2017
OKSWP1713

Economics Working Paper Series
Department of Economics
OKLAHOMA STATE UNIVERSITY
http://spears.okstate.edu/ecls/

Satisfaction and Self-Employment: Do Women Benefit More from Being Their Own Boss

Karen Maguire
Oklahoma State University

John V. Winters
Oklahoma State University and IZA

Department of Economics
Oklahoma State University
Stillwater, Oklahoma

339 BUS, Stillwater, OK 74078, Ph 405-744-5110, Fax 405-744-5180

Satisfaction and Self-Employment: Do Women Benefit More from Being Their Own Boss?

Karen Maguire
Department of Economics and Legal Studies in Business
Spears School of Business
Oklahoma State University
327 Business Building, Stillwater, Oklahoma 74078
karen.maguire@okstate.edu
(Corresponding Author)

John V. Winters
Department of Economics and Legal Studies in Business
Spears School of Business
Oklahoma State University
331 Business Building, Stillwater, Oklahoma 74078
and
IZA
Bonn, Germany
jvwinte@okstate.edu

Abstract

This paper uses individual self-reported life satisfaction data to analyze the relationship between self-employment and subjective well-being by gender and race. We document substantial heterogeneity, with women appearing to benefit the most from self-employment. Self-employed women have significantly higher rates of being very satisfied relative to both traditionally employed women and self-employed men. We also find that the self-employed have higher rates of dissatisfaction, and this adverse relationship with self-employment is most pronounced for minorities. These nuanced findings broaden our understanding of the relationship between self-employment and subjective well-being and have important implications for both researchers and policymakers.

Keywords: Well-being, Entrepreneurship, Self-Employment, Gender, Race
JEL Codes: I10, I31, J2

1. Executive summary

In the United States, the benefits of self-employment vary by gender and race. Using data on subjective well-being (SWB), a self-reported measure of life satisfaction, we analyze the effects of self-employment by gender and race on an individual's reported SWB. First, we examine the empirical relationship between self-employment for the highest margin of life-satisfaction, very satisfied. We find that self-employed women have significantly higher rates of being very satisfied than comparable female traditional employees. For men, self-employment is not significantly associated with higher rates of being very satisfied, but when we examine the results by race/ethnicity, we find that self-employment is associated with higher rates of being very satisfied for white men.

We next explore the relationship between self-employment and a different margin of life satisfaction, whether satisfied or better. Being satisfied or better is defined to include persons who report being either satisfied or very satisfied with their life, and this includes roughly 96 percent of all workers in our sample. Our results indicate that the self-employed are significantly less likely than paid employees to be satisfied or better and therefore more likely to be dissatisfied or worse. This adverse relationship is larger in magnitude for men than women and especially large for minority males. Thus, our results indicate a non-monotonic relationship between self-employment and life satisfaction.

These unexpected findings broaden our understanding of the relationship between self-employment and subjective well-being. Notably, the relationship exhibits considerable nuance across the margins of the SWB measure and across gender and race. The modest previous literature on self-employment has not taken into account these subtle and important gradations in the influence of self-employment on an individual's SWB. Better understanding these nuances is

important for both researchers and policymakers interested in the relationships between self-employment and individual well-being.

2. Introduction

Gender and racial diversity among U.S. entrepreneurs is a prevalent topic in popular media, and there is particular emphasis on female entrepreneurship and its importance to society. From Forbes' list of the "The World's Most Powerful Female Entrepreneurs" to Small Business Trends' list of "20 Women Entrepreneurs Who are Changing the World," there is a clear implication that female entrepreneurship empowers women and increases societal well-being (Forbes 2017; SBT 2017; Warnecke 2013; Kobeissi 2010). CNBC special columnist, Elaine Pofeldt, suggests that 2017 is the beginning of a "Golden Age" for women entrepreneurs, based on the fact that in the United States, the growth rate in the number of female entrepreneurs has recently doubled that of male entrepreneurs, and the share of new entrepreneurs who are female has grown to 40 percent, a considerable increase relative to previous decades. This critical mass of female entrepreneurs has expanded the opportunities for other women seeking to join the ranks of the self-employed through increased mentoring and financing opportunities (Pofeldt 2017). Self-employed women have also increased in terms of diversity; the share of self-employed minority women doubled from 1993 through 2012. Additionally, while self-employed women still earn less than their male counterparts, the gap has shrunk over that same period by 20 percent (Roche 2014).

Recently, the information technology industry in particular has contended with underrepresentation of women and minority entrepreneurs due in part to a lack of financing from venture capitalists, which are predominantly white men (Hendricks 2017; Segall 2016; Ransom

2011). There is also discussion, however, regarding the potential for self-employment to provide new avenues for the socioeconomic advancement of minority individuals outside of traditional employment (Hyde-Keller 2016). The extent to which entrepreneurship may mitigate or exacerbate gender and racial discrimination is not clear; however, as these groups continue expanding as entrepreneurs, these issues will become more prominent.

Academics in business fields have long valued the economic contributions of entrepreneurs. In Schumpeter's classic work, he argued that entrepreneurs carry out the "fundamental phenomenon of economic development" by generating and implementing new ideas to create new products, processes, and markets (Schumpeter 1934, p. 74). Entrepreneurship has been widely discussed in contemporary work as well, examining the potential economic benefits from entrepreneurial activity in the form of economic growth (Glaeser, Kerr, and Kerr 2015; Gennaioli et al 2013; Stephens, Partridge, and Faggian 2013; Stephens and Partridge 2011; Akcigit and Kerr 2010; Baumol and Strom 2007; Acs 2006).

In this paper, we examine the benefits of being self-employed to the individual rather than to society. Many traditional employees dream of one day being their own boss and running their own business (Blanchflower, Oswald, and Stutzer 2001).[1] One reason is that rather than working at a job or career defined by someone else, the self-employed get to do what they enjoy. Self-employed people also cite financial rewards, greater flexibility in their schedule, the opportunity to be in a leadership position, and the power for defining their own career goals and achievements (Intern Group 2016; Alvarez 2014; Patel 2016). There are also potential costs to being an entrepreneur including uncertainty and encumbering responsibility. Those outside of

[1] The overwhelming majority of workers in the U.S. work as traditional employees rather than self-employees (BLS 2010). The BLS data indicates that from 1990 through 2010, slightly higher than 10 percent of the nonagricultural workforce was self-employed.

traditional employment can struggle with instability in their salary and a lack of health and retirement benefits. They may feel that they are required to fulfill multiple roles within their organization, from CEO to accountant, and end up working longer hours.

We use a self-reported subjective well-being (SWB) measure of life satisfaction to consider whether the benefits of self-employment outweigh the costs relative to those who work as a paid employee. There is an extensive psychological literature on SWB (Huppert 2009; Keyes 2006; Keyes 2002; Deci and Ryan 2000; Ryff 1989). Economic research has examined how SWB relates to individual and regional characteristics such as income, employment status, crime rate, natural amenities, energy development, urbanization, education, marital status, presence of children, age, gender, race, and ethnicity (Graham 2017; Winters and Li 2017; Glaeser, Gottlieb, and Ziv 2016; Herbst and Lucio 2016; Mahuteau and Zhu 2015; Florida, Mellander and Rentfrow 2013; MacKerron 2012; Oswald and Wu 2011; Böckerman, and Ilmakunnas 2009; Gardner and Oswald 2007; Winkelmann and Winkelmann 1998; Clark and Oswald 1994).

In this paper, we examine differences in SWB between self-employed and traditional employees in the United States. There is a small prior literature on this topic for other countries but very little published work for the United States. Self-employment has the potential to increase well-being for many individuals, but it may lower well-being for some. Our analysis focuses on the heterogeneous relationships between self-employment and well-being across gender and race/ethnicity. We document that there are some important heterogeneous relationships between self-employment and life satisfaction that have gone largely overlooked in prior literature. This study intends to expand understanding of these important relationships among both researchers and policymakers.

3. Conceptual framework

Individual subjective well-being is expected to depend on a number of factors including psychological and economic characteristics. We focus on differences in SWB between the self-employed and traditional employees. Based on existing research, we expect successful entrepreneurs to report high levels of life satisfaction. The self-employed often report higher levels of life satisfaction (Levine and Rubinstein 2017; Schneck 2014; Bianchi 2012; Benz and Frey 2008a; Benz and Frey 2008b; Benz and Frey 2004; Blanchflower, Oswald, and Stutzer 2001; Blanchflower 2000). Specifically, several researchers find that the self-employed benefit from the autonomy of being their own boss (Schneck 2014; Bianchi 2012; Benz and Frey 2008a; Benz and Frey 2008b; Benz and Frey 2004). Hessels, Rietveld and vand der Zwan (2017) find that the self-employed have less work related stress than those who are traditionally employed. Patzelt and Shepherd (2011) find that the self-employed experience less negative emotions such as stress, fear of failure, and loneliness. Hamilton (2000) finds that despite higher earnings in traditional employment, the self-employed persist in self-employment. After ruling out other factors, he concludes that there are sufficient non-pecuniary benefits of self-employment to explain the persistence of the self-employed, indicating that self-employment has higher non-pecuniary benefits to individuals than traditional employment.

While traditional employment is typically found to offer higher average earnings than self-employment, there are potential financial benefits to self-employment, at least for some individuals. Levine and Rubinstein (2017) find that entrepreneurs, defined as incorporated business owners, have an increase in earnings as a result of self-employment.[2] Furthermore,

[2] Lower average earnings are attributed to the unincorporated self-employed, who may be disproportionately composed of "necessity entrepreneurs", i.e., persons who are self-employed because they have limited options in paid employment.

average earnings can hide considerable upside potential. Self-employment may sometimes offer a unique opportunity to increase income and wealth well beyond what would likely be earned in paid employment. For example, among Forbes Magazine's list of "The World's Billionaires" during the 1996-2010 period, more than half made their wealth by starting a company and many others are the direct heirs of company founders (Henrekson and Sanandaji 2014).

Hypothesis 1. Self-employment is associated with increased subjective well-being for some workers.

Self-employment can also have disadvantages. Possible downsides from self-employment include the chance of business failure, constant responsibilities and job demands, and the financial and psychological stresses that go with these. It is well established that new business ventures often have very high failure rates (SBA 2012).[3] A failed venture can be very costly financially and also significantly harm an individual's feeling of self-worth. (Jenkins, Wiklund, Brundin 2014). These failures can have long-lasting consequences. Some ventures may avoid outright failure but persistently struggle, still leaving the entrepreneur worse off than they would have been in paid employment. Some business founders may become locked into self-employment because of limited "off ramps" to exit self-employment and re-enter paid employment and thus be indefinitely stuck in a low value venture (Failla, Melillo and Reichstein 2017).

[3] Of course, not all exits from self-employment are failures. Some involve lucrative buyouts or attainment of a highly desirable paid employment position that was aided by experience in self-employment (Wennberg et al 2010). Furthermore, while self-employment is often perceived as an unstable career path, it is important to keep in mind that employer-employee matches are often short-lived as well. Failla, Melillo and Reichstein (2017) use longitudinal data from Denmark to examine employment stability and find that self-employed Danes have greater employment stability than their paid employee counterparts.

Furthermore, some self-employees may have started their ventures more or less out of necessity in response to poor opportunities in paid employment (Warnecke 2012). Warnecke (2012) describes two types of entrepreneurs, necessity and opportunity entrepreneurs. Necessity entrepreneurs become self-employed due to limited or unsatisfactory options in the labor market, i.e. job loss followed by an inability to find work. Opportunity entrepreneurs on the other hand choose to become self-employed because they recognize a business opportunity and have access to financial capital that allows them to exploit that opportunity and start a business. Necessity entrepreneurs tend to be less educated, less wealthy, and have less managerial experience (Warnecke 2012). We expect different relationships with well-being for these two groups of entrepreneurs, with self-employment among necessity entrepreneurs expected to be negatively related to well-being.

Hypothesis 2. Self-employment is associated with reduced subjective well-being for some workers.

A fundamental contribution of this paper is to examine heterogeneous relationships between self-employment and SWB by gender and race/ethnicity. There is a well-developed economics literature on gender and racial disparities in traditional labor markets (Altonji and Blank 1999). In addition to differences in outcomes in traditional labor markets, there are also differences by race and gender in both participation rates and income for the self-employed. White men in the U.S. are more likely to become self-employed than women or minorities and tend to have higher earnings (Roche 2014; BLS 2010).

Much of the literature on gender and self-employment focuses on examining the causes of differences in the rate of participation in self-employment between men and women. The literature includes an examination of socioeconomic factors such as access to financial capital, education, and individual characteristics including genetics, household composition, and risk tolerance (Saridakis, Marlow, and Storey 2014; Kobeissi 2010; Zhang et al 2009; Malach-Pines and Schwartz 2008; Carter et al 2007; Minniti and Nardone 2007; Marlow and Patton 2005; Patrick, Stephens, and Weinstein 2016) This divergence in the participation rate and income between men and women in self-employment provides foundation for our supposition that there may also be differences in the benefits of self-employment between men and women.

There are important reasons why women might benefit from self-employment differently than men. A woman working as a traditional employee may be hindered by sexual discrimination in numerous dimensions including facing a glass ceiling that hinders movement up the corporate ladder and into top positions (Heilman and Caleo 2015; Bobbitt-Zeher 2011). Self-employed women may face discrimination too from customers, suppliers, and lenders (Thebaud 2015; Carter et al 2007; Marlow and Patton 2005). It is unclear whether self-employed women face greater or lesser discrimination than those that are traditionally employed, so it is not clear how this will affect self-employed women's well-being. On average, women may also have stronger preferences for work flexibility, e.g. the ability to work part-time if desired (Wiswall and Zafar 2016). Child care and other household responsibilities often fall more heavily on women, which can push them into self-employment (Patrick, Stephens and Weinstein 2016).

There is potential for racial discrimination for the traditionally and self-employed as well. The literature on self-employment and race has also focused on examining the differences in participation rates and income for minority business owners (Deskins and Ross 2016;

Blanchflower, Levine, and Zimmerman 2003; Fairlie 1999; Fairlie and Meyer 1996; Borjas and Bronars 1989). Much of this literature examines the role of discrimination, particularly in capital markets, and the negative effects it has on self-employment among minorities.

Pronounced differences in the experiences of the self-employed by gender and race are expected to influence their well-being. Discrimination may play a greater or lesser role for the self-employed versus traditional employees.

Hypothesis 3. The relationship between self-employment and subjective well-being differs across gender and race/ethnicity.

4. Data and methods

The data for this study come from the 2005-2010 years of the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is an annual telephone survey designed by the U.S. Centers for Disease Control (CDC) and administered by health agencies in each state and the District of Columbia continuously through the year. The survey collects information on a wide range of health outcomes, health behaviors, and socioeconomic characteristics of respondents. Some core topics are included in the survey in all years and administered to all respondents. Other modules are optionally included in particular states or included in only a subset of years. The life satisfaction module used in this study was included as a core module during the 2005-2010 survey years but was subsequently removed as a core module and then only administered in a small handful of states. We restrict our analysis to years 2005-2010, so that our results are

representative of the entire U.S. rather than potentially reflecting state-level heterogeneity. We also use survey weights provided by the CDC to produce nationally representative statistics.[4]

We are interested in how life satisfaction levels differ between persons working as paid employees and self-employees, so we restrict our sample to persons whose employment status falls into one of these two categories, i.e., we exclude persons who are unemployed, retired, or otherwise out of the labor force. We further limit our sample to workers ages 18-61 since the decision to continue working at older ages could depend on a number of unobservable factors related to well-being that could confound our analysis.[5] We also exclude a very small percentage of workers with missing data for the life satisfaction question, either because they refused to answer or the survey administrator was unable to ask the question for unexpected reasons.

The life satisfaction question in the BRFSS asks individuals, "in general, how satisfied are you with your life?" Individuals are asked to choose one of four categories: very satisfied, satisfied, dissatisfied, or very dissatisfied. Figure 1 illustrates the distribution of these four life satisfaction responses for our analytical sample by gender and self-employment status. The vast majority select one of the first two categories, i.e., that they are either satisfied or very satisfied. For the full analytical sample, less than one percent reports being very dissatisfied and less than four percent report being dissatisfied. A large share of workers identify as satisfied and another large share identify as very satisfied. Life satisfaction questions are inherently subjective and the distinction between the top two categories may be somewhat arbitrary for some respondents, but there is still plenty of information to be gleaned from these responses and a large literature has

[4] The survey is administered via random digit dialing in each state, but smaller states typically have higher sampling rates to ensure reasonably large samples for each state, so that an unweighted analysis would give greater weight to smaller states. Using the survey weights accounts for this. Furthermore, a telephone based survey can reflect differences in phone usage and willingness to participate in the survey; e.g., sampling rates differ by age, sex, and race/ethnicity. The survey weights use post stratification techniques to adjust for observable sampling differences to make the sample nationally representative.

[5] 62 is the early retirement eligibility age for Social Security in the U.S.

used life satisfaction questions in a variety of contexts. Recent research using the BRFSS life satisfaction data include Oswald and Wu (2010, 2011), Davis and Wu (2014), Glaeser et al. (2016), Hagstrom and Wu (2016), Winters and Li (2017), and Maguire and Winters (2017).

One aspect standing out from Figure 1 is the particularly high rate of being very satisfied for self-employed females relative to the other groups. 50.6 percent of self-employed females are very satisfied, while only 46.7 percent of traditionally employed females are very satisfied. This is a very sizable gap that suggests significant benefits of self-employment for women. However, these two groups of women may differ in other dimensions affecting well-being, so we will later estimate logit regression models to more precisely estimate the gap while controlling for a number of observable characteristics. The raw difference in Figure 1 is less pronounced for men. For the self-employed and traditionally employed males, respectively, 46.5 and 46.3 percent are very satisfied, a small difference. Both self-employed and traditionally employed males have much lower rates of being very satisfied than self-employed females. While not very pronounced, Figure 1 also subtly suggests that self-employed men and women may have higher rates of being dissatisfied compared to their traditionally employed counterparts.

Given the structure of the BRFSS life satisfaction categories and the possibility of a non-monotonic relationship between self-employment and life satisfaction, we construct two binary dependent variables. Our first dependent variable is whether an individual is very satisfied with his or her life; persons who are very satisfied are coded as one and all others are coded as zero. Our second dependent variable is whether an individual reports being at least satisfied with life, which we often call satisfied or better. For this second variable, persons are coded as one if they report being either satisfied or very satisfied; persons who are dissatisfied or very dissatisfied are coded as zero. We often refer to the inverse of satisfied or better as dissatisfied or worse.

Examining these two dependent variables allows us to explore two important margins of life satisfaction and their relationship to self-employment.[6] The potential highs and lows of self-employment make it very plausible that the data might exhibit a non-monotonic relationship between self-employment and life satisfaction, i.e., life satisfaction may be neither strictly increasing nor strictly decreasing in self-employment. For example, self-employment may be associated with higher rates of being very satisfied but lower rates of being satisfied or better, i.e., self-employment could be associated with workers concentrated at the extremes of satisfaction levels and away from mid-level satisfaction. For this reason, we do not estimate an ordered model that combines these two dimensions of life satisfaction into a single variable because doing so might hide considerable heterogeneity and important insights.[7]

We examine the correlates of our two life satisfaction binary dependent variables using logit regression. For a binary dependent variable, let p equal the probability that the dependent variable equals one and $(1-p)$ equal the probability that the dependent variable is zero. Then, $logit(p) = log\left(\frac{p}{1-p}\right)$, i.e., logit is the log odds ratio. Our interest is in how these life satisfaction dependent variables differ between paid employees and self-employed workers. We also allow the relationship to differ by gender and race/ethnicity. Thus, we estimate a separate logit model for each demographic group and each of the two dependent variables. The main explanatory variable of interest is an indicator variable equal to one for persons who are self-employed and zero for persons who are paid employees.

[6] One could also examine a binary dependent variable examining the margin of life satisfaction between being dissatisfied and being very dissatisfied. However, so few people are in the very dissatisfied category that such results would be imprecise and difficult to interpret.

[7] We also do not estimate multinomial logit or probit models. Multinomial logit relies on the independence of irrelevant alternatives (IIA) assumption, which seems unlikely to hold in this setting. Probit models often perform poorly with very large datasets and a large number of control variables such as state fixed effects.

Paid employees and self-employees may differ in several observable dimensions even within gender and racial/ethnic groups. Thus, we include control variables for several individual characteristics including, age, education, marital status, household size, and geographic location. We also report results with and without controls for income for reasons discussed below. We control for age via a set of dummy variables for ages 23-27, 28-32, 33-37, 38-42, 43-47, 48-52, 53-57, and 58-61. This non-parametric specification of age effects allows for a flexible relationship, which is useful given the non-linear effect of age on subjective well-being documented in previous literature (Oswald and Wu 2011; Graham and Pozuelo 2017). We control for education by including dummy variable controls indicating if the individual's highest completed education is some high school, a high school diploma, some college, or a bachelor's degree or higher. We also include dummies for whether the person is married, divorced, widowed, separated, or lives with an unmarried partner. We account for household size with dummies for the number of adults in the household and a continuous variable for the ratio of the number of children to adults in the household. Following prior work by Oswald and Wu (2011) and Winters and Li (2017), we account for geographic location by including a full set of state dummies and five dummies for micropolitan/metropolitan status and size. The omitted categories for explanatory variables are ages 18-22, no high school education, never married, single adult in the household, living in a rural/unidentifiable area.

The BRFSS also asks respondents to report their household income in nominal U.S. dollars into one of eight predefined categories that includes: less than 10K, 10-15K, 15-20K, 20-25K, 25-35K, 35-50K, 50-75K, and 75K or more. However, a relatively large number of individuals either report that they are unsure about their income category or refuse to provide a response. Higher income is expected to increase well-being and may also be correlated with self-

employment, so income may initially seem like an obvious variable to include. However, controlling for income is complicated by a number of factors. For one, the BRFSS income measure is somewhat crude with no breakdown above 75K. It is also only reported at the household level, which prevents us from separately identifying an individual worker's own earned income from that of their spouse or other sources. Furthermore, self-employed persons may be especially likely to refuse to report their income or not know for sure exactly in which interval their income falls. The self-employed may also have greater incentives to understate their true income, e.g., they may underreport income for tax purposes and be very reluctant to reveal the true amount in a government administered survey.

Perhaps the biggest concern with controlling for income is that some workers seeking flexibility, autonomy, or the potential for future wealth from self-employment will trade these off for lower current income. In other words, income is partially dependent on the decision to be self-employed and controlling for income potentially removes part of the overall effect of self-employment. We are ultimately interested in the overall relationship between self-employment and subjective well-being, not the partial effect net of income effects. That said, income is a potentially important factor for SWB, so we estimate models both with and without controls for income. Our models controlling for income do so with a complete set of dummy variables for the income categories available including the two non-response categories.

Unfortunately, some variables of potential interest are not available in the dataset. In particular, we know nothing about citizenship, immigration status, industry, hours worked, prior work history, or personality characteristics. Some of these variables could be related to both self-employment and life satisfaction and their omission could affect the results. Similarly, individuals might sort into self-employment in complicated ways related to prior life satisfaction.

For example, people who are very satisfied with life may be especially reluctant to make major changes that could disrupt their happiness, such as a move into self-employment. Alternatively, very happy individuals may be especially optimistic and more willing to make risky investments including entry into self-employment (Graham and Pozuelo 2017).[8] The data are cross-sectional in nature, so we cannot observe the same individuals in multiple time periods. Thus, our analysis will include numerous control variables to address some potential confounding factors, but we cannot confidently interpret our results as providing causal estimates. Our results are ultimately descriptive, but much can be learned about the relationship between self-employment and individual life satisfaction from a thoughtful descriptive analysis.

We first examine all females and all males separately.[9] We then separately examine by gender the five largest race/ethnicity groups in the U.S., which includes persons who are white, black, Hispanic, Asian, or American Indian or Alaskan Native (AIAN). The groups are defined to be mutually exclusive. Persons who report Hispanic ethnicity are assigned to the Hispanic group and excluded from the other groups. Due to sample size considerations, our analysis necessarily excludes a relatively small percentage of the sampled population who report that they are another race and not Hispanic. We pool the six years of available data during the 2005-2010 period in order to increase sample sizes. Having large overall sample sizes is important for our purposes because we consider sub-samples by gender and race/ethnicity groups. Examining such fine cuts of the data is not feasible for other much smaller surveys. The BRFSS is relatively large and pooling multiple years helps achieve statistical power for making precise inferences. Sample sizes for the analytical sample are reported in Table 1 by group.

[8] Similarly, Chuluun and Graham (2016) document that firms in happier places make greater investments, especially in research and development, than firms in less happy places.
[9] Regressions for the all males and all females specifications also include dummy variable controls for race/ethnicity.

Table 1 reports sample means for the dependent variables, the main explanatory variable of interest and several control variables for each sub-sample examined.[10] The percentage that is very satisfied varies across the groups examined in this study from a low of 37.2 percent for black females to a high of 50.0 percent for white females. This is a large gap that likely reflects a combination of various socioeconomic factors. For Hispanic, Asian, and AIAN females, 39.9, 44.6, and 41.2 percent, respectively, are very satisfied. Among men, 48.2 percent of whites are very satisfied, but the rate is only 41.5, 41.7, 41.8 and 43.5 percent for black, Hispanic, Asian, and AIAN males, respectively. The rates of satisfied or better are much higher and less dispersed across demographic groups. Asian males have the highest rate satisfied or better at 97.4 percent, and black females have the lowest at 94.1 percent. Self-employment rates also vary across groups, with the highest rate for AIAN males and the lowest for black females. The racial/ethnic groups also have differing means for several of the control variables.

5. Empirical results

5.1. Results for being very satisfied

Table 2 presents logit results for the relationship between self-employment and the probability of being very satisfied. Panel A reports results without income controls, and Panel B reports results that include the income controls. Results are first reported for all females in column 1 and then for all males in column 2. Columns 3-7 report female results by race/ethnicity, and columns 8-12 report male results by race/ethnicity. Thus, Table 2 contains results for 24 separate regressions. For each regression, we report the coefficient, standard error (clustered by county), and marginal effect (estimated at the sample means of the explanatory

[10] Sub-sample means for the income dummy variables are reported in Appendix Table A1.

variables) for the self-employed dummy explanatory variable. Results for the control variables are generally as expected and not reported in Table 2 to conserve space; selected control variable results are available in Appendix Table A2 for the all females and all males specifications.

We first discuss Panel A. For all females in column 1, the coefficient estimate (0.088) for the self-employed dummy variable is positive and statistically significantly different from zero at the one percent level; the marginal effect estimate is 0.022, which corresponds to a 2.2 percentage point increase in the probability of being very satisfied. Relative to the corresponding sample mean for being very satisfied of 0.471, this is a sizable magnitude. This positive effect is consistent with our Hypothesis 1 above. Specifically, self-employed women have significantly higher rates of being very satisfied than women working as paid employees, conditional on a large and detailed set of control variables.

For the all males sample in column 2, the Panel A coefficient estimate (0.009) is small and not statistically different from zero at conventional significance levels; the marginal effect estimate is also quite small. While we cannot statistically rule out a modest positive effect for men, a large positive relationship between self-employment and being very satisfied on average for all males appears unlikely. Additionally, a test for the difference in coefficients confirms that the all females coefficient is larger than the all males coefficient at the one percent level of significance. Some difference between females and males was to be expected, but the sharp difference here is somewhat surprising. To our knowledge, this is a new result in the small literature on self-employment and subjective well-being. We offer further interpretation and discussion on this later.

The coefficient (0.085) for white females in column 3 of Panel A is statistically significant at the one percent level and very close in magnitude to the all females sample

coefficient in column 1; the marginal effects estimates in columns 1 and 3 are also very similar. The similarities between columns 1 and 3 partially reflect that white females account for the majority of the female sample. A second possible reason for the similarity is that white females and non-white females might experience similar relationships between self-employment and subjective well-being. Columns 4-7 report results for black, Hispanic, Asian, and AIAN females, respectively. The sample sizes are now much smaller and the results are much less precise; sample sizes are reported at the bottom of Table 1. Among the Panel A coefficients in columns 4-7, only the Hispanic female coefficient (0.135) is significant at the five percent level, with a corresponding marginal effect of 3.2 percentage points. However, the coefficient estimates in columns 3-7 are all positive and range from 0.045 for black females to 0.177 for Asian females. None of the minority female coefficients are statistically significantly different from the white female coefficient even at the ten percent level of significance. Thus, we cannot rule out that the self-employed coefficient for females is equal across race and ethnicity. Of course, we should avoid interpreting an inability to reject a null hypothesis as indicating that the null is true, especially when the minority female estimates are quite noisy.

The results for males by race/ethnicity in columns 8-12 suggest that the small average effect for males in column 2 may be hiding meaningful heterogeneity across race/ethnicity, with a positive coefficient for white males and a large negative coefficient for Asian males. Column 8 of Panel A presents a white male coefficient estimate of 0.039 that is statistically different from zero at the five percent level of significance; the white male coefficient is different from the white female coefficient at the ten percent level of significance. The marginal effect estimate of 1.0 percentage point for white men is moderately large but smaller than all of the estimates for females. Results for male minority groups in columns 9-12 all produce negative coefficient

estimates, but only the coefficient for Asian males (-0.197) is statistically significant; it is statistically different from both zero and from the white male coefficient at the five percent significance level. The marginal effect estimate for Asian males is -0.048, which is quite large in magnitude. It indicates that the probability of being very satisfied among Asian males is 4.8 percentage points lower for self-employed workers than for paid employees. However, recall that the BRFSS contains no information on citizenship or immigration status, which prevents us from controlling for a potentially important factor related to both self-employment and life satisfaction for this group. Thus, the result for Asian males is suggestive, but we cannot draw strong conclusions for this group given the very high incidence of immigrants in the U.S. Asian population and our inability to account for this empirically.

Panel B provides results for logit regressions that include the control variables for household income level. A comparison between corresponding results in Panels A and B for each demographic group reveals that adding the income controls increases the coefficient estimates (makes them more positive or less negative) in every instance. However, the changes in coefficients are relatively modest and in no case is the difference between corresponding coefficients in Panels A and B significant at the ten percent level. The implication from column 1 is qualitatively robust between Panels A and B. Specifically, the relationship between self-employment and being very satisfied for the all females sample is positive and statistically significant with large magnitude. The coefficient estimate for males in column 2 of panel B is 0.031 and statistically significant at the ten percent level with a marginal effect estimate corresponding to 0.8 percentage points.

For white females, the Panel B coefficient in column 3 equals 0.119 and the marginal effect corresponds to 3.0 percentage points. For non-white females in columns 4-7, the

coefficient estimates are again all positive, but only the Hispanic female coefficient (0.157) is statistically significant, the same pattern seen in Panel A. For white males, the self-employed coefficient (0.065) is again significant in Panel B, now with a marginal effect equal to 1.8 percentage points. The minority male coefficient estimates are again all negative, but none are significant at the five percent level; the Asian male coefficient has a p-value equal to 0.103.

As discussed above, there are some limitations with controlling for income in our analysis. Most notably, workers may trade off income for non-pecuniary benefits in deciding between self-employment and working as a paid employee. Controlling for income would then on average take away one of the potential effects of self-employment and not accurately illustrate the overall relationship. Thus, one should be cautious in interpreting the results with income controls. However, these results are an obvious sensitivity check to consider, and we think it useful to report results both without and with the income controls. For example, one might be concerned that the positive self-employed coefficient for women could be driven by women with high income spouses or other income sources sorting into self-employment for the non-pecuniary benefits. In such a case, omitting income controls could induce a positive relationship that would be eliminated by including income controls. This is not what we observe. The self-employed coefficient for the all females sample is positive and statistically significant both without and with the income controls. If anything, the relationship is even stronger when controlling for income.

5.2. Results for being satisfied or better

Table 3 presents results for logit regressions with the binary dependent variable defined as whether an individual is satisfied or better with his or her life.[11] This dependent variable combines persons who are satisfied and persons who are very satisfied into one category. The remaining (zero) category includes persons who are dissatisfied or very dissatisfied, i.e., dissatisfied or worse. This dependent variable complements the analysis in Table 2 but focuses on a different margin of life satisfaction. While most people are either satisfied or better, a non-trivial percent are dissatisfied or worse, and this is an important margin of life satisfaction to study. The structure of Table 3 follows that in Table 2. Panel A reports results without income controls, and Panel B includes income controls. We again have twelve columns corresponding to different groups by gender and race/ethnicity.

The first two columns of panel A report negative coefficients on the self-employed dummy for both all females (-0.121) and all males (-0.245) that are statistically significantly different from zero at the one percent level. The corresponding marginal effects are -0.004 for women and -0.007 for men. These results indicate that self-employed workers are on average less likely to be satisfied or better, which can equivalently be interpreted as self-employed workers are on average more likely to be dissatisfied or worse. The marginal effects may initially seem relatively small, but magnitudes of 0.4 and 0.7 percentage points are actually relatively large considering the sample means in Table 1 indicating that only 3.9 percent of working women and 3.6 percent of working men are dissatisfied or worse. While relatively few workers are dissatisfied or worse, the self-employed are disproportionately represented among them, especially among men. A test of the difference between female and male coefficients in columns

[11] Selected control variable results for the all females and all males specifications are available in Appendix Table A3.

1-2 of Panel A indicates that they are significantly different at the five percent level of significance. Thus, both coefficients are negative, but the male coefficient is significantly larger in magnitude.

Column 3 of Panel A reports a white female coefficient of -0.144 that is significantly different from zero at the one percent level. The coefficient estimates in columns 4-7 for the female minority groups are noisily estimated and in no case statistically significantly different from zero or the white female coefficient. Coefficients estimates for black and AIAN females are similar to white females, but the Hispanic coefficient estimate is essentially zero and the Asian female coefficient (0.218) is positive though not significant. The male coefficients in columns 8-12 of Panel A are all negative and statistically significantly different from zero at least at the five percent level for all but Asian males, which has a p-value of 0.13. The white male coefficient of -0.151 is very similar to the white female coefficient. However, the negative coefficients are even larger in magnitude for minority males with coefficients of -0.449, -0.372, -0.495, and -0.651 for black, Hispanic, Asian, and AIAN males, respectively. The black male and AIAN male coefficients are both statistically different from the white male coefficient at the ten percent level of significance. The marginal effects for minority males are also especially large relative to variable means.

The Panel B results with income controls differ somewhat from Panel A. In all cases but Asian females, the income controls make the coefficients less negative (or more positive). Importantly, the all females coefficient (-0.044) is meaningfully reduced in magnitude and no longer statistically significantly different from zero at the ten percent level of significance. The all males coefficient (-0.183), however, is still statistically significant at the one percent level and large in magnitude with a corresponding marginal effect of -0.5 percentage points. Separating

females by race/ethnicity, none of the coefficient estimates are statistically significant in Panel B. Separating males by race/ethnicity, the coefficient estimates are again statistically significant at the five percent level for black, Hispanic, and AIAN males and the Asian male coefficient now has a p-value of 0.145. However, the white male coefficient decreases in magnitude and is no longer statistically significant.

6. Summary and implications

6.1. Summary of results

Self-employment has the potential to either increase or decrease individual life satisfaction and there are reasons to expect the relationship might differ by gender and race/ethnicity. Furthermore, self-employment may have a non-monotonic relationship with life satisfaction, e.g., associated with both high rates of being very satisfied and high rates of being dissatisfied or worse. We use individual level data from the 2005-2010 BRFSS to examine these relationships. We find several notable results that increase scholarly understanding of the relationship between self-employment and subjective well-being. The relationship exhibits considerable nuance that has gone overlooked in the modest prior literature.

We first explore the relationship between self-employment and the probability of being very satisfied with one's life. Here we find that self-employed women have significantly higher rates of being very satisfied than comparable female paid employees. The marginal effect estimate is 2.2 percentage points for our preferred specification, which is a meaningfully large magnitude. However, for the all males sample, self-employment is not significantly associated with higher rates of being very satisfied. Digging into results by race/ethnicity, we find that self-employment is actually associated with higher rates of being very satisfied for white men and

lower rates of being very satisfied for Asian males. Our preferred results do not control for income, but we also conduct sensitivity analysis that includes controls for household income. Adding the income controls makes the self-employed coefficient estimates become slightly more positive.

We next explore the empirical relationship between self-employment and a different margin of life satisfaction, whether satisfied or better. Being satisfied or better is defined to include persons who report being either satisfied or very satisfied with their life, and this includes roughly 96 percent of all workers in the BRFSS. The remaining roughly 4 percent are either dissatisfied or very dissatisfied, i.e., dissatisfied or worse. Our results indicate that the self-employed are significantly less likely than paid employees to be satisfied or better and therefore more likely to be dissatisfied or worse. This adverse relationship is larger in magnitude for men than women and especially large for minority males. Thus, our results indicate a non-monotonic relationship between self-employment and life satisfaction.

6.2. Implications for well-being researchers

This work has found significant differences in the effects of SWB on self-employment by gender and race. This has important implications for future research using SWB and other well-being data. When data permit, researchers should consider the potentially disparate relationships between SWB and other outcome variables. Previous research has examined the relationship between SWB and a variety of important labor market and demographic characteristics such as income, employment status, education, and family structure; much of this work has examined relationships separately by gender, but due to data limitations race/ethnicity differences have been less frequently studied. (Clark and Oswald 1994; Winkelmann and Winkelmann 1998;

Böckerman, and Ilmakunnas 2009; Oswald and Wu 2011; MacKerron 2012; Florida, Mellander and Rentfrow 2013; Herbst and Lucio 2016; Winters and Li 2016). Future analyses of potential differences by gender and race/ethnicity would provide additional insight.

Of course, not all explanatory variables will be expected to have significant heterogeneous effects on well-being by gender and race. Ideally, the focus of heterogeneous effects will be tied to hypotheses based on theory and previous evidence. There is a large literature documenting that many labor market outcomes differ widely by gender and race, so labor market outcomes are certainly an area of interest. We focus on self-employment both because of the considerable interest in self-employment overall and the realization that women and minorities are significantly underrepresented in self-employment. Given the large racial disparities in many other outcomes such as education and unemployment, heterogeneous effects of these variables on SWB likely warrant future scholarly attention as well.

We also document non-monotonic relationships between self-employment and SWB, i.e., self-employment is associated with higher rates of being very satisfied and higher rates of being dissatisfied or worse. There are important theoretical reasons to expect this non-monotonic relationship with SWB might occur for self-employment. We strongly urge any future study on SWB and self-employment to account for likely non-monotonicity. Linear and even ordinal models that assume a monotonic relationship obscure the nuanced relationship between self-employment and SWB and likely lead to inaccurate results. The bulk of the overall SWB literature has implicitly assumed monotonicity without testing for it. Many explanatory variables are likely to have monotonic relationships with SWB, so this is likely not a major issue for many variables of interest. However, it is an important issue for studies on self-employment and SWB.

Furthermore, at least some other variables might be expected to have non-monotonic relationships with SWB as well, so this issue likely warrants consideration more broadly.

6.3. Additional implications for self-employment researchers

Our analysis also has implications for researchers studying self-employment decisions and outcomes more broadly. The success of a business venture is often narrowly measured based on the amount of money made. While that can be a useful metric for some purposes, individual well-being often depends on much broader factors. Many people enter self-employment for the non-financial benefits and consider their venture successful even if they do not end up making substantial profits. Scholars recognize this, but it often appears underappreciated. Our paper emphasizes that it is important to look at broader measures of well-being such as self-reported life satisfaction levels.

More generally, scholars need to continually consider the goals that individuals have when starting new ventures and what those founders view as a success. There are certainly a wide variety of goals. The typical goals might differ based on a number of factors including gender, race/ethnicity, age, and geographic location. For example, women on average may especially care about work hours flexibility and work-life balance (Patrick, Stephens, and Weinstein 2016; Wiswall and Zafar 2017). However, it is also important to recognize that the goals of self-employment likely vary even across individuals within a particular demographic group. Researchers don't usually observe the true goals of the self-employed and goals can be multi-faceted. Some humility on the part of researchers is warranted to avoid making overly strong and inaccurate conclusions about what ventures are successful and what factors contribute to venture success.

6.4. Implications for policymakers

Policymakers across many countries have long lauded entrepreneurial spirit and the many economic contributions of entrepreneurs. Economic growth and societal well-being depend on entrepreneurs developing and implementing new ideas to create new products, processes, and markets. Facilitating the social benefits of entrepreneurship is an important concern for policy makers. Furthermore, there is a general expectation that diverse experiences and backgrounds are important for the development of new ideas. Unfortunately, women and minorities tend to be underrepresented among entrepreneurs in the U.S. and many other countries. This adversely affects the diversity of ideas and exacerbates broader concerns about inequality.

Our study cannot address all the reasons why women and minorities are underrepresented among the self-employed, but we believe this is an important area for future research and evidence-based policy. To the extent there are barriers from discrimination or inequitable institutional constraints, the simple policy prescription is to lower such barriers, but that it easier said than done. For instance, women or minority entrepreneurs may experience worse access to financial capital that hinders entry and persistence in self-employment. If so, there is some scope for modest policy interventions that increase access to financial capital. However, new businesses have high failure rates, regardless of the founders' demographics, so pumping substantial public dollars into startups might not be ideal either.

Alternatively, it might be more effective to improve transparency in the lending process by requiring some financial institutions to provide better information to the public about who their loans go to and how they perform. This already exists to some extent, but the data collection and dissemination could be expanded and improved to make it more easily digestible. This could help publicly shame lenders who are egregiously discriminatory and discourage

discriminatory behavior. Better information could also help women and minority entrepreneurs more quickly find lenders friendlier to them. Of course, information could be misused and reporting can be costly, so policies need to be designed with care and evaluations done periodically to see if the policies are helpful and not creating adverse unintended effects.

There are also reasons to believe that networking and mentorship can play important roles for budding entrepreneurs starting and maintaining their own ventures. To the extent that traditional institutions disadvantage women and minorities in networking and mentorship, local initiatives to encourage them could be useful. Women are becoming increasingly active in self-employment, which may create greater opportunities for peer networking and mentorship. There is also potential for expanding peer networking and mentorship opportunities for minorities, but also possible challenges for some small groups in many local areas to the extent that any sort of public initiative requires a critical mass of interested and willing participants in the local area. That said, communication technologies are changing how people network, so physical constraints may not be as important as in the past.

Finally, we wish to reiterate that women especially benefit from self-employment in terms of life-satisfaction and the goals of self-employment differ across individuals and across groups. Some women may especially benefit from self-employment for non-financial reasons. Policies promoting self-employment should avoid taking a one size fits all approach. Instead, policies should be designed recognizing that individual entrepreneurs have heterogeneous goals. Most startups will not be the next big thing that transforms society and creates substantial economic growth. However, many small startups still have potential to improve the well-being of their founders, especially in non-financial dimensions. The importance of this for policy should

not be overlooked. A few big startup successes is great for society, but a very large number of smaller successes is also beneficial.

6.5. Limitations and directions for future research

While this research provides important insights into the role of gender and race/ethnicity on the relationship between self-employment and SWB, there are some limitations. As noted previously, there are some factors, such as immigration status, which are not observable for this analysis. Future work on immigration status using other datasets may point to a more nuanced picture with regards to the role of SWB and minority men in particular. There may be other unobservable and confounding factors that have led individuals to select into self-employment, which we are unable to control for. This may be particularly true in terms of the reasons for pursuing self-employment, necessity versus opportunity, that could have important implications for the effects on well-being. We would expect opportunity entrepreneurs to have a higher SWB than necessity entrepreneurs but are unable to distinguish the groups in our analysis.

The strength of our dataset is the large sample size available, but an important limitation is that we cannot observe the same individuals at multiple points in time. Longitudinal datasets that can track individuals before and after entering or leaving self-employment have great potential to increase understanding in many dimensions, but they are often small, especially in the United States. A sufficiently sized longitudinal study would allow users to control for unobserved characteristics, such as ability, and potentially allow one to identify the causal relationships between SWB and self-employment. Additionally, longitudinal data could be used to better understand how SWB varies over time in self-employment, e.g., do female and minority entrepreneurs become happier over time as their ventures mature and become more stable? Or

does early optimism in self-employment create initially high life satisfaction levels that eventually come down for most? Future work using longitudinal data might also provide additional insights into the mechanisms that determine how self-employment affects SWB. For example, do women particularly benefit from self-employment because of greater flexibility in allocating their time or from greater opportunities for leadership and control that might have been hindered by glass ceilings in paid employment. These are important issues about which we know relatively little. More work is clearly needed to better understand how and why self-employment affects individual well-being, especially for women and minorities.

We also emphasize that our results may be somewhat specific to the particular economic, cultural, and legal institutions of the U.S. and not readily extrapolate to other countries. Other countries with very different gender norms or racial histories may exhibit different patterns. Similarly, self-employment rates differ considerably across countries, and so might the relative well-being of the self-employed and traditional employees. There are likely some similarities across developed countries, but ultimately more research is needed. We suspect that the relationship between self-employment and subjective well-being will exhibit heterogeneity across gender and race in many other countries as well.

References

Acs, Zoltan. "How is entrepreneurship good for economic growth?" *Innovations* 1, no. 1 (2006): 97-107.

Akcigit, Ufuk, and William R. Kerr. "Growth through heterogeneous innovations." No. w16443. National Bureau of Economic Research, Working Paper 2010.

Altonji, Joseph G., and Rebecca M. Blank. "Race and gender in the labor market." *Handbook of Labor Economics* 3 (1999): 3143-3259.

Alvarez, Francisco. "The Top 7 Benefits of Being an Entrepreneur." Linkedin. (2014) https://www.linkedin.com/pulse/20140707163719-331848598-the-top-7-benefits-of-being-an-entrepreneur (accessed 07/31/17)

Baumol, William J., and Robert J. Strom. "Entrepreneurship and economic growth." *Strategic Entrepreneurship Journal* 1, no. 3-4 (2007): 233-237.

Benz, Matthias, and Bruno S. Frey. "Being independent raises happiness at work." *Swedish Economic Policy Review* 11, no. 2 (2004): 95-134.

Benz, Matthias, and Bruno S. Frey. "Being independent is a great thing: Subjective evaluations of self-employment and hierarchy." *Economica* 75, no. 298 (2008a): 362-383.

Benz, Matthias, and Bruno S. Frey. "The value of doing what you like: Evidence from the self-employed in 23 countries." *Journal of Economic Behavior & Organization* 68, no. 3 (2008b): 445-455.

Bianchi, Milo. "Financial development, entrepreneurship, and job satisfaction." *Review of Economics and Statistics* 94, no. 1 (2012): 273-286.

Blanchflower, David G. "Self-employment in OECD countries." *Labour Economics* 7, no. 5 (2000): 471-505.

Blanchflower, David G., Phillip B. Levine, and David J. Zimmerman. "Discrimination in the small-business credit market." *The Review of Economics and Statistics* 85, no. 4 (2003): 930-943.

Blanchflower, David G., Andrew Oswald, and Alois Stutzer. "Latent entrepreneurship across nations." *European Economic Review* 45, no. 4 (2001): 680-691.

BLS. "Monthly Labor Review – September 2010." Bureau of Labor Statistics. (2010) https://www.bls.gov/opub/mlr/2010/09/art2full.pdf, p. 21. (accessed 08/03/17)

Bobbitt-Zeher, Donna. "Gender discrimination at work: Connecting gender stereotypes, institutional policies, and gender composition of workplace." *Gender & Society* 25, no. 6 (2011): 764-786.

Böckerman, P. and Ilmakunnas, P. “Unemployment and self-assessed health: evidence from panel data.” *Health Economics, 18 no.* 2, (2009): pp.161-179.

Borjas, George J., and Stephen G. Bronars. "Consumer discrimination and self-employment." *Journal of Political Economy* 97, no. 3 (1989): 581-605.

Carter, Sara, Eleanor Shaw, Wing Lam, and Fiona Wilson. "Gender, entrepreneurship, and bank lending: The criteria and processes used by bank loan officers in assessing applications." *Entrepreneurship Theory and Practice* 31, no. 3 (2007): 427-444.

Chuluun, Tuugi, and Carol Graham. “Local happiness and firm behavior: Do firms in happy places invest more?” *Journal of Economic Behavior & Organization*, no. 125, (2016): 41-56.

Clark, Andrew E., and Andrew J. Oswald. "Unhappiness and unemployment." *The Economic Journal* 104, no. 424 (1994): 648-659.

Davis, L. and Wu, S. “Social comparisons and life satisfaction across racial and ethnic groups: The effects of status, information and solidarity.” *Social Indicators Research*, 117 no. 3 (2014): 849-869.

Deci, E. L., & Ryan, R. M. “The ‘what’ and ‘why’ of goal pursuits: Human needs and the self-determination of behavior.” *Psychological Inquiry*, 11 no. 4 (2000): 227-268.

Deskins, J. and Ross, A. “Economic Freedom and Racial Differences in Entrepreneurship: Evidence from US States.” *Public Finance Review*, Forthcoming.

Failla, Virgilio, Francesca Melillo, and Toke Reichstein. "Entrepreneurship and employment stability—Job matching, labour market value, and personal commitment." *Journal of Business Venturing* 32, no. 2 (2017): 162-177.

Fairlie, Robert W. "The absence of the African-American owned business: An analysis of the dynamics of self-employment." *Journal of Labor Economics* 17, no. 1 (1999): 80-108.

Fairlie, Robert W., and Bruce D. Meyer. "Ethnic and racial self-employment differences and possible explanations." *Journal of Human Resources* (1996): 757-793.

Florida, Richard, Charlotta Mellander, and Peter J. Rentfrow. “The Happiness of Cities.” *Regional Studies*, 47 no. 4 (2013): 613-627.

Forbes. “The World’s Most Powerful Female Entrepreneurs.” Forbes Media LLC. (2017) https://www.forbes.com/pictures/lml45effkg/the-worlds-most-powerful-female-entrepreneurs/#39cea1b21e48 (accessed 07/31/17)

Gardner, Jonathan, and Andrew J. Oswald. “Money and Mental Wellbeing: A Longitudinal Study of Medium-Sized Lottery Wins.” *Journal of Health Economics*, 26 no. 1, (2007): 49-60.

Gennaioli, Nicola, Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer. “Human Capital and Regional Development.” *The Quarterly Journal of Economics*, 128, no. 1 (2013): 105–164, https://doi.org/10.1093/qje/qjs050

Glaeser, Edward L., Joshua D. Gottlieb, and Oren Ziv. “Unhappy Cities.” *Journal of Labor Economics*, 34, no. S2, 2016: S129-S182.

Glaeser, Edward L., Sari Pekkala Kerr, and William R. Kerr. "Entrepreneurship and urban growth: An empirical assessment with historical mines." *Review of Economics and Statistics* 97, no. 2 (2015): 498-520.

Graham, Carol. 2017. *Happiness for All? Unequal Hopes and Lives in Pursuit of the American Dream*. Princeton University Press.

Graham, Carol and Julia R. Pozuelo. “Happiness, stress, and age: how the U curve varies across people and places.” *Journal of Population Economics*, 30 no. 1 (2017): 225-264.

Hagstrom, P. and Wu, S. “Are pregnant women happier? Racial and ethnic differences in the relationship between pregnancy and life satisfaction in the United States.” *Review of Economics of the Household*, 14 no. 3, (2016): 507-527.

Hamilton, Barton H. "Does entrepreneurship pay? An empirical analysis of the returns to self-employment." *Journal of Political Economy* 108, no. 3 (2000): 604-631.

Heilman, Madeline E., and Suzette Caleo. "Gender Discrimination in the Workplace." In *The Oxford Handbook of Workplace Discrimination*. 2015.

Hendricks, Drew. “Diversity in Entrepreneurship: The Emerging Face of Tech.” Forbes Media LLC. (2015) https://www.forbes.com/sites/drewhendricks/2015/03/16/diversity-in-entrepreneurship-the-emerging-face-of-tech/#87245d91cc69 (accessed 08/11/17)

Henrekson, Magnus, and Tino Sanandaji. "Small business activity does not measure entrepreneurship." *Proceedings of the National Academy of Sciences* 111, no. 5 (2014): 1760-1765.

Herbst, Chris M. and Joanna Lucio. “Happy in the Hood? The Impact of Residential Segregation on Self-Reported Happiness.” *Journal of Regional Science*, 56 no. 3 (2016): 494-521.

Hessels, Jolanda, Cornelius A. Rietveld, and Peter van der Zwan. "Self-employment and work-related stress: The mediating role of job control and job demand." *Journal of Business Venturing* 32, no. 2 (2017): 178-196.

Hendricks, Drew. “15 Female Entrepreneurs to Watch Out for in 2017.” Inc.com. (2017) https://www.inc.com/drew-hendricks/15-female-entrepreneurs-to-follow-in-2017.html (accessed 07/31/17)

Huppert, Felicia A. "Psychological well-being: Evidence regarding its causes and consequences." *Applied Psychology: Health and Well-Being* 1, no. 2 (2009): 137-164.

Hyde-Keller, O’rya. “Entrepreneurship at the intersection of diversity and inequality.” Brown University: News from Brown. (2016) https://news.brown.edu/articles/2016/12/entrepreneurship-diversity (08/11/17)

Intern Group. “7 Benefits of a Career in Entrepreneurship.” The Intern Group. (2016) https://www.theinterngroup.com/our-blog/7-benefits-of-being-an-entrepreneur-and-a-career-in-entrepreneurship/ (accessed 07/31/17)

Jenkins, Anna S., Johan Wiklund, and Ethel Brundin. "Individual responses to firm failure: Appraisals, grief, and the influence of prior failure experience." *Journal of Business Venturing* 29, no. 1 (2014): 17-33.

Keyes, Corey LM. "Subjective well-being in mental health and human development research worldwide: An introduction." *Social Indicators Research:* 77, no. 1 (2006): 1-10.

Keyes, Corey LM. "The mental health continuum: From languishing to flourishing in life." *Journal of Health and Social Behavior*: (2002) 207-222.

Kobeissi, Nada. "Gender factors and female entrepreneurship: International evidence and policy implications." *Journal of International Entrepreneurship*, no. 1 (2010): 1-35.

Levine, Ross, and Yona Rubinstein. "Smart and illicit: who becomes an entrepreneur and do they earn more?" *The Quarterly Journal of Economics* 132, no. 2 (2017): 963-1018.

MacKerron, George. "Happiness economics from 35 000 feet." *Journal of Economic Surveys* 26, no. 4 (2012): 705-735.

Maguire, Karen, and John V. Winters. "Energy Boom and Gloom? Local Effects of Oil and Natural Gas Drilling on Subjective Well-Being." *Growth and Change* (2017).

Mahuteau, S. and Zhu, R. "Crime Victimisation and Subjective Well- Being: Panel Evidence from Australia." *Health economics*, 25 no. 11, (2016): 1448-1463.

Malach-Pines, Ayala, and Dafna Schwartz. "Now you see them, now you don't: gender differences in entrepreneurship." *Journal of Managerial Psychology* 23, no. 7 (2008): 811-832.

Marlow, Susan, and Dean Patton. "All credit to men? Entrepreneurship, finance, and gender." *Entrepreneurship Theory and Practice* 29, no. 6 (2005): 717-735.

Minniti, Maria, and Carlo Nardone. "Being in someone else's shoes: the role of gender in nascent entrepreneurship." *Small Business Economics* 28, no. 2 (2007): 223-238.

Oswald, Andrew J. and Stephen Wu. Well-being across America. *Review of Economics and Statistics*, 93 no. 4 (2011): 1118-1134.

Oswald, Andrew J., and Stephen Wu. "Objective confirmation of subjective measures of human well-being: Evidence from the USA." Science 327, no. 5965 (2010): 576-579.

Patel, Neil. "4 Benefits of Being an Entrepreneur beyond Being Rich." Forbes Media LLC. (2016) https://www.forbes.com/sites/neilpatel/2016/04/18/4-huge-life-benefits-of-being-an-entrepreneur-being-rich-isnt-one-of-them/#46f4c92a7fde (accessed 07/31/17)

Patrick, Carlianne, Heather Stephens, and Amanda Weinstein. "Where are all the self-employed women? Push and pull factors influencing female labor market decisions." *Small Business Economics*, 46 no. 3 (2016): 365-390.

Patzelt, Holger, and Dean A. Shepherd. "Negative emotions of an entrepreneurial career: Self-employment and regulatory coping behaviors." *Journal of Business Venturing* 26, no. 2 (2011): 226-238.

Pofeldt, Elaine. “Why Women Entrepreneurs will be the Economic Force to reckon with in 2017.” CNBC.com. (2017) https://www.cnbc.com/2017/02/28/why-women-entrepreneurs-will-be-economic-force-to-reckon-with-in-2017.html (accessed 07/31/17)

Ransom, Diana. “Do Women Entrepreneurs Face Gender Discrimination?” Entrepreneur Media, Inc. (2011) https://www.entrepreneur.com/article/219564 (accessed 08/09/17)

Roche, Kristen. "Female self-employment in the United States: an update to 2012," *Monthly Labor Review*, U.S. Bureau of Labor Statistics, October 2014.
(2014) https://doi.org/10.21916/mlr.2014.36.

Ryff, C. D. “Happiness is everything, or is it? Explorations on the meaning of psychological wellbeing.” *Journal of Personality and Social Psychology*, 57 no. 6, (1989): 1069.

Saridakis, George, Susan Marlow, and David J. Storey. "Do different factors explain male and female self-employment rates?" *Journal of Business Venturing* 29, no. 3 (2014): 345-362.

SBA. “Small Business Facts: Do Economic or industry factors affect business survival.” SBA: Office of Advocacy. (2012) https://www.sba.gov/sites/default/files/Business-Survival.pdf (accessed 08/09/17)

Schneck, Stefan. "Why the self-employed are happier: Evidence from 25 European countries." *Journal of Business Research* 67, no. 6 (2014): 1043-1048.

Schumpeter, Joseph A. 1934. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle.* Transaction Publishers: New Brunswick.

SBT. “20 Women Entrepreneurs who are changing the World.” Small Business Trends. (2017) https://smallbiztrends.com/2017/05/successful-women-entrepreneurs.html (accessed 07/31/17)

Segall, Marcia. “Diversity in Entrepreneurship: Change Catalyst.” Techstars Central LLC. (2016) http://www.techstars.com/content/accelerators/diversity-entrepreneurship-change-catalyst/ (accessed 08/11/17)

Stephens, Heather M., and Mark D. Partridge. “Do entrepreneurs enhance economic growth in lagging regions?” *Growth and Change*, 42 no. 4 (2011): 431-465.

Stephens, Heather M., Mark D. Partridge, and Alessandra Faggian. “Innovation, entrepreneurship and economic growth in lagging regions.” *Journal of Regional Science*, 53 no. 5 (2013): 778-812.

Thébaud, Sarah. "Status beliefs and the spirit of capitalism: Accounting for gender biases in entrepreneurship and innovation." *Social Forces* 94, no. 1 (2015): 61-86.

Warnecke, Tonia. "Entrepreneurship and gender: An institutional perspective." *Journal of Economic Issues* 47, no. 2 (2013): 455-464.

Wennberg, Karl, Johan Wiklund, Dawn R. DeTienne, and Melissa S. Cardon. "Reconceptualizing entrepreneurial exit: Divergent exit routes and their drivers." *Journal of Business Venturing* 25, no. 4 (2010): 361-375.

Winkelmann, Liliana, and Rainer Winkelmann. "Why are the unemployed so unhappy? Evidence from panel data." *Economica* 65, no. 257 (1998): 1-15.

Winters, John V. and Yu Li. “Urbanization, Natural Amenities, and Subjective Well-Being: Evidence from US Counties.” *Urban Studies*, 54 no. 8 (2016): 1956-1973.

Wiswall, Matthew, and Basit Zafar. “Preference for the Workplace, Investment in Human Capital, and Gender.” Quarterly Journal of Economics, Forthcoming.

Zhang, Zhen, Michael J. Zyphur, Jayanth Narayanan, Richard D. Arvey, Sankalp Chaturvedi, Bruce J. Avolio, Paul Lichtenstein, and Gerry Larsson. "The genetic basis of entrepreneurship: Effects of gender and personality." *Organizational Behavior and Human Decision Processes* 110, no. 2 (2009): 93-107.


Figure 1: Life Satisfaction Rates by Gender and Self-Employment Status
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percentage
Females
Males
Self-Employed
Traditional Employees
Self-Employed
Traditional Employees
Very satisfied
Satisfied
Dissatisfied
Very Dissatisfied

Table 1: Weighted Sample Means by Sex and Race/Ethnicity

	(1) All Females	(2) All Males	(3) White Females	(4) Black Females	(5) Hispanic Females	(6) Asian Females	(7) AIAN Females	(8) White Males	(9) Black Males	(10) Hispanic Males	(11) Asian Males	(12) AIAN Males
Very satisfied	0.471	0.463	0.500	0.372	0.399	0.446	0.412	0.482	0.415	0.417	0.418	0.435
Satisfied or better	0.961	0.964	0.965	0.941	0.955	0.972	0.953	0.966	0.949	0.964	0.974	0.943
Self-employed	0.110	0.151	0.113	0.075	0.119	0.108	0.132	0.159	0.133	0.125	0.130	0.164
Ages 23-27	0.093	0.095	0.087	0.105	0.124	0.087	0.092	0.083	0.104	0.144	0.086	0.127
Ages 28-32	0.118	0.128	0.109	0.140	0.147	0.140	0.121	0.117	0.131	0.172	0.148	0.124
Ages 33-37	0.126	0.137	0.118	0.145	0.153	0.161	0.129	0.130	0.143	0.158	0.176	0.124
Ages 38-42	0.139	0.145	0.136	0.153	0.145	0.164	0.132	0.142	0.151	0.146	0.177	0.150
Ages 43-47	0.142	0.134	0.146	0.129	0.127	0.137	0.134	0.141	0.133	0.105	0.136	0.136
Ages 48-52	0.142	0.128	0.152	0.122	0.105	0.122	0.136	0.140	0.119	0.081	0.108	0.112
Ages 53-57	0.114	0.101	0.126	0.092	0.069	0.089	0.109	0.115	0.085	0.054	0.077	0.083
Ages 58-61	0.063	0.058	0.071	0.051	0.036	0.047	0.054	0.066	0.047	0.027	0.046	0.053
Max ed: some high school	0.037	0.057	0.025	0.050	0.104	0.015	0.080	0.037	0.063	0.152	0.015	0.108
Max ed: high school diploma	0.237	0.270	0.230	0.279	0.271	0.108	0.299	0.263	0.343	0.295	0.108	0.353
Max ed: some college	0.286	0.245	0.291	0.316	0.252	0.173	0.330	0.255	0.288	0.200	0.137	0.274
Max ed: bachelor's or higher	0.421	0.393	0.450	0.350	0.256	0.691	0.276	0.437	0.297	0.171	0.728	0.227
Married	0.628	0.670	0.678	0.388	0.536	0.727	0.518	0.702	0.536	0.585	0.756	0.556
Divorced	0.109	0.065	0.106	0.142	0.101	0.055	0.146	0.068	0.085	0.046	0.024	0.110
Widowed	0.019	0.005	0.018	0.027	0.019	0.011	0.026	0.005	0.008	0.004	0.002	0.010
Separated	0.026	0.015	0.016	0.054	0.059	0.013	0.034	0.010	0.035	0.028	0.007	0.017
Partner	0.042	0.048	0.038	0.031	0.080	0.020	0.065	0.036	0.041	0.111	0.014	0.064
Two adults in household	0.568	0.595	0.608	0.440	0.457	0.534	0.519	0.632	0.537	0.467	0.571	0.552
Three+ adults in household	0.175	0.176	0.167	0.180	0.219	0.188	0.181	0.166	0.197	0.212	0.160	0.170
Kid/adult ratio in household	0.504	0.486	0.458	0.668	0.643	0.433	0.590	0.470	0.488	0.567	0.453	0.506
Micropolitan area	0.091	0.088	0.105	0.058	0.043	0.033	0.141	0.103	0.061	0.045	0.023	0.157
Small MSA (population 0-250K)	0.092	0.091	0.104	0.065	0.058	0.033	0.101	0.104	0.074	0.054	0.031	0.113
Medium MSA (pop. 250K-1M)	0.197	0.196	0.204	0.168	0.188	0.172	0.181	0.204	0.174	0.185	0.155	0.187
Large MSA (pop. 1-4M)	0.235	0.234	0.239	0.235	0.219	0.219	0.199	0.241	0.233	0.213	0.226	0.182
Very large MSA (pop. 4M+)	0.257	0.262	0.202	0.391	0.410	0.508	0.150	0.205	0.372	0.400	0.531	0.139
Unweighted observations	591,394	440,524	477,462	54,419	38,786	11,674	9,053	366,143	25,506	31,666	10,391	6,818

Notes: omitted categories for explanatory variables are ages 18-22, no high school education, never married, single adult in the household, living in a rural/unidentifiable area. Regression models also include controls for year, month, and state.

Table 2: Logit Results for Self-Employment Relationship with Being Very Satisfied

	(1) All Females	(2) All Males	(3) White Females	(4) Black Females	(5) Hispanic Females	(6) Asian Females	(7) AIAN Females	(8) White Males	(9) Black Males	(10) Hispanic Males	(11) Asian Males	(12) AIAN Males
A. No Income Controls												
Self-employed	0.088***	0.009	0.085***	0.045	0.135**	0.177	0.105	0.039**	-0.068	-0.022	-0.197**	-0.045
	(0.019)	(0.017)	(0.018)	(0.085)	(0.068)	(0.125)	(0.152)	(0.018)	(0.072)	(0.067)	(0.098)	(0.153)
	[0.022]	[0.002]	[0.021]	[0.011]	[0.032]	[0.044]	[0.025]	[0.010]	[-0.016]	[-0.005]	[-0.048]	[-0.011]
B. With Income Controls												
Self-employed	0.117***	0.031*	0.119***	0.068	0.157**	0.199	0.165	0.065***	-0.029	-0.007	-0.156	-0.038
	(0.019)	(0.017)	(0.019)	(0.085)	(0.068)	(0.131)	(0.155)	(0.018)	(0.070)	(0.064)	(0.095)	(0.152)
	[0.029]	[0.008]	[0.030]	[0.016]	[0.037]	[0.049]	[0.040]	[0.016]	[-0.007]	[-0.002]	[-0.038]	[-0.009]

Notes: Each combination of column and panel corresponds to a separate regression. The dependent variable is a binary indicator for whether the individual reports being very satisfied with life; all other life satisfaction responses are codes as zero. Data are from the pooled 2005-2010 BRFSS and include workers ages 18-61. All regressions include the individual control variables in Table 1 plus controls for month, year, and state. Standard errors clustered by county are in parentheses. Marginal effects estimated at the sample means of the explanatory variables are provided in brackets. *Statistically different from zero at the 0.10 significance level; **Significant at the 0.05 level; ***Significant at the 0.01 level.

Table 3: Logit Results for Self-Employment Relationship with Being Satisfied or Better

	(1) All Females	(2) All Males	(3) White Females	(4) Black Females	(5) Hispanic Females	(6) Asian Females	(7) AIAN Females	(8) White Males	(9) Black Males	(10) Hispanic Males	(11) Asian Males	(12) AIAN Males
A. No Income Controls												
Self-employed	-0.121***	-0.245***	-0.144***	-0.125	-0.002	0.218	-0.094	-0.151***	-0.449***	-0.372**	-0.495	-0.651***
	(0.036)	(0.044)	(0.045)	(0.126)	(0.180)	(0.339)	(0.274)	(0.044)	(0.146)	(0.163)	(0.327)	(0.245)
	[-0.004]	[-0.007]	[-0.004]	[-0.006]	[-0.0001]	[0.004]	[-0.003]	[-0.004]	[-0.017]	[-0.010]	[-0.006]	[-0.014]
B. With Income Controls												
Self-employed	-0.044	-0.183***	-0.052	-0.058	0.061	0.131	-0.016	-0.067	-0.356**	-0.364**	-0.493	-0.544**
	(0.037)	(0.045)	(0.046)	(0.129)	(0.190)	(0.324)	(0.269)	(0.046)	(0.150)	(0.164)	(0.338)	(0.253)
	[-0.001]	[-0.005]	[-0.001]	[-0.003]	[0.002]	[0.002]	[-0.0004]	[-0.002]	[-0.012]	[-0.010]	[-0.006]	[-0.011]

Notes: Each combination of column and panel corresponds to a separate regression. The dependent variable is a binary indicator equal to one if the individual reports being satisfied or very satisfied with life; those dissatisfied or very dissatisfied are coded as zero. Data are from the pooled 2005-2010 BRFSS and include workers ages 18-61. All regressions include the individual control variables in Table 1 plus controls for month, year, and state. Standard errors clustered by county are in parentheses. Marginal effects estimated at the sample means of the explanatory variables are provided in brackets. *Statistically different from zero at the 0.10 significance level; **Significant at the 0.05 level; ***Significant at the 0.01 level.

Table A1: Weighted Sample Means by Sex and Race/Ethnicity for Income Variables

	(1) All Females	(2) All Males	(3) White Females	(4) Black Females	(5) Hispanic Females	(6) Asian Females	(7) AIAN Females	(8) White Males	(9) Black Males	(10) Hispanic Males	(11) Asian Males	(12) AIAN Males
HH Income: 10-15K	0.027	0.022	0.016	0.041	0.082	0.017	0.052	0.010	0.024	0.074	0.017	0.025
HH Income: 15-20K	0.045	0.042	0.029	0.081	0.105	0.036	0.078	0.022	0.059	0.123	0.032	0.063
HH Income: 20-25K	0.060	0.058	0.048	0.097	0.105	0.040	0.100	0.039	0.081	0.131	0.034	0.086
HH Income: 25-35K	0.094	0.090	0.080	0.148	0.126	0.065	0.142	0.074	0.127	0.151	0.058	0.122
HH Income: 35-50K	0.143	0.136	0.141	0.166	0.133	0.121	0.173	0.133	0.159	0.139	0.112	0.175
HH Income: 50-75K	0.185	0.179	0.202	0.157	0.125	0.141	0.144	0.197	0.170	0.106	0.163	0.177
HH Income: 75K+	0.341	0.385	0.386	0.199	0.179	0.459	0.190	0.444	0.265	0.162	0.505	0.242
HH Income: Unsure	0.038	0.033	0.036	0.036	0.053	0.040	0.054	0.029	0.053	0.045	0.024	0.050
HH Income: Refused response	0.045	0.040	0.050	0.038	0.026	0.058	0.027	0.044	0.040	0.021	0.049	0.031

Note: the omitted category is household income less than 10K.

Table A2: Selected Control Variable Logit Results for Being Very Satisfied

	All Females		All Males	
	Coefficient	St. Error	Coefficient	St. Error
Ages 23-27	-0.174***	(0.038)	-0.295***	(0.043)
Ages 28-32	-0.256***	(0.038)	-0.428***	(0.037)
Ages 33-37	-0.323***	(0.038)	-0.543***	(0.038)
Ages 38-42	-0.342***	(0.040)	-0.600***	(0.040)
Ages 43-47	-0.313***	(0.038)	-0.584***	(0.043)
Ages 48-52	-0.261***	(0.038)	-0.581***	(0.041)
Ages 53-57	-0.272***	(0.039)	-0.535***	(0.040)
Ages 58-61	-0.134***	(0.040)	-0.424***	(0.046)
Max ed: some high school	-0.119	(0.096)	-0.240***	(0.072)
Max ed: high school diploma	0.025	(0.080)	-0.071	(0.069)
Max ed: some college	0.051	(0.083)	0.000	(0.072)
Max ed: bachelor's or higher	0.308***	(0.086)	0.247***	(0.067)
Married	0.483***	(0.022)	0.637***	(0.025)
Divorced	0.004	(0.022)	0.042	(0.029)
Widowed	-0.030	(0.032)	0.055	(0.070)
Separated	-0.244***	(0.044)	-0.179***	(0.065)
Partner	0.024	(0.035)	0.134***	(0.040)
Two adults in household	0.093***	(0.016)	0.103***	(0.019)
Three+ adults in household	-0.055***	(0.020)	-0.004	(0.022)
Kid/adult ratio in household	-0.017**	(0.008)	0.039***	(0.011)
Micropolitan area	-0.012	(0.018)	-0.002	(0.022)
Small MSA (population 0-250K)	0.005	(0.020)	-0.019	(0.022)
Medium MSA (pop. 250K-1M)	-0.050***	(0.017)	-0.047**	(0.021)
Large MSA (pop. 1-4M)	-0.057***	(0.017)	-0.124***	(0.022)
Very large MSA (pop. 4M+)	-0.144***	(0.019)	-0.135***	(0.025)
HH Income: 10-15K	-0.071	(0.055)	-0.048	(0.101)
HH Income: 15-20K	-0.039	(0.052)	-0.129	(0.083)
HH Income: 20-25K	0.068	(0.051)	-0.076	(0.086)
HH Income: 25-35K	0.177***	(0.048)	0.010	(0.076)
HH Income: 35-50K	0.342***	(0.049)	0.148*	(0.082)
HH Income: 50-75K	0.566***	(0.047)	0.347***	(0.081)
HH Income: 75K+	0.954***	(0.048)	0.699***	(0.078)
HH Income: Unsure	0.332***	(0.055)	-0.001	(0.084)
HH Income: Refused response	0.849***	(0.051)	0.565***	(0.092)
Black	-0.166***	(0.019)	-0.030	(0.028)
Hispanic	0.006	(0.022)	0.167***	(0.023)
Asian	-0.268***	(0.049)	-0.337***	(0.063)
AIAN	-0.048	(0.049)	0.068	(0.065)

Notes: Results in this table correspond to columns 1-2 in Panel B of Table 2. Standard errors clustered by county are in parentheses. *Statistically different from zero at the 0.10 significance level; **Significant at the 0.05 level; ***Significant at the 0.01 level.

Table A3: Selected Control Variable Logit Results for Being Satisfied or Better

	All Females		All Males	
	Coefficient	St. Error	Coefficient	St. Error
Ages 23-27	-0.175*	(0.099)	-0.443***	(0.102)
Ages 28-32	-0.357***	(0.109)	-0.441***	(0.099)
Ages 33-37	-0.480***	(0.128)	-0.579***	(0.105)
Ages 38-42	-0.494***	(0.114)	-0.633***	(0.098)
Ages 43-47	-0.568***	(0.109)	-0.608***	(0.102)
Ages 48-52	-0.576***	(0.117)	-0.577***	(0.097)
Ages 53-57	-0.591***	(0.115)	-0.594***	(0.102)
Ages 58-61	-0.300**	(0.136)	-0.427***	(0.102)
Max ed: some high school	-0.231**	(0.104)	-0.190	(0.134)
Max ed: high school diploma	-0.061	(0.115)	-0.038	(0.133)
Max ed: some college	-0.096	(0.115)	-0.061	(0.131)
Max ed: bachelor's or higher	0.146	(0.135)	0.145	(0.138)
Married	0.579***	(0.047)	0.902***	(0.058)
Divorced	-0.123***	(0.038)	0.002	(0.050)
Widowed	-0.072	(0.078)	-0.098	(0.121)
Separated	-0.459***	(0.053)	-0.484***	(0.086)
Partner	-0.057	(0.080)	0.269***	(0.085)
Two adults in household	0.146***	(0.037)	0.177***	(0.049)
Three+ adults in household	0.026	(0.052)	0.026	(0.075)
Kid/adult ratio in household	0.011	(0.019)	0.094***	(0.031)
Micropolitan area	-0.032	(0.050)	-0.019	(0.062)
Small MSA (population 0-250K)	-0.125**	(0.049)	-0.159**	(0.062)
Medium MSA (pop. 250K-1M)	-0.173***	(0.047)	-0.187***	(0.057)
Large MSA (pop. 1-4M)	-0.269***	(0.050)	-0.265***	(0.058)
Very large MSA (pop. 4M+)	-0.333***	(0.056)	-0.291***	(0.066)
HH Income: 10-15K	-0.016	(0.075)	0.169	(0.131)
HH Income: 15-20K	0.143**	(0.071)	0.161	(0.153)
HH Income: 20-25K	0.292***	(0.069)	0.324***	(0.111)
HH Income: 25-35K	0.618***	(0.071)	0.496***	(0.127)
HH Income: 35-50K	0.885***	(0.077)	0.735***	(0.135)
HH Income: 50-75K	1.209***	(0.080)	1.042***	(0.122)
HH Income: 75K+	1.643***	(0.078)	1.438***	(0.128)
HH Income: Unsure	0.487***	(0.089)	0.315**	(0.135)
HH Income: Refused response	1.401***	(0.099)	1.221***	(0.142)
Black	-0.011	(0.044)	0.041	(0.065)
Hispanic	0.338***	(0.055)	0.562***	(0.074)
Asian	0.161	(0.171)	0.277***	(0.102)
AIAN	0.121	(0.119)	-0.169	(0.144)

Notes: Results in this table correspond to columns 1-2 in Panel B of Table 3. Standard errors clustered by county are in parentheses. *Statistically different from zero at the 0.10 significance level; **Significant at the 0.05 level; ***Significant at the 0.01 level.