Student Loan Debt and Financial Well-Being of the Borrower: Does It Matter Whom the Debt Is For?

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Abstract

Using data from the 2017 U.S. Survey of Household Economics and Decisionmaking (SHED), this study classifies student debt into three categories by beneficiary (self, spouse, and children) and examines the relationship between each category and financial well-being. The results show that the association of student debt with the financial well-being of borrowers is negative and significant, regardless of whether the loan is used to finance the education of the borrower, spouse, or children. The paper further finds evidence that the marginal effect of student debt on the financial well-being of the borrower is substantial when the debt is used to finance the education of children rather than the education of the borrower or the borrower's spouse. The implications of the study for practitioners are discussed.

Key Words

Student debt, student loans, children's education, financial well-being

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INTRODUCTION

Student-loan debt continues to be an important topic of interest among practitioners, policymakers, and academics. The large amount of student debt (Federal Reserve Bank of New York, 2018), coupled with its potential adverse effects on individuals, households, and the U.S. economy (Avery & Turner, 2012), is at the center of most of these discussions. There is no doubt that student loans serve as an alternative source of financing postsecondary education for financially constrained households. However, concerns about its potential adverse effects on welfare cannot be overlooked, particularly when evidence abounds that more than one-third of Americans worry about their financial security (Tarrance, 2019).

Existing research shows that student-loan debt influences several types of household decisions and outcomes, such as life satisfaction, financial wellness, and financial well-being (De Gayardon et al., 2018; Cho et al., 2015). This paper uses data from the 2017 U.S. Survey of Household Economics and Decisionmaking (SHED) to examine the association between the financing of postsecondary education through student debt and the financial well-being of American adults.

The current study complements the existing studies that examine student debt and its relationship with well-being in two ways. First, a significant contribution of this study is that it classifies student debt into three categories by beneficiary (self, spouse, and children) and examines the relationship between each category and financial well-being. This approach has the advantage of providing practitioners, policymakers, and researchers with empirical results on student debt and well-being that are specific to the person whose education the loan financed. The existing studies lump the student-loan debt together and do not show whose education the student loan is used to finance. The student loan could be used to fund the education of the respondent, respondent's spouse, or respondent's children. It is possible that the effect of student debt on well-being may differ depending on whose education the loan finances.

Second, the current study creates a financial well-being scale to measure subjective well-being. The U.S. Consumer Protection Bureau (CFPB) provides the guidelines for creating this scale. By using the CFPB's financial well-being scale, this paper complements the few existing studies that measure subjective well-being through the use of a multidimensional scale. With the exception of Henager and Wilmarth (2018), who create a financial wellness score from multiple dimensions of a person's financial situation, most of the existing studies use single-question item measures on either life satisfaction, financial satisfaction, or financial well-being (Aboagye & Jung, 2018; Robb et al., 2018; Kim & Chatterjee, 2019; Korankye & Kalenkoski, 2021) to measure well-being. Another exception to using a multidimensional scale is the study by Gutter and Copur (2011) that uses the InCharge Financial Distress/Financial Well-Being (IFDFW) scale to assess the financial well-being of college students. One advantage of creating and using the financial well-being scale is that it is multidimensional (CFPB, 2017). Another advantage is that it "measures an individual's perception of their present and future financial security and freedom of choice" (CFPB, 2018:7) beyond the traditional use of income and wealth.

Based on the empirical analysis, the current study finds that the association of student debt with the financial well-being of borrowers is negative and significant. The results hold regardless of whether the debt is acquired for one's own , one's spouse's, or one's children's education. Despite these similarities, the study finds that the magnitude of the marginal effect of student debt on financial well-being is different when the loan is used to finance the education of one's children compared to the education of the borrower or spouse.

LITERATURE REVIEW

Human-capital theory explains that individuals and households invest in postsecondary education as long as the marginal benefit of schooling is greater than or equals to the marginal cost of schooling. Investing in education influences the future well-being of individuals and households (Becker, 1962a; Schultz, 1961). Current research shows that college education provides benefits such as higher earnings and improved well-being (Henager & Wilmarth; 2018; Bricker et al., 2017; Hout, 2012). However, college education comes at a cost, which include direct costs (such as tuition and the cost of books and equipment) and indirect costs (such as the cost of forgone earnings while in school). As suggested by the life-cycle theory of consumption (Ando & Modigliani, 1963), individuals with limited funds who wish to obtain postsecondary education may borrow to finance it. Existing studies show that using student loans to pay for college could have several effects on the financial outcomes and well-being of borrowers, including financial well-being (De Gayardon et al., 2018; Cho et al., 2015).

Financial well-being is an important concept that has been found to be associated positively with overall well-being (Netemeyer et al., 2017). The literature shows that financial well-being has both objective and subjective dimensions. The objective dimension uses measures such as assets, wealth, income, and financial ratios to assess financial well-being (Porter & Garman, 1992; Greninger et al., 1996). The subjective dimension of financial well-being, which is at the center of this study, is based on perceptions and feelings. Subjective financial well-being is worth studying in the sense that two households may have similar financial circumstances (the objective dimension), but different perceptions about their finances (Garman et al., 2004). This could occur because subjective financial well-being may include non-financial issues such as the tendency to worry about one's finances and the perceived ability to meet expense obligations, making it broad and complex (Bruggen et al., 2017; Netemeyer et al., 2017).

The literature provides comprehensive definitions of subjective financial well-being. In their study, Bruggen et al. (2017) define financial well-being as "the perception of being able to sustain current and anticipated desired living standards and financial freedom (p.229)." Also, the CFPB (2017) defines financial well-being as, "a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and can make choices that allow them to enjoy life (p.7)." These definitions show that financial well-being goes beyond a person's satisfaction with his or her current financial situation (Joo & Grable, 2004) and the absence of financial distress (O'Neill et al., 2005) to include an assessment of perceived future financial security.

The literature documents several factors that could influence financial well-being. These factors include financial behaviors (such as savings, budgeting, and risky credit-card behaviors), demographic factors (such as age, race, gender, and education), and credit-report characteristics (such as credit score, credit-card limits, and credit-card utilization). Others factors include income, financial education, financial strain, credit counseling, control over finances, and debt (CFPB, 2019; Henager & Wilmarth, 2018; Vlaev & Elliott, 2014; Gutter & Copur, 2011; Kim et al., 2003). Of particular importance to the current study is the relationship between student debt and financial well-being.

Studies examining student debt and measures of well-being are limited in number, and the few available generally have found a negative relationship. Henager and Wilmarth (2018) use data from the 2012 U.S. National Financial Capability Study (NFCS) to examine student debt and the financial wellness of working adults. They find that having student debt is associated negatively with financial wellness.

Using self-administered survey data, Gutter and Copur (2011) ascertain that student debt influences financial well-being adversely. However, they find that receiving financial aid in the form of scholarship assistance relates positively to financial well-being. The authors limit their study to college students and use a sample that is not nationally representative.

In a study involving student loans, health, and life satisfaction, Kim and Chatterjee (2019) find that student debt relates negatively to the psychological well-being and life satisfaction of working-adult households in the United States. In a similar study, Korankye and Kalenkoski (2021) use the Mundlak correction methodology and Wooldridge's (2010) suggestion for estimating random effects for an unbalanced panel to examine student debt and its relationship with the life satisfaction of U.S. households in general, and retired households in particular. They ascertain that student debt relates negatively to the life satisfaction of U.S. households generally, and retired households particularly. These two studies measure student debt at the household level and do not indicate which household member benefited from the student-loan debt.

While all these studies ascertain a negative relationship between student debt and well-being, one study finds mixed results. In their research, Robb et al. (2018) use data from the 2015 U.S. NFCS to examine the effect of student-loan debt on financial satisfaction. They find that having student-loan debt does not have a statistically significant effect on the financial satisfaction of both working adults aged 18 to 54 and young adults aged 18 to 34.

Robb et al. (2018) further examine the sources of student-loan debt (private, federal, and both federal and private) and their association with the financial satisfaction of student-loan debtholders. Their results show that having student-loan debt from private sources is associated positively with financial satisfaction. They explain that the positive association may arise because the individuals who took student loans from private sources may be upper-class family members with high future-income expectations.

The findings from Robb et al. (2018) indicate that the results from the literature examining the effects of student-loan debt on well-being are not conclusive, suggesting the need for further research. Also, most studies (see Kim & Chatterjee, 2019;

and Henager & Wilmarth, 2018; for instance) lump all types of student-loan debts together. Their approach suggests the need for in-depth analyses to include the specific uses of the loan to pay for the borrower's own education, spouse's education, or children's education. This is the gap in the literature that the present study seeks to fill.

DATA

The data for this study come from the 2017 U.S. Survey of Household Economics and Decisionmaking (SHED). Under the auspices of the U.S. Federal Reserve, the SHED has been collecting data about the economic well-being of American adults annually since 2013. This study uses the 2017 data set because 2017 is the year that SHED posed both statements related to computing financial well-being scores and questions about student debt. The study applies survey weights to allow inferences to the U.S. adult population. The total number of observations for the full sample is 12,291.

The dependent variable for this study is financial well-being. Rather than using a single statement to assess financial well-being, this study uses five statements. The study follows the approach recommended by the U.S. CFPB in creating a financial well-being scale (CFPB, 2017). The 2017 SHED includes five statements that the CFPB considers appropriate for this purpose. These statements are the following: "My finances control my life; I have money left over at the end of the month; Because of my money situation, I feel like I will never have the things I want in life; I am just getting by financially; and I am concerned that the money I have or will save won't last." These statements have a 5-point Likert response scale that ranges from "does not describe me at all" or "never" to "describes me completely" or "always."

Different methods may be used to combine multiple items to create a single score. Some scale instruments use the summing of scores or a weighting method, while others use the item-response theory (IRT) approach. The summing of scores method involves adding the scores to each question item and finding the average. The weighting method involves "weighting each item by its factor loading or relatedness to the scale before summing or averaging" (CFPB, 2017, pp. 12). The IRT is a framework that accounts for the group properties of the respondent (such as age), each question item's relatedness to the concept being measured (in this case, financial well-being), and the level of difficulty of each question item (CFPB, 2017). This study follows the IRT framework because it is the methodology used by the CFPB to combine the responses from the five items to create a single financial well-being score for each respondent. The IRT is known to provide accurate, reliable, and effective measurement of latent variables (Bortolotti et al., 2013) including subjective financial well-being.

The CFPB provides two approaches for obtaining the score. They are the software- and the table-based approaches. For convenience, this study applies the software-based-scoring method. This study also uses a customized Stata package developed by Abt Associates for the CFPB to compute the score. The resulting CFPB's financial well-being scale has a marginal reliability statistic above 0.80, falling within the acceptable threshold for a scale's reliability and validity (Lance et al., 2006; Nunnally, 1994; Carmines & Zeller, 1979).

The CFPB's financial well-being scale is measured as a continuous variable. The scores range from 1 to 100. The greater the financial well-being score, the higher the respondent's financial well-being. Figure 1 contains a graphical representation of the financial well-being score. It shows that the distribution of the financial well-being score among the U.S. adult population is fairly symmetrical with mean and median scores around 56.

The primary explanatory variable is student debt, which is made up of three components. Each component measures whether the student debt is acquired for one's own education, a spouse's education, or a child's education. Each of the components of student debt is measured as a dichotomous variable, with 1 indicating a yes response and 0 otherwise.

The other explanatory variables include female, age, white, education, married, household size, physical health status, homeownership, household income, employment status, financial literacy, spending behavior, perceived change in financial condition, financial strain, emergency savings, credit card debt, mortgage, and medical debt. Female is measured as a dichotomous variable that equals 1 if the respondent is a female and 0 otherwise. Age is a continuous variable that is measured as a quadratic to account for the non-linear relationship that may exist between it and financial well-being. Previous research, such as the study by Blanchflower and Oswald (2004), finds a U-shaped relationship between age and well-being.

White is a dummy variable that equals 1 if the respondent is white and 0 otherwise. Education is measured as a categorical variable with dummies created for each category. These categories include high school, some college, and a bachelor's

degree or higher. The reference category is less than high school. Married is a dichotomous variable that equals 1 if the respondent is married and 0 otherwise. Household size (representing the number of people who live in a household) is measured as a continuous variable. The physical-health status of the respondent is a variable with four categories including fair, good, very good, and excellent. A dummy is created for each category, and the reference group is poor-health status. Homeownership is a dummy variable that equals 1 if the respondent is a homeowner and 0 otherwise.

The SHED reports household income as a categorical variable. Consequently, this study measures household income using three dummies, including income from $50,000 to less than $100,000, income from $100,000 to less than $150,000, and household income from $150,000 and over. The reference category is income less than $50,000. Employment status is measured as a categorical variable (working-employee, working-self-employed, not working-retired, not working-disabled, and not working-other) with dummies created for each category.[15] The reference category is "not working-unemployed."

The SHED uses a combination of five statements and questions to assess the financial literacy of respondents: "Housing prices in the US can never go down"; "Buying a single company's stock usually provides a safer return than a stock mutual fund"; "Considering a long-time period (for example 10 or 20 years), which asset described below normally gives the highest returns?"[16] ; "Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?"; and "Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?" To measure financial literacy, the study sums up the correct responses to these five questions to create a financial literacy score that ranges from 0 to 5.

To assess spending behavior, the SHED asks respondents to indicate whether their total spending in the past month was less than, the same as, or more than their income. This study creates dummies for each category and uses "spending less than income" as the reference group.

This study uses two variables to assess the perceived change in the financial condition of respondents. The first is the change in financial condition compared with the past, and the second is perceived change in financial condition compared to parents. The responses, which are recorded in five categories, range from "much worse off" to "much better off." The study creates dummies for each category, and uses "much worse off" as the reference category.

In this study, the financial-strain variable is coded as 1 if the respondent experienced a financial strain such as a job loss or a drop in income during the past year, and 0 otherwise. Emergency saving is measured as a dichotomous variable that equals 1 if the respondent has some money set aside to handle unexpected financial circumstances, and 0 otherwise. Each of credit card debt, mortgage, and medical debt is measured as a dummy variable, with 1 indicating the presence of the type of debt and 0 otherwise.

MODEL

The following linear regression model is estimated via ordinary least squares:

$$FWB_i = \beta_0 + \beta_j^{'} Studdebt_i + \beta_k^{'} Control_i + \mu_i$$

In the above model, FWB_i represents the financial well-being score of individual *i*. The matrix $Studdebt_i$ is a set of three student-debt variables, with each variable indicating the presence of student debt for the respondent's own education, spouse's education, and children's education respectively. $Control_i$ is a matrix of other explanatory variables (female, age, white, education, married, household size, physical health status, homeownership, household income, employment status, financial literacy, spending behavior, perceived change in financial condition, financial strain, emergency savings, credit card debt, mortgage, and medical debt) that are known to influence financial well-being. The intercept is β_0, while β_j (j=3) and β_k (k=16) are the vectors of slope parameters to be estimated. The error term is μ_i, and it is included in the model to account for other unobserved factors that may influence a person's financial well-being. The μ_i term is assumed to follow a normal distribution.

The main hypothesis to be tested is that student debt is related negatively to financial well-being. Standard economic theory

15. The SHED did not specify what the not working-other category represents. I presume this category may represent respondents such as students and homemakers.
16. The listed assets include stocks, bonds, savings accounts, and precious metals.

suggests that individuals and households consume goods and services to maximize their well-being, subject to constraints (Levin & Milgrom, 2004; Becker, 1962b). Individuals have preferences regarding the level of education they desire to obtain, and these preferences inform the choices they make subject to budget constraints. Given the enormous benefits of obtaining higher education (Webber, 2016), individuals may choose to invest in postsecondary education. This is consistent with the human capital theory, which suggests that investments in education could occur when the marginal benefits exceed or equal the marginal costs. Some individuals may not have income, savings, investments, grants, or scholarships to pay for postsecondary education. To smooth consumption over time, the life-cycle theory of savings and consumption suggests that individuals may choose to pay for college with student loans. When the student loans are acquired, borrowers have the burden of making regular interest settlements and principal repayments to offset the debt. Thus, the presence of student-loan debts on the balance sheet of individuals could serve as a financial constraint, thereby influencing their financial behavior (Hamilton et al., 2019) and limiting their well-being.

Student debt could cause financial strain and stress among borrowers. The benefits associated with obtaining postsecondary education based on which individuals may contract student loans are uncertain, making student debt more burdensome. Evidence about the burden of student debt abounds because research shows the existence of financial delinquency, default, and financial distress among student-loan debtholders (Looney & Yannelis, 2015; Hillman, 2014). The burden of student debt on individuals' well-being could be exacerbated by the fact that student-loan debt is rarely forgivable under bankruptcy in the United States (Nica & Mirica, 2017).

The other explanatory variables are the standard controls. These are female, age, white, education, married, household size, physical health status, home ownership, household income, employment status, financial literacy, spending behavior, perceived change in financial condition, financial strain, emergency savings, credit card debt, mortgage, and medical debt. As indicated in the literature review section, previous studies have found them important in influencing well-being. In theory, these variables could represent opportunities, constraints, preferences, and/or social norms.

RESULTS

Descriptive Analysis

Table 1 presents the descriptive statistics (means and standard errors) for the dependent variable, together with the primary and other explanatory variables. The mean financial well-being score for the overall sample is 6 percentage points above the mid-point score of 50. With respect to student debt, about 15 percent, 4 percent, and 5 percent of all respondents have student debt for their own education, their spouse's education, and their children's education, respectively.

Table 1 also shows that 52 percent of the overall sample is female, 32% have a bachelor's degree or higher, 58% are married, 56% are working, and 19% are retired. The mean age is 48, the average household size is approximately 3 individuals, and the mean financial literacy score is 2.70 out of 5. In terms of spending behavior, Table 1 indicates that about 50% of respondents report that the amount of money they spend is less than their income, while nearly 17% indicate that their spending exceeds their income. Table 1 further shows that, on average, about 14% of the full sample report financial strain. Also, on average, 50% of all respondents have emergency savings, 36% have credit card debt, 44% have mortgage, and 8% have medical debt. Finally, in terms of perceived change in financial condition, about 8% and 26% of respondents report that they are much better off, compared with the past and parents' financial condition, respectively.

Regression Results

Table 2 contains the linear regression results, comprising coefficient estimates and standard errors. The R-square statistic is approximately 0.50, suggesting that the explanatory variables explain approximately 50% of the variation in financial well-being. The results in Table 2 show that the relationship between student debt and financial well-being is negative and statistically significant. Specifically, having student debt for the respondent's own education is associated with a 1.44 lower financial well-being score in relation to the respondent with no student debt for own education. The results also indicate that having student debt for one's spouse's and children's education is associated with a lower financial well-being score for the borrower by 1.37 and 1.88, respectively.

Several control variables also are statistically significant. Age has a u-shape relationship with financial well-being, suggesting that people report high levels of financial well-being as they get older. White is associated with a 1.31 lower financial well-

being score compared to nonwhite. With respect to household size, the results show that a one-unit increase in household size is associated with a 0.39 lower financial well-being score. Physical health status also is associated with financial well-being. For instance, compared with poor-health status, having excellent-health status is associated with a 4.70 higher financial well-being score. Similarly, having very-good-health status is associated with a 2.70 higher financial well-being score. Homeownership is associated positively with financial well-being. Compared to non-homeowners, homeownership is associated with a 2.74 higher financial well-being score.

The association of household income with financial well-being is positive and statistically significant. For instance, relative to having a household income that is less than $50,000, having a household income of $150,000 or more is associated with a 5.86 higher financial well-being score. Regarding employment status, being self-employed (relative to being unemployed) is associated with a 2.01 higher financial well-being score. Also, being retired is associated with a 2.40 higher financial well-being score, compared to being unemployed.

Regarding financial knowledge, the results show that a one unit increase in financial literacy is associated with a 0.41 higher financial well-being core. Spending behavior also has a statistically significant relationship with financial well-being. Compared with someone whose spending is less than his or her income, a person whose spending is at par with his or her income has a 5.07 lower financial well-being score. Similarly, a person who spends more than his or her income has a 6.99 lower financial well-being score when compared with someone who spends less than his or her income.

Perceived change in financial condition also is an important factor that has a statistically significant relationship with financial well-being. First, the results for perceived change in financial condition compared with a person's past, show that perceiving the current financial condition to be "much better off," relative to "much worse off," is associated with a 14.39 higher financial well-being score. Table 2.2 shows similar results for the "somewhat better off," "about the same," and "somewhat worse off" categories. Second, the results for perceived change in financial condition compared with parents' condition, show that perceiving the current financial condition to be "much better off" relative to "much worse off" than parents is associated with a 7.40 higher financial well-being score. The study finds similar results for the other categories ("somewhat better off," "about the same," and "somewhat worse off") in relation to the "much worse off" category.

With respect to financial strain, the results show that it is associated with a lower financial well-being score by 2.59. Unlike financial strain, emergency savings has a positive relationship with financial well-being. The results show that having emergency savings is associated with a higher financial well-being score by 4.37. The results for credit card, mortgage, and medical debt show that they are associated with a 2.18, 1.69, and 2.36 lower financial well-being, respectively.

DISCUSSION, IMPLICATIONS, AND CONCLUSION

This paper uses data from the 2017 Survey of Household Economics and Decisionmaking to examine the association between student debt and the financial well-being of borrowers. The study creates a financial well-being scale in line with CFPB's recommendations. The paper carries out the empirical analysis using linear regression and estimates the regression parameters via ordinary least squares. Controlling for demographic and economic characteristics, the findings show that the presence of student debt on a person's balance sheet is associated with a lower financial well-being score for borrowers compared to non-borrowers. The findings hold regardless of whether the student-loan debt is incurred for the borrower's own education, the education of the borrower's spouse, or the education of the borrower's children. The findings of the study, after t-test analysis, further indicate that the magnitude of the marginal effect of student debt on financial well-being is higher when the loan is used to pay for the education of children compared to either the education of the borrower or the borrower's spouse.

The estimated negative relationship between student debt and financial well-being lends support to the main hypothesis of this study. The findings support the notion that the presence of student debt serves as a financial constraint to the utility maximization of individuals. Although individuals obtain student debt to smooth consumption over the life cycle, the findings suggest that its presence could diminish the well-being of the holders relative to non-holders. The burden of repayment could induce frustration and financial distress. This aligns with the observation that student debt is associated with high financial anxiety which could lead to low financial satisfaction (Archuleta et al., 2013).

Student debtholders also may experience increased stress in the midst of economic uncertainty. One of the outcomes of

economic uncertainty could be job insecurity (Vander Elst et al., 2014). When there are fears of job insecurity, future income becomes uncertain. Although the financial future of many individuals may be uncertain as a result of economic downturn, that of student-debt holders could be higher. Empirically, it has been established that economic status is an important factor that could explain well-being, and that having a financially secured future increases satisfaction (O'Neill et al., 2005). Thus, economic uncertainty coupled with holding student debt could influence financial well-being negatively.

In relation to the existing literature, the results for the current study disagree with that of Robb et al. (2018), who do not find a statistically significant relationship between student-loan debt and well-being (as measured by financial satisfaction) for working adults. However, the overall results are consistent with the findings of Gutter and Copur (2011) who find a negative relationship between student debt and financial well-being. The findings also agree with Kim and Chatterjee (2019) and Korankye and Kalenkoski (2021), who find that student debt is associated with lower well-being (as measured by life satisfaction) for heads of household with student debt compared to heads of household without student debt.

Based on this study, one may conclude that, although student debt makes consumption smoothing possible and postsecondary education attainable for individuals and households, its presence could limit their ability to maximize financial well-being. Student debt therefore serves as a double-edged sword, and the findings of this study buttress existing studies to show the need for student-loan borrowers to understand the consequences of relying on student debt to pay for postsecondary education on their well-being. The decision to finance postsecondary education through student loans is a consumer choice that has long-term consequences. As such, this decision does not have to be taking hastily without due diligence.

The empirical results have shown that borrowing to pay for children's education has a larger negative effect on financial well-being than that of the borrower's own or spouse's education. This suggests that financial practitioners have the responsibility to continue to educate parents/clients about the negative effect of taking student loans to pay for children's education on financial well-being. This is important because some parents may only be concerned about borrowing to pay for children's education without knowing the consequences on their well-being. Some parents may be naturally inclined to co-sign for their children's student loans (Greene, 2012). However, many of these parents may not be aware that they will be required to assume repayment obligations when the children default. This information asymmetry could be resolved when financial practitioners and educators assist clients to make informed decisions about acquiring loans for children's education.

In addition to helping clients make informed student-loan-acquisition decisions for children, practitioners may consider helping clients find alternative ways to pay for the college education of their children rather than borrowing. For instance, clients/parents could be encouraged to start saving early for their children's education, especially after their retirement and other important financial goals have been considered. Other options include taking advantage of work-study arrangements, inquiring about funding opportunities from postsecondary institutions and putting in well-prepared applications for all eligible funding opportunities, opting for in-state universities, and considering attending community colleges to boost grade point averages to become competitive for scholarship opportunities at four-year universities. These recommendations may be applicable when considering financing for the education of the borrower or borrower's spouse.

The findings also have some specific implications for parents when setting their personal goals. Choosing to borrow to pay for a child's education may be utilizing maximizing. However, the debt could bring about diminished well-being due to the burden of repayment if the child is unable to repay the loan. Parents may consider refraining from borrowing to pay for children's college education. They need to be realistic about their financial situation and discuss their limits with their children. Parents also may consider seeking advice from financial professionals and financial aid advisors at an early stage to determine the best ways to pay for college without necessarily taking out loans for their children's education. Choosing to save for children's college education using earnings from labor, tax returns, and gifts from family and friends might be good alternatives to student loans.

LIMITATIONS

One of the limitations of this study is that the analysis focused on having student debt for one type of beneficiary only. In reality, some individuals may have student debt for more than one beneficiary. In such a situation, student debt may have a large effect on financial well-being. The current study does

not consider this sample in the analysis because of limited number of observations. Another limitation of this study is that the analysis depends on cross-sectional datasets. At the time of writing this paper, a longitudinal study that contains all the key variables of interest was not available. Future studies may consider using panel datasets when they become available to enhance our understanding of the effect of student debt on financial well-being based on the different types of beneficiaries. Despite this limitation, the current study sets the stage for a discussion on student debt and its relationship with the well-being of individuals, taking the beneficiary (that is, the borrower, borrower's spouse, or borrower's children) into consideration.

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APPENDICES

Figure 1

Distribution of the financial well-being score for the full sample

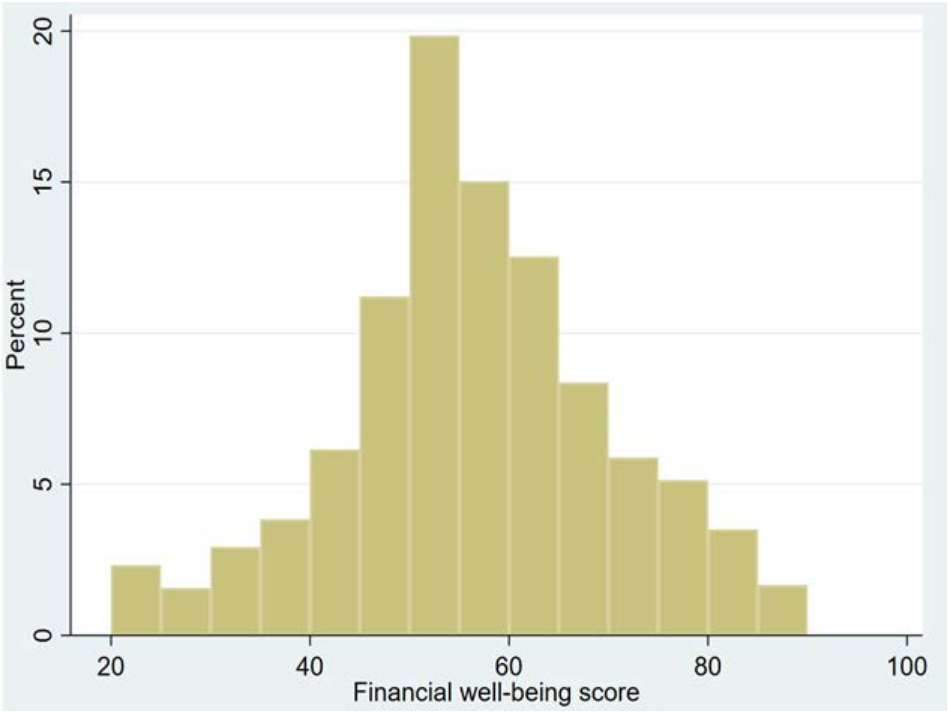

Table 1

Descriptive Statistics

	Mean (Standard error)
Dependent variable	
Financial well-being score	56.0219 (0.1619)
Main explanatory variables	
Student debt – own education	0.1442 (0.0044)
Student debt – spouse's education	0.0389 (0.0024)
Student debt – children's education	0.0476 (0.0024)
Other explanatory variables	
Female	0.5209 (0.0062)
Age	48.1426 (0.2144)
White	0.6529 (0.0063)
Education level	
Less than high school	0.0987 (0.0049)
High school	0.2897 (0.0058)

Table 1

Descriptive Statistics (cont'd.)

	Mean (Standard error)
Some college	0.2888 (0.0053)
Bachelor's degree or higher	0.3229 (0.0054)
Married	0.5817 (0.0061)
Household size	2.7157 (0.0204)
Physical health status	
Poor	0.0216 (0.0017)
Fair	0.1131 (0.0038)
Good	0.3518 (0.0058)
Very good	0.3768 (0.0060)
Excellent	0.1193 (0.0042)
Homeownership	0.6568 (0.0061)
Household income	
Less than $50,000	0.3478 (0.0057)
$50,000 to less than $100,000	0.3112 (0.0058)
$100,000 to less than $150,000	0.1685 (0.0049)
$150,000 or more	0.1725 (0.0046)
Employment status	
Not working – unemployed	0.0577 (0.0033)
Working – employee	0.5562 (0.0061)
Working – self-employed	0.0813 (0.0034)
Not working – Retired	0.1938 (0.0040)
Not working – Disabled	0.0415 (0.0025)
Not working – Other	0.0695 (0.0035)
Financial literacy score	2.7037 (0.0220)
Spending behavior	
Spending less than income	0.4955 (0.0061)
Spending same as income	0.3281 (0.0059)
Spending more than income	0.1678 (0.0047)
Perceived change in financial condition – Compared with past	
Much worse off	0.0298 (0.0020)
Somewhat worse off	0.1158 (0.0038)
About the same	0.5194 (0.0061)
Somewhat better off	0.2571 (0.0055)
Much better off	0.0779 (0.0034)
Perceived change in financial condition – Compared with parents	
Much worse off	0.0540 (0.0026)
Somewhat worse off	0.1423 (0.0042)
About the same	0.2390 (0.0053)

Table 1

Descriptive Statistics (cont'd.)

	Mean (Standard error)
Somewhat better off	0.3059 (0.0057)
Much better off	0.2588 (0.0054)
Financial strain	0.1416 (0.0043)
Emergency savings	0.5019 (0.0062)
Credit card debt	0.3628 (0.0058)
Mortgage	0.4424 (0.0061)
Medical debt	0.0779 (0.0032)
N	12,291

Notes: Authors' analysis using data set from the 2017 U.S. Survey of Household Economics and Decisionmaking. Survey weights are applied.

Table 2

Linear Regression of Financial Well-Being on Student Debt

	Coefficient (Standard error)
Main explanatory variables	
Student debt – own education (1=yes)	-1.4371*** (0.3875)
Student debt – spouse's education (1=yes)	-1.3657** (0.6614)
Student debt – children's education (1=yes)	-1.8810*** (0.5405)
Other explanatory variables	
Female (1=yes)	0.4717* (0.2460)
Age	-0.0810* (0.0498)
Age-squared	0.0010* (0.0005)
White (1=yes)	-1.3073*** (0.2982)
Education level (versus Less than high school)	
High school	0.8328 (0.6341)
Some college	1.0146 (0.6487)
Bachelor's degree or higher	1.1532* (0.6716)
Married (1=yes)	0.5137* (0.3032)
Household size	-0.3886*** (0.0968)
Physical health status (versus poor)	
Fair	-0.2203 (0.6648)
Good	1.2342** (0.6138)
Very good	2.6999*** (0.6135)
Excellent	4.6962*** (0.7111)
Home ownership (1=yes)	2.7375*** (0.3983)
Household income (versus Less than $50,000)	
$50,000 to less than $100,000	2.5443*** (0.3165)
$100,000 to less than $150,000	3.6254*** (0.4576)
$150,000 or more	5.8584*** (0.4579)

Table 2

Linear Regression of Financial Well-Being on Student Debt (cont'd.)

	Coefficient (Standard error)
Employment status (versus Not working – unemployed)	
Working – employee	0.9116 (0.6388)
Working - self-employed	2.0142** (0.7290)
Not working – Retired	2.3998*** (0.7109)
Not working – Disabled	0.1416 (0.9009)
Not working – Other	3.4309*** (0.7829)
Financial literacy score	0.4093*** (0.0857)
Spending behavior (versus spending less than income	
Spending same as income	-5.0794*** (0.2747)
Spending more than income	-6.9914*** (0.4025)
Perceived change in financial condition – Compared with the past (versus much worse off)	
Somewhat worse off	5.0924*** (0.7584)
About the same	8.6381*** (0.7451)
Somewhat better off	10.3769*** (0.7654)
Much better off	14.3922*** (0.9119)
Perceived change in financial condition – Compared with parents' (versus much worse off)	
Somewhat worse off	2.8917*** (0.6339)
About the same	4.8519*** (0.6196)
Somewhat better off	4.6642*** (0.6102)
Much better off	7.3591*** (0.6466)
Financial strain (1=yes)	-2.5864*** (0.3394)
Emergency savings (1=yes)	4.3666*** (0.2828)
Credit card debt	2.1803*** (0.2494)
Mortgage	-1.6866*** (0.3180)
Medical debt	-2.3576*** (0.4512)
Intercept	38.7577*** (1.6751)
R squared	0.5086
N	12,291

Notes: Authors' analysis using data set from the 2017 U.S. Survey of Household Economics and Decisionmaking. Survey weights are applied. *** indicates significance at the 1% level; ** indicates significance at the 5% level; * indicates significance at the 10% level.