,206 | 11,433 | 3,021 | 5,837 |

Clustered standard errors are in parenthesis

*, ** Implies that mean is significantly different ($p < 0.10$, 0.05, respectively) than the mean for single mothers

^a 1 = “not too happy,” 2 = “pretty happy,” and 3 = “very happy”

^b Use OECD equivalency scale: first adult is equal to 1, additional adults are 0.5, and each child (under the age of 18) is 0.3

with higher income report being happier than individuals with lower income (Stevenson and Wolfers 2008a). The happiness gap between respondents with family income in the top quartile (above \$41,801 in 2008 USD) and the bottom quartile (below \$15,011 in 2008 USD) is 0.24 points in our sample. This happiness gap is a little bit smaller than the single-mother happiness gap. Interestingly, this income differential (the inter-quartile range) is substantially larger than the income differential between single mothers and all other respondents (\$17,040 vs \$34,130). Thus, single mothers are less happy (compared to all other respondents) than would be predicted simply given their family income. It should be noted that above and throughout the paper family income is adjusted for household size using the OECD equivalency scale. Specifically, total real family income is divided by household size where the first adult counts as 1 household member, additional adults count as 0.5 household members, and children (ages 17 or under) count as 0.3 household members.

Stevenson and Wolfers (2010) also report that blacks are, on average, substantially less happy than are whites in the US. The happiness gap between black and white respondents is 0.25 points in our sample. Again, this is slightly smaller than the single-mother happiness gap. Finally, the unemployment rate, a known happiness correlate, would need to increase by over 10 % points to be associated with a happiness reduction of a similar magnitude as the single-mother happiness gap (Stevenson and Wolfers 2009).

2.4 Adjusting for Demographic Characteristics

Single mothers are significantly more likely to have characteristics associated with low levels of happiness than are respondents who are not single mothers. Single mothers are more likely than are all other respondents to be single (100 vs 38.3 %), in poor or fair health (17.7 vs 10.9 %), and nonwhite (40 vs 16.5 %); further, single mothers' family income is approximately half that of all other respondents (\$17,090 vs \$34,130); being single, being in poor or fair health, being nonwhite, and having low income are each associated with being less happy (Frey and Stutzer 2002, Stevenson and Wolfers 2009).

To test whether one can eliminate the single-mother happiness gap by controlling for single mothers' demographic characteristics, an equation of the following form is estimated:

$$Happiness_i = \beta^{SingleMother} SingleMother_i + \alpha \cdot X_i + \varepsilon_i \quad (1)$$

where $SingleMother_i$ is a dummy variable that equals one if individual i is identified as a single mother and zero otherwise; and X_i is a vector of demographic characteristics for individual i including gender, age, race, native born, number of children, marital status (single vs not single), educational attainment, health, family income, and region. Equation (1) is estimated using an ordered probit; robust standard errors are calculated by clustering the observations by year. First we compare single mothers to all other respondents. Then we restrict the sample to more narrowly and perhaps more appropriately defined comparison groups, including all female respondents who are not single mothers, single childless women, and married mothers. Finally, it should be noted that single mothers' demographic characteristics might have changed over time; for example, their average educational attainment could have risen during the study period. Including covariates in the analysis should partially control for these compositional changes. Below, we also conduct subgroup analyses in a further attempt to control for compositional changes. Lastly, the compositional changes also are discussed in the discussion section.

2.5 Trends in the Happiness of Single Mothers

To investigate the dynamics of the single-mother happiness gap between 1972 and 2008, an equation of the following form is estimated:

$$\begin{aligned} Happiness_i = & \beta^{SingleMotherTimeTrend} SingleMother_i^* ((Year_i - 1972)/100) \\ & + \beta^{NotSingleMotherTimeTrend} NotSingleMother_i^* ((Year_i - 1972)/100) \\ & + \beta^{SingleMother} SingleMother_i + \alpha \cdot X_i + \varepsilon_i \end{aligned} \quad (2)$$

where $Year_i$ is the year in which the GSS was administered for respondent i ; $NotSingleMother_i$ is a dummy variable that equals one if individual i is not identified as a single mother and zero otherwise; and all other variables are defined as before. The coefficients on the single-mother and not-single-mother time-trend, $\beta^{SingleMotherTimeTrend}$ and $\beta^{NotSingleMotherTimeTrend}$, estimate the change in happiness that the respective group experiences over a century. The difference between the two time-trend coefficients, $(\beta^{SingleMotherTimeTrend} - \beta^{NotSingleMotherTimeTrend})$, estimates the change in single mothers' happiness relative to respondents who are not single mothers over a century (Stevenson and Wolfers 2009, 2010). Equation (2) is estimated using an ordered probit; robust standard errors are calculated by clustering the observations by year. Further, in order to better understand the dynamics, we will explore the happiness trends of single-mother subgroups, both in absolute terms and relative to various comparison groups. This analysis will guide the explanations proffered in the discussion section.

3 Results

3.1 Single Mothers' Unhappiness is Correlated with Life Circumstances

Estimating Eq. (1) without covariates, the coefficient on single mother is negative, large, and highly statistically significant ($b = -0.488$, $s.e. = 0.020$). This indicates that single

mothers are significantly less happy on average than are all other respondents (see Model 1 of Panel A of Table 2). Adding controls for demographic characteristics that are presumably exogenous—gender, age, race, and native born—does not materially affect the coefficient ($b = -0.512$, $s.e. = 0.021$) (see Model 2 of Panel A of Table 2). This distinction between exogenous and endogenous demographic characteristics follows the approach used by Stevenson and Wolfers (2009). Thus, even after controlling for exogenous characteristics including being nonwhite (which is known to be associated with reduced happiness), the coefficient on single mother is negative, large, and highly statistically significant.

The results materially change, however, when one adds controls for demographic characteristics that are not exogenous—mother, single, educational attainment, health status, work status, number of children, a quartic in log real family income per household equivalent, and region. Now the coefficient on single mother is indistinguishable from zero ($b = -0.0311$, $s.e. = 0.028$) (see Model 3 of Panel A of Table 2). Thus, it appears that the unhappiness of single mothers is related to their life circumstances.

To determine which endogenous control variables are most closely related to the unhappiness of single mothers, we drop each from the analysis one at a time. The most important control variable by far is single. When it is dropped from the ordered probit (and all other covariates are included) the coefficient on single mother returns (almost) to its prior magnitude and significance ($b = -0.4391$, $s.e. = 0.029$) (see Model 4 of Panel A of Table 2). The next most important covariate is the number of children a respondent has.

Table 2 Coefficient on single mother from estimating Eq. (1)

| | Model 1 | Model 2 | Model 3 | Model 4 |
|--------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Panel A: All respondents | | | | |
| Coefficient on single mother | -0.4880*** (0.021) | -0.5125*** (0.021) | -0.0311 (0.028) | -0.4391*** (0.029) |
| Observations | 26,005 | 26,005 | 24,139 | 24,139 |
| Panel B: Female respondents | | | | |
| Coefficient on single mother | -0.5807*** (0.021) | -0.5064*** (0.022) | -0.0360 (0.037) | -0.4209*** (0.032) |
| Observations | 14,232 | 14,232 | 13,134 | 13,134 |
| Panel C: Single female respondents | | | | |
| Coefficient on single mother | -0.3236*** (0.030) | -0.2267*** (0.032) | 0.0436 (0.050) | 0.0436 (0.050) |
| Observations | 6,422 | 6,422 | 5,837 | 5,837 |
| Panel D: Respondents who are mothers | | | | |
| Coefficient on single mother | -0.6734*** (0.028) | -0.5788*** (0.032) | -0.4080*** (0.036) | -0.4080*** (0.036) |
| Observations | 8,636 | 8,636 | 8,082 | 8,082 |
| Control variables included | | | | |
| Exogenous | No | Yes | Yes | Yes |
| Endogenous except single | No | No | Yes | Yes |
| Single | No | No | Yes | No |

Clustered standard errors are in parenthesis

*, **, *** Significant at 10, 5, and 1 %, respectively

However, dropping this covariate does not return the coefficient on single mother to its former magnitude ($b = -0.054$ vs $b = -0.5125$), nor to its statistical significance ($t = -1.84$ vs $t = -24.3$). Thus, one control variable, single, is driving the coefficient on single mother to zero when all covariates are included, indicating that the unhappiness of single mothers is mostly explained by their being single and not by other endogenous control variables. This is consistent with the literature on the strong correlation of marriage and happiness (see Stutzer and Frey 2006). Further, our finding may not be surprising as close social relationships have been shown to be one of the strongest positive correlates of happiness (Baumeister and Leary 1995; Diener and Oishi 2005; Diener and Seligman 2002) and being single (as compared to being married) may be associated with weaker social relationships. Finally, it is interesting to note that there does not appear to be a measurable, additional negative relationship between being a single mothers and happiness beyond single mothers' demographic characteristics. Care must be taken, however, when interpreting this finding, as the control variables are not exogenous. Thus, one cannot claim that a single mother's life circumstances cause her to be less happy than respondents who are not single mothers, or vice versa. For example, it might be that less happy mothers are more likely to be single. Finally, the coefficients on race, single, health, and income are as expected: being black, single, and in poor or fair health are each associated with lower happiness as is having low income.

To further explore the single-mother happiness gap, the sample is restricted as follows: first, to women; second, to single women; and third, to mothers. The magnitude and significance of the coefficients on single mother remain largely the same when the first restriction is imposed (see Panel B of Table 2). Thus, single mothers appear just as an unhappy in comparison to all other female respondents as they do in comparison to all other respondents. However, while still statistically significant the coefficients on single mother decrease in magnitude with the second restriction and increase in magnitude with the third restriction (see Panels C and D of Table 2). This indicates that single mothers appear less unhappy when compared to single childless women and unhappier when compared to married mothers. This is not surprising, since being single is associated with being less happy.

The single-mother happiness gap could result from single mothers being less likely to report being "very happy," more likely to report being "not too happy," or both (in comparison to respondents who are not single mothers). To investigate, Eq. (1) is estimated using a probit regression in which the dependent variable indicates that a respondent reports being "very happy" or "not too happy;" robust standard errors are calculated by clustering the observations by year. In summary, the results indicate that the entire distribution of happiness is lower for single mothers than it is for respondents who are not single mothers. That is, single mothers are both less likely to report being "very happy" and more likely to report being "not too happy" than are all other respondents. The only exception is when all covariates are used; then, as before, the coefficients on single mother are indistinguishable from zero (complete results are available by request). Finally, in an unreported regression, we confirm that the above findings are the same when we control for respondents' cohort (birth decade).

3.2 The Single-Mother Happiness Gap has Declined

Figure 1 illustrates the average happiness of single mothers, all respondents who are not single mothers, and all female respondents who are not single mothers between 1972 and 2008. Two trends appear evident: first, single mothers appear to have become happier

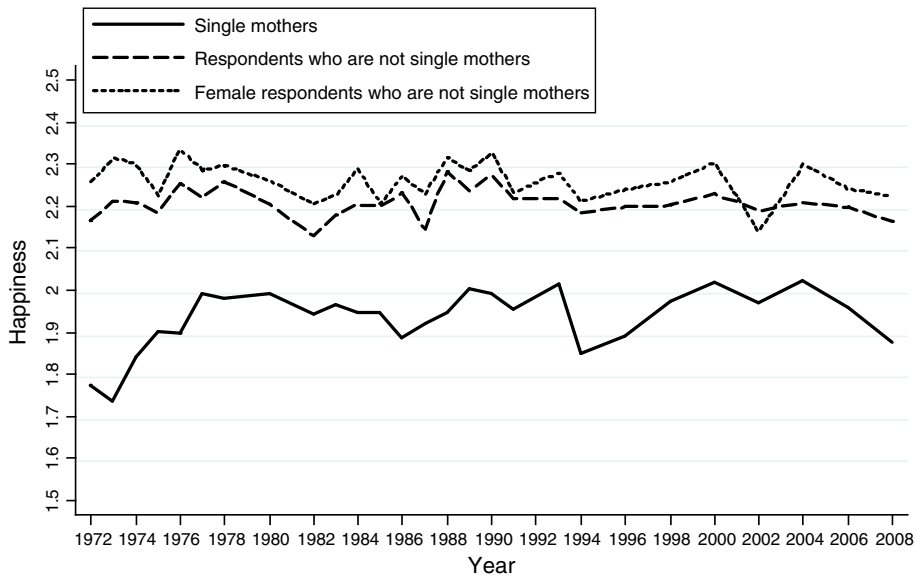


Fig. 1 Happiness trends (1972–2008)

during this period, and second, the gap between the happiness of single mothers and all female respondents who are not single mothers is smaller in 2008 than in 1972. Finally, it should be noted that there appears to be a decline in happiness between 2006 and 2008 for all groups. This is not surprising as the great recession began in 2007, and negative economic shocks are known to be associated with decreased happiness (Di Tella et al. 2003). Relatedly, we (with additional co-authors) have started a new study that examines how single mothers' happiness and health fared during the great recession. One goal of the new study is to determine whether single mothers are more susceptible to the adverse effects of recessions than are others groups.

Estimating Eq. (2) without covariates, the single-mother time-trend coefficient is positive and marginally statistically significant ($b = 0.447$, $s.e. = 0.247$), suggesting that single mothers became happier on average between 1972 and 2008 (see Model 1 of Panel A of Table 3); the time-trend coefficient for respondents who are not single mothers was small, negative, and insignificant, indicating that there was not a linear time-trend for respondents who are not single mothers between 1972 and 2008. The difference between the time-trend for single mothers and respondents who are not single mothers was positive and fully statistically significant ($b = 0.480$, $s.e. = 0.222$), indicating that single mothers became happier relative to respondents who are not single mothers between 1972 and 2008. The time-trend coefficients remain largely the same when Eq. (2) is estimated using exogenous control variables—age, gender, native born, and race (see Model 2 of Panel A of Table 3). Thus it appears that single mothers became happier—both absolutely and relative to respondents who are not single mothers—between 1972 and 2008.

Controlling for endogenous variables—“life circumstances”—again materially changes the results; and again, a lone endogenous control variable—single—has the largest impact on the estimate. Estimating Eq. (2) with all covariates except single, the single-mother time-trend coefficient is positive but not significant ($b = 0.258$, $s.e. = 0.212$); however, the difference between the time-trend for single mothers and respondents who are not

Table 3 Trends in happiness from estimating Eq. (2)

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---------------------|---------------------|----------------------|----------------------|
| Panel A: All respondents | | | | |
| Time-trend for respondents who are not single mothers | -0.033 (0.090) | -0.049 (0.123) | -0.176* (0.105) | 0.049 (0.099) |
| Single-mother time-trend | 0.447* (0.247) | 0.477* (0.245) | 0.258 (0.212) | 0.258 (0.217) |
| Difference in time-trend | 0.480** (0.222) | 0.526** (0.245) | 0.434** (0.189) | 0.209 (0.185) |
| Observations | 26,005 | 26,005 | 24,139 | 24,139 |
| Panel B: Female respondents | | | | |
| Time-trend for respondents who are not single mothers | -0.193 (0.139) | -0.148 (0.156) | -0.298** (0.146) | -0.219 (0.141) |
| Single-mother time-trend | 0.446* (0.246) | 0.524** (0.255) | 0.308 (0.225) | 0.291 (0.229) |
| Difference in time-trend | 0.638** (0.257) | 0.672** (0.269) | 0.606*** (0.219) | 0.510** (0.221) |
| Observations | 14,232 | 14,232 | 13,134 | 13,134 |
| Panel C: Single female respondents | | | | |
| Time-trend for respondents who are not single mothers | -0.372 (0.274) | -0.651** (0.260) | -0.795*** (0.243) | -0.795*** (0.243) |
| Single-mother time-trend | 0.458* (0.252) | 0.094 (0.186) | -0.158 (0.206) | -0.158 (0.206) |
| Difference in time-trend | 0.829*** (0.191) | 0.745*** (0.186) | 0.637*** (0.237) | 0.637*** (0.237) |
| Observations | 6,422 | 6,422 | 5,837 | 5,837 |
| Panel D: Respondents who are mothers | | | | |
| Time-trend for respondents who are not single mothers | 0.205 (0.237) | 0.245 (0.215) | -0.081 (0.212) | -0.081 (0.212) |
| Single-mother time-trend | 0.446 (0.246) | 0.523* (0.274) | 0.306 (0.265) | 0.306 (0.265) |
| Difference in time-trend | 0.241 (0.360) | 0.279 (0.364) | 0.388 (0.324) | 0.388 (0.324) |
| Observations | 8,636 | 8,636 | 8,082 | 8,082 |
| Control variables included | | | | |
| Exogenous | No | Yes | Yes | Yes |
| Endogenous except single | No | No | Yes | Yes |
| Single | No | No | No | Yes |

Clustered standard errors are in parenthesis

*, **, *** Significant at 10, 5, and 1 %, respectively

single mothers remains positive and significant ($b = 0.434$, $s.e. = 0.189$), indicating that single mothers became happier relative to respondents who are not single mothers between 1972 and 2008 (see Model 3 of Panel A of Table 3). Interestingly, the time-trend for respondents who are not single mothers is now negative and marginally significant ($b = -0.176$, $s.e. = 0.105$), indicating that respondents who are not single mothers appear to have become less happy during this period. Controlling for being single eliminates all statistical significance for any of the coefficients of interest (see Model 4 of Panel A of Table 3). However, the single-mother time-trend coefficient and the difference between the

time-trend for single mothers and respondents who are not single mothers both remain positive.

When the sample is restricted to female respondents, the time-trend coefficients grow in magnitude and some grow in significance (see Panel B of Table 3). Of particular importance, the difference between the time-trend for single mothers and all female respondents who are not single mothers is positive and statistically significant for all specifications. Thus, the single-mother happiness gap declined (relative to female respondents who are not single mothers) regardless of whether one includes exogenous or endogenous control variables. That the single-mother happiness gap declines more when one limits the analysis to women is not surprising since Stevenson and Wolfers (2009) found that female happiness—both absolutely and relative to men—was declining during this period. Our result demonstrates that it was only a subset of women—those who were not single mothers—who experienced a decline in happiness during this period.

Further restricting the sample to single women magnifies the coefficients. Specifically, the differences between the time-trends for single mothers and single childless women are larger and now highly statistically significant ($p < 0.01$) regardless of which control variables are used, indicating that single mothers were becoming happier during the period relative to single childless women (see Panel C of Table 3). Finally, restricting the sample to mothers eliminates most of the statistically significant coefficients (see Panel D of Table 3). The single-mother time-trend and the difference between the time-trend for single-mothers and married-mothers is positive but insignificant. This indicates that relative to married mothers, single mothers did not become happier between 1972 and 2008. The other coefficients from estimating Eq. (2) are unsurprising and are in line with results from prior happiness research. The coefficients on black, male, poor and fair health, single, and unemployed are negative and statistically significant; the coefficient on excellent health is positive and statistically significant; and the coefficient on the first term of the quartic in family income is positive, and the coefficient on the second term is negative.

We also restrict the sample by time period to determine if the reduction in the single-mother happiness gap occurred throughout the period. Specifically, Eq. (2) is estimated separately using data from the first half (1972–1989) and from the second half (1990–2008) of the period. The results indicate that the reduction in the single-mother happiness gap occurred in the first period but not in the second. The difference between the time-trend for single mothers and respondents who are not single mothers is larger for the first period than for the entire period, and it is insignificant for the latter period for all specifications. Further, we also estimate Eq. (2) with a dummy variable for decade of birth and find similar increases in single mothers' happiness relative to respondents who are not single mothers, female respondents who are not single mothers, and single childless women.

The observed reduction in the single-mother happiness gap could result from single mothers becoming more likely to report being “very happy,” less likely to report being “not too happy,” or both. To investigate, Eq. (2) is estimated using a probit regression in which the dependent variable indicates that a respondent reports being “very happy” or “not too happy;” robust standard errors are calculated by clustering the observations by year. The results indicate that the reduction in the single-mother happiness gap appears to be due to a decrease in reports of being “not too happy.” The difference between the “not too happy” time-trend for single mothers and each comparison group is negative and generally statistically significant, indicating that single mother are becoming less likely to report being “not too happy” relative to each comparison group (see Table 4). The one exception is when single mothers are compared to married mothers; as above, there is no evidence that single mothers are becoming happier relative to married mothers. The

Table 4 Trends in the distribution of happiness from estimating Eq. (2)

| | Probit ("very happy") | Probit ("very happy") | Probit ("not too happy") | Probit ("not too happy") |
|---|-----------------------|-----------------------|--------------------------|--------------------------|
| Panel A: All respondents | | | | |
| Time-trend for respondents who are not single mothers | -0.129 (0.096) | 0.105 (0.093) | -0.167 (0.191) | 0.070 (0.180) |
| Single-mother time-trend | 0.133 (0.232) | 0.094 (0.274) | -0.711** (0.358) | -0.208 (0.312) |
| Difference in time-trend | 0.262 (0.275) | -0.010 (0.263) | -0.544** (0.275) | -0.278 (0.227) |
| Observations | 26,005 | 24,139 | 26,005 | 24,139 |
| Panel B: Female respondents | | | | |
| Time-trend for respondents who are not single mothers | -0.328** (0.156) | -0.161 (0.151) | -0.138 (0.212) | 0.309 (0.235) |
| Single-mother time-trend | 0.133 (0.232) | 0.113 (0.298) | -0.711** (0.358) | -0.238 (0.295) |
| Difference in time-trend | 0.461 (0.309) | 0.274 (0.302) | -0.574** (0.249) | -0.547** (0.218) |
| Observations | 14,232 | 13,134 | 14,232 | 13,134 |
| Panel C: Single female respondents | | | | |
| Time-trend for respondents who are not single mothers | -0.556* (0.291) | -0.759** (0.310) | 0.098 (0.377) | 0.834*** (0.318) |
| Single-mother time-trend | 0.133 (0.232) | -0.183 (0.259) | -0.711** (0.358) | 0.264 (0.327) |
| Difference in time-trend | 0.689** (0.345) | 0.576 (0.379) | -0.810*** (0.224) | -0.570** (0.270) |
| Observations | 6,422 | 5,837 | 6,422 | 5,837 |
| Panel D: Respondents who are mothers | | | | |
| Time-trend for respondents who are not single mothers | -0.027 (0.262) | -0.063 (0.221) | -0.890*** (0.264) | -0.031 (0.302) |
| Single-mother time-trend | 0.133 (0.232) | 0.100 (0.335) | -0.711** (0.358) | -0.292 (0.294) |
| Difference in time-trend | 0.160 (0.380) | 0.163 (0.370) | 0.179 (0.429) | -0.262 (0.408) |
| Observations | 8,636 | 8,082 | 8,636 | 8,082 |
| Control variables included | | | | |
| Exogenous | No | Yes | No | Yes |
| Endogenous except single | No | Yes | No | Yes |
| Single | No | Yes | No | Yes |

Clustered standard errors are in parenthesis

*, **, *** Significant at 10, 5, and 1 %, respectively

evidence regarding single mothers becoming more likely to report being "very happy" is only suggestive, the difference between the "very happy" time-trend for single mothers and each comparison group is positive but only statistically significant in one instance.

3.3 Subgroup Analyses

Hitherto, the results indicate that while single mothers in the US are less happy than other respondents, their happiness has increased significantly between 1972 and 2008 relative to

other respondents. To further explore this interesting finding, we conduct careful subgroup analyses. The purpose of these analyses is threefold. First, there are a number of known correlates of happiness, for example, employment and marital status. The subgroup analyses—by interacting these known correlates with the single-mother indicator function and with the time-trends for single mothers and other respondents who are not single mothers—enable us to determine if the findings vary by these correlates. That is, whether the results hold for all single mothers or only for certain subgroups of single mothers. Second, the subgroup analyses enable us to further control for compositional changes in the population of single mothers by holding single mothers' characteristics constant along one dimension. Third, by identifying subgroups for which the results hold (or do not), we are able to begin to explore the validity of various plausible explanations for the observed increase in single mothers' happiness. For example, if unemployed single mothers experience an increase in happiness relative to unemployed respondents who are not single mothers, and employed single mothers do not experience an increase in happiness relative to employed respondents who are not single mothers, then it seems unlikely that the increase in single mothers' happiness was related to the increase in single mothers' labor force participation during the study period. We use the results of the subgroup analyses to motivate our discussion of plausible explanations for the increase in single mothers' happiness in the next section of the paper.

Specifically, the subgroup analyses are conducted as follows. We interact the single-mother time-trend, the time-trend for respondents who are not single mothers, and the single-mother indicator variable with each of the following categories: age (between 18 and 26, 27 and 36, or 37 and 45); educational attainment (less than high school, high school, or more than high school); employment status (employed full- or part-time, or not employed); marital status (divorced, separated, or never married); race (black or white); age of youngest child living the household (between 0 and 6, 7 and 12, or 13 and 17); and presence of at least one other adult in the same household. This enables us to estimate separate time-trends for each subgroup, for example, a time-trend for unemployed and employed single mothers. These subgroups were chosen because they are easily observed in our data, include enough observations to enable statistical inferences to be made, and many of them are known happiness correlates. Finally, it should be noted that the relationship between the single mother and any other adults living in the same household cannot be identified from the data. For example, another adult in the household could be an adult child, a parent, a romantic partner, a relative, or a roommate. Noteworthy results are described in the text below (tables containing the complete numerical results of the subgroup analyses are available upon request).

The categories with highly variant time-trends across subgroups are educational attainment, employment status, age of youngest child, and presence of other adults in the household. For example, the difference between the time-trend for single mothers and respondents who are not single mothers are substantially larger for respondents who did not complete high school than for respondents who completed more than high school. In fact, the difference in the time-trends is mostly negative but not statistically significant for respondents who completed more than high school. This indicates that the single-mother happiness gap narrowed for single mothers with low levels of education, but not for single mothers with high levels of education. The difference in time-trends is also substantially larger for respondents who are not employed than for respondents who are employed. This indicates that the single-mother happiness gap narrowed more for single mothers who do not work than for single mothers who do.

The single-mother happiness gap also narrowed more for single mothers raising young children (the youngest child in the household is age 6 or under) than for women raising older

children. The magnitude of the difference between the time-trend for single mothers and respondents who are not single mothers gets smaller as the age of the youngest child in the household increases. Indeed, while not statistically significant, the difference between the time-trend for single mothers whose youngest child (living in the household) is between 13 and 17 and respondents who are not single mothers is negative, suggesting that single mothers in this subcategory became less happy relative to respondents who are not single mothers.

Lastly, the single-mother happiness gap has narrowed substantially for women who do not live with another adult. This is because, in this subcategory, single mothers have gotten substantially happier over time, while respondents who are not single mothers have gotten significantly less happy over time. The difference in time-trends for those with at least two adults in the household is not statistically significant in any specification, but is, in all cases, positive.

Examining variant marital statuses, we find that the time-trend for respondents who are not single mothers is negative, very large, and frequently statistically significant. This indicates that unmarried respondents who are not single mothers became less happy between 1972 and 2008. Consequently, single mothers became happier during this period relative to unmarried respondents who are not single mothers. Finally, there is no consistent pattern across race or age categories.

In sum, the single mothers that experience the greatest relative increase in happiness are among those that economists and policy makers are generally most concerned about: those who are unemployed, those with less education, those who have young children, and those who live alone. Further, the relative increase in happiness among single mothers cannot simply be ascribed to compositional changes in the population of single mothers, as the increase in happiness is evident among many subgroups of single mothers (within which compositional changes along a single dimension are not possible). Finally, it would be interesting to examine more narrowly defined subgroups, for example unemployed single mothers with less than a high school degree, however, the limited number of single mothers in the dataset (approximately 2,800 spread over 27 waves) does not allow us to study such narrowly defined subgroups.

4 Discussion

The results appear to indicate that single mothers in the US are less happy than respondents who are not single mothers, but that the single-mother happiness gap shrank between 1972 and 2008. Below, we discuss possible explanations for the observed trends: changes to social welfare programs, increased labor force participation, compositional shifts in single motherhood, and reduced stigma. Our results, taken as a whole, are most consistent with the latter two explanations. Again, it should be noted the trends themselves, not explanations for them, are the primary focus of this paper. Finally, as noted previously, care must be taken when interpreting our results, as we do not have exogenous variation from which to determine causation. Thus, we leave it to future research to establish causation.

4.1 Changes to Social Welfare Programs

During the time period studied, there were substantial changes to US social welfare programs, some of which were specifically designed to help single mothers. A natural question arises: were these changes responsible for the increased happiness of single mothers? As noted in the introduction, Ifcher (2011) and Herbst (2013) both explicitly set out to determine the effect of

welfare reform on SWB, and both found a significant positive effect. Further, Herbst (2012) attributes the positive trend in single mother's SWB both absolutely—and relative to married women and single, childless women—to reformed social welfare programs. Assuming that reforms did, in fact, positively impact single mothers' SWB, there is reason to believe that these reforms are not solely responsible for the observed increase in single mothers' happiness. If they were, one would expect the upward trend in single mothers' SWB to be strongest post-1990, since that is when the most major reforms occurred, for example, the 1996 Personal Responsibility and Work Opportunity Reconciliation Act. Yet, we found that splitting the sample pre- and post-1990 reveals that the more significant gains to single mothers' SWB occurred in the earlier period.

4.2 Increased Labor Force Participation

In addition to increased rights and benefits for working mothers in the US, discrimination against women in the work place dropped, and labor force participation rates for women, in general, and mothers, in particular, increased. Therefore, one might conclude that increases in the labor force participation rate of single mothers drove the increase in happiness. However, during the same period, Stevenson and Wolfers (2009) find that all women became less happy, on average.¹ If increased labor force participation were the driving force behind single mothers' increased happiness, then it should have driven all women to become happier. Further, the increase in happiness among single mothers was greater for single mothers who did not work than for single mothers who did. Hence increased labor force participation alone is unlikely to be responsible for the trend in single mothers' SWB.

4.3 Compositional Shifts in Single Motherhood

4.3.1 *Changing Partnerships*

In the period from 1972 to 2008, the composition of the American household dramatically changed. The surge in single motherhood was accompanied by comparable surges in—among others—single fatherhood, cohabitating unmarried parents, and same-sex couples. A potential explanation for the rise in SWB among single mothers could be related to compositional shifts related to these other changes. For example, relative to 1972, the category “single mother” in 2008 may be less likely to represent a woman raising her children alone and more likely to represent a woman raising her children with the help of a cohabitating or long-term partner (of either sex). Assuming that the financial and psychological stress of child rearing is abated with a partner, the rise in single mothers' SWB may be attributable to the changing meaning of being single. If the increase in cohabitating or long-term non-marriage relationships has increased over the sample, then single mothers' happiness should be converging to that of married mothers. However, single mothers are considerably less happy than married mothers at the start of the sample and have statistically indistinguishable time-trends, which together do not suggest convergence. Further, as noted above, single women raising their children with no other adults in

¹ Using the same data set (minus the 2008 wave), Stevenson and Wolfers (2009) report a negative trend in single mothers' SWB. There are three main reasons for this: (1) their statistic includes whites only, and blacks—especially black women—had significant increases in SWB during this time period; (2) our definition of single mothers only includes women under the age of 45, while they consider all ages; and (3) our definition of single mothers only includes mothers with at least one child under the age of 18 living in the same household, while they do not have any such restriction.

the household have become happier over the past 40 years, both absolutely and relative to respondents who are not single mothers and who do not live with another adult. Single mothers who live with at least one other adult have neither become happier absolutely, nor relative to their respondents who are not single mother and live with at least one other adult, over time. The proportion of single mothers who live with at least one other adult has stayed roughly constant at approximately 0.32 over the sample period. However, the proportion of all households with at least two adults has steadily declined over the sample period, from roughly 0.92 in 1972 to 0.73 in 2008. In summary, the changing nature of partnerships does not seem to explain the observed patterns.

4.3.2 *Shared Custody*

The meaning of “single mother” may have also changed over the studied period as a result of changing custodial and child-rearing arrangements. Before 1973, traditionally only one of a child’s divorced parents—usually the mother—had custody of the child, while the other parent was granted specific visitation rights. In 1973, Indiana enacted the first law favoring joint custody; by 1984, more than half, and by 2003, almost all the states had followed suit. This is important because, prior to 1973, only one of a child’s divorced parents would be categorized as a single parent in the data. With joint custody, however, both could. If the benefits of shared custody outweigh its costs—regular contact with an ex-husband, for example—then the observed upward trend in single mothers’ SWB would be predicted. This effect need not be restricted to divorced single parents, as the normalization of shared child rearing between exes may have also extended to the never married over the last 40 years. Indeed, in the GSS data, single fathers (who have never been married) make up only 0.60 % (0.48 %) of the population in 1972 and 5.6 % (3.2 %) of the population in 2008.

4.3.3 *Single Motherhood by Choice*

There is reason to believe that the incidence of intentional single motherhood increased between 1972 and 2008. First, abortion was federally legalized in 1973. In the extreme, if all post-1993 unwelcome pregnancies were aborted, then there would be no mothers of unwanted children in the sample after 1991, as the children born in 1973 would be 18. Such a reduction in unwanted pregnancies would not only predict an upward trend in the SWB of single mothers—the overwhelming majority of abortions are performed on single women²—but it would also predict a plateau in the SWB of single mothers after 1991 and a stronger narrowing of the single-mother happiness gap for mothers of younger children than for mothers of older children, both of which are consistent with our findings. Further, legalized abortion may increase the SWB of single mothers and single childless women alike: the former group would be more likely to consist of single mothers by choice, and the latter group would enjoy increased freedom. However, it must also be noted that it is possible that the legalization of abortion may decrease happiness. As Schwartz (2004) points out there are costs associated with having choices and having more choices can decrease one’s happiness. That may be especially true when the choice is a challenging one, such as, whether or not to have an abortion.

Finally, the number of single women has increased over the studied time period, and, importantly, so has their educational attainment. In the GSS sample, the share of single

² Using data from 1980, Gruber et al. (1999) find that the “marginal child” not born as a result of abortion legalization would be 60 % more likely to be in a single-parent household than the average born child.

mothers with more than a high school education was 14.9 % in 2008, up from 4.3 % in 1972. According to Schmidt (2007), while the birthrate for single women with less than a college education increased by 60 % between 1980 and 2000, the birthrate for single college-educated women increased by 145 %. If more educated single mothers are more likely to be single mothers by choice, then growth in the population of educated single mothers could explain some of the upward trend in single mothers' happiness—though it cannot be the sole explanation since the upward happiness trend held for all educational subgroups.

4.4 Stigma

Society's attitudes toward single mothers in the US evolved during this period as well. Although there is inherently a dearth of evidence, there is reason to believe that at the start of the study period, in 1972, single mothers—both welfare recipients and not—were subject to considerably more stigmatization than in 2008, the end of the study period. Circumstantial evidence ranges from Reagan's famed use of the term "welfare queen" in 1976 to the sterilization of single mothers seeking welfare under North Carolina eugenics laws as late as 1974. Unfortunately, such stigmatization is not wholly a thing of the past. A Pew Research poll asked Americans whether they thought upward trends in the following populations were "good for society," "bad for society," or "make no difference": single mothers without a male partner, unmarried parents, gay and lesbian parents, unmarried cohabitating couples, mothers employed outside the home, interracial couples, and childless women. Single motherhood was by far the most negatively assessed: 69 % of respondents thought it was bad for society; unmarried parents and unmarried cohabitating couples were the next most frowned upon, each considered bad for society by 43 % of respondents (Morin 2011). That said, the current stigmatization of single mothers is likely lower than in 1972, as evidenced by, if nothing else, the increase in the incidence of single motherhood. And with this reduced stigmatization, the happiness of single mothers would be expected to rise, consistent with our findings.

5 Conclusion

Single mothers in the US are substantially less happy than are individuals who are not single mothers. They are both more likely to report being "not too happy" and less likely to report being "very happy" than are individuals who are not single mothers. This substantial gap is present even when one controls for all demographic variables other than being single. Further, the results indicate that the single-mother happiness gap shrank between 1972 and 2008. Most of the shrinkage appears to have occurred in the first half of the period, between 1972 and 1989, and was most evident for single mothers who are not employed, who did not complete high school, whose youngest child (living in the household) is age 6 or under, and who do not live with another adult.

References

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529.
- Bitler, M. P., & Hoynes, H. W. (2010). The state of the social safety net in the post-welfare reform era. *Brookings Papers on Economic Activity*, 71–127.

- Blank, R. (2002). Evaluating welfare reform in the United States. *Journal of Economic Literature*, 40, 1105–1166.
- Di Tella, R. D., MacCulloch, R. J., & Oswald, A. J. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, 84, 809–827.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542–575.
- Diener, E., & Oishi, S. (2005). The nonobvious social psychology of happiness. *Psychological Inquiry*, 16(4), 162–167.
- Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science*, 13, 81–84.
- Diener, E., & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, 5, 1–31.
- Dolan, P., & Metcalfe, R. (2012). Measuring subjective wellbeing: Recommendations on measures for use by national governments. *Journal of Social Policy*, 41, 409–427.
- Frey, B. S., & Stutzer, A. (2002). *Happiness and economics*. Princeton, NJ: Princeton University Press.
- Grail, T. S. (2009). *Custodial mothers and fathers and their child support: 2007*. U.S. Census Bureau Report P60-237.
- Grogger, J., & Karoly, L. A. (2005). *Welfare reform: Effects of a decade of change*. Cambridge, MA: Harvard University Press.
- Gruber, J., Levine, P., & Steiger, D. (1999). Abortion legalization and child living circumstances: Who is the “marginal child”? *Quarterly Journal of Economics*, 114, 263–291.
- GSS, 1972–2010: Cumulative codebook. (2011). Chicago, IL: National Opinion Research Center, The University of Chicago.
- Herbst, C. M. (2012). Footloose and fancy free? Two decades of single mothers’ subjective well-being. *Social Service Review*, 86, 189–222.
- Herbst, C. M. (2013). Welfare reform and the subjective well-being of single mothers. *Journal of Population Economics*, 26, 203–238.
- Ifcher, J. (2011). The happiness of single mothers after welfare reform. *The B.E. Journal of Economic Analysis & Policy*, 11 (Topics).
- Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences of the United States of America*, 107(38), 16489–16493.
- Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, 20, 3–24.
- Krueger, A. B., & Schkade, D. A. (2008). The reliability of subjective well-being measures. *Journal of Public Economics*, 92, 1833–1845.
- McLanahan, S., & Sandefur, G. D. (1994). *Growing up with a single parent: What hurts, what helps*. Cambridge, MA: Harvard University Press.
- Meyer, B. D., & Sullivan, J. X. (2010). Further results on measuring the well-being of the poor using income and consumption. The Harris School of Public Policy Studies Working Paper #07.19.
- Moffitt, R. A. (2003). *Means-tested transfer programs in the United States*. Chicago, IL: The University of Chicago Press.
- Morin, R. (2011). *The public renders a split verdict on changes in family structure*. Pew Social & Demographic Trends Reports, Pew Research Center. <http://pewsocialtrends.org/2011/02/16/the-public-renders-a-split-verdict-on-changes-in-family-structure/2/>.
- Schmidt, L. (2007). Murphy Brown revisited: Human capital. Working Paper: Search and Nonmarital Childbearing Among Educated Women.
- Schwartz, B. (2004). The tyranny of choice. *Scientific American*, 290(4), 70–75.
- Smith, T. W. (1990). *Timely artifacts: A review of measurement variation in the 1972–1989 GSS*. Chicago, IL: GSS Methodological Report, University of Chicago, National Opinion Research Center.
- Stevenson, B., & Wolfers, J. (2008a). Economic growth and subjective well-being: Reassessing the Easterlin paradox. *Brookings Papers on Economic Activity*, 1–87.
- Stevenson, B., & Wolfers, J. (2008b). Happiness inequality in the United States. *Journal of Legal Studies*, 37, S33–S79.
- Stevenson, B., & Wolfers, J. (2009). The paradox of declining female happiness. *American Economic Journal: Economic Policy*, 1, 190–225.
- Stevenson, B., & Wolfers, J. (2010). Subjective and objective indicators of racial progress. Working paper.
- Stutzer, A., & Frey, B. (2006). Does marriage make people happy or do happy people get married? *The Journal of Socio-Economics*, 35, 326–347.