



STUDENT BORROWER
PROTECTION CENTER



Student Loan
Law Initiative

**Jubilee and Jubilation: An Examination of the Relationship between Public Service Loan Forgiveness
and Measures of Well-Being**

Daniel A. Collier, Ph.D.
Assistant Professor of Adult and Higher Education
University of Memphis
Dcllier6@memphis.edu
[@Dcollier74](https://twitter.com/Dcollier74)

Dan Fitzpatrick, Ph.D.
Research and Assessment Specialist
University of Michigan
danfitz@umich.edu
[@FitzEdPolicy](https://twitter.com/FitzEdPolicy)

This work was funded by a generous grant from the Student Borrower Protection Center (SBPC), which is supporting the first year of data collection and research-related activities.

Executive Summary

The Public Service Loan Forgiveness (PSLF) program was designed to encourage college educated student loan borrowers to pursue public service by promising to cancel their student loan debt after ten years of service. Little is known about borrowers who pursue federal student debt cancellation under the PSLF program, or how these borrowers' financially-related behaviors and measures of subjective well-being (SWB) are related to remaining payments or forgiveness. This study provides a rare, *initial* look at the lives of borrowers in PSLF. Using survey data collected from August to September 2022 – during the student loan repayment pause – we examined how achieving forgiveness or the number of remaining payments is related to various financially-related outcomes (e.g. FICO score, homeownership) and behaviors (e.g. monthly savings), elements of SWB (e.g. financial stress, psychological distress, and satisfaction with life), and selected activities such as suicidal thoughts and drug use.

Key Findings

- Descriptively, 84% of Forgiven borrowers were homeowners; whereas, 64% of those in repayment were. Regressions illustrate that homeownership rates increased as remaining payments decreased.
 - Rent (Mean=\$1,612, Median=\$1,508) and mortgage payments (Mean=\$1,853, Median=\$1,675) were similar between Forgiven borrowers and those still in repayment.
- No strong statistical trends were found between forgiveness and remaining payments and average monthly non-retirement and retirement savings.
- FICO scores were positively related to remaining repayments and were highest for Forgiven borrowers (770).
 - The sample FICO Score average was 742, above the national average of 714.
 - Forgiven borrowers had FICO scores that were higher by between 21 (0-12 remaining payments) and 56 (49-60 remaining payments) points.
- Most levels of (dis)stress were similar for borrowers who had 13 or more remaining payments. Changes were usually not observed until borrowers had 12 or fewer remaining payments, with Forgiven borrowers reporting the lowest levels of (dis)stress.
 - Lowering the Psychological Distress (K6) score is important given strong relationships to Satisfaction with Life, suicidal thoughts, and non-prescription drug use.
 - 16% of the sample are in the K6 categorization of living with “Severe” mental distress – a higher percentage than found in other studies.
- Relationships between remaining payments and forgiveness and Satisfaction with Life or Job Satisfaction were weak.

- There were no strong trends between remaining payments and forgiveness and reports of suicidal thoughts, drinking alone, or non-prescription drug use. However, evidence suggests that those with 37-60 payments remaining could use additional socioemotional supports.

Overall, we found that approaching forgiveness benefits borrowers but only minimally until they are within a year of forgiveness. In that last year and at forgiveness, multiple financial and SWB measures change - for the better. Borrowers 4-5 years out from forgiveness show concerning levels of risky behaviors and may need added supports. It seems that it is not being on a path to forgiveness, but debt discharge, that provides observed benefits. These preliminary findings help us better understand the benefits of realized debt cancellation and underscore the need to ensure that borrowers within PSLF enjoy reliable pathways to promised debt relief.



Abstract

Little is yet known about the lives of those who are in Public Service Loan Forgiveness (PSLF) during repayment, as they approach forgiveness, or after the debt is discharged. With recent fixes to the PSLF program, an opportunity exists to better understand what participants' lives "look like" and importantly, how remaining payments are related to selected behaviors and beliefs. This paper represents an initial analysis of the first round of data collection ($N=785$) within a wider mixed-methods study – and examined how remaining payments and forgiveness are related to financially-related outcomes (savings, FICO score, and homeownership) and subjective well-being (financial stress, psychological distress, life satisfaction, and job satisfaction). Findings suggest homeownership and FICO scores were related to forgiveness and remaining payments. In contrast, no strong trends between remaining payments or forgiveness and non-retirement and retirement savings measures were found. Next, relationships existed between forgiveness and remaining payments and measures of (dis)stress – specifically financial stress and psychological distress. Connections to life or job satisfaction are weaker. Finally, results suggest that individuals with between 37 to 60 remaining payments need increased psychological and socioemotional support, as suicidal thoughts and non-prescription drug use is elevated in these individuals. In summary, being closer to forgiveness or achieving debt relief is related to many positive outcomes – including increased FICO scores, a higher chance at homeownership, and lower (dis)stress levels. This study provides important information on the possible short-term effects of loan debt cancellation as compared to those in repayment – and in relation to those in proximity of forgiveness by remaining payments – and can serve as a future baseline to examine changes in these measures after the student loan repayment pause ends.

Introduction

Envisioned to encourage more college-educated individuals to choose public-service-related career pathways, the Public Service Loan Forgiveness program (PSLF) is theoretically simple. Originally, borrowers with Direct Loans who work in qualifying employment for 10 years and make qualifying payments are able to have the remainder of their loan balances canceled. The employer could be a U.S. federal, state, local, or tribal government or for a tax-exempt 501(c)(3) non-profit institution (e.g. a think tank, private college, or social service provider such as the United Way). Borrowers must also work full-time – although working at least 30 hours between two qualifying entities would count – and make 120 qualifying (10 years of) payments while enrolled in a qualifying payment plan (typically an income-driven repayment (IDR) plan).ⁱ

Usually, pieces published on PSLF have centered on governmental costsⁱⁱ or how to fix the program to better serve borrowers.^{iii, iv} The tension between these factors will remain a focus, especially as forgiveness totals are updated and policymakers turn their attention to relative costs, and as the wider conversation over whether we should forgive student loan debt en masse and “who” deserves it continues to unfold.^{v, vi} Sorely missing from the conversation is an understanding of what the lives of those enrolled in PSLF “look” like, and how they make sense of the PSLF benefit and program (a similar issue exists for the wider Income-Driven Repayment conversation^{vii, viii, ix}) and what financial and non-cognitive shifts may happen as people move closer to and achieve forgiveness.

The effects of student loan debt and the benefits of forgiveness are often limited to examinations of financially-related outcomes and the (dis)advantages that borrowers face - despite decades of research illustrating relationships between financial distress and stress, mental distress, and life satisfaction.^{x, xi} Although analyses of who may most financially benefit will remain important to our understanding of the program, expansion beyond costs associated with the government and for individuals remain desperately needed so that we can capture a more robust picture of the total effects related to forgiveness.

This gap in our understanding, in part, is due to limitations in the structure and implementation of the PSLF program. Until recently, when the administration temporarily waived some of the PSLF program requirements, there were very limited instances where researchers could conduct examinations to explore results from forgiveness. As of October 2022, there were over 1.5 million borrowers with eligible PSLF employment, and more than 233,000 borrowers had their debts discharged through PSLF. For reference, in the month the temporary fixes were enacted (April 2021) just over 5,000 borrowers had their loans forgiven.^{xii}

To help further our understanding of how loan forgiveness under the PSLF program may be related to attributes beyond only financial health, this study invited individuals who are currently in PSLF or have had their debts forgiven under PSLF to engage with a survey that captured demographic information, job-related variables, earnings and debt, and elements of subjective well-being (SWB; e.g. financial stress and satisfaction with life). This white paper is the initial quantitative analysis of the first round of data collection. The primary questions driving this white paper are:



1. What relationships exist between remaining payments or forgiveness and financially related outcomes of savings, FICO scores, and homeownership?
2. What relationships exist between remaining payments or forgiveness and subjective well-being outcomes?

Sample

Data were collected from August 1st to September 30th, 2022 – this was the first round of data collection. A second round of data collection began in the middle of October.^{xiii} During round 1 of data collection, calls for participation were shared online via Twitter, LinkedIn, and within several PSLF-focused groups on Facebook – the sample was allowed to snowball. In total, N=834 individuals started the survey, and N=785 (95%) completed the survey – which constitutes the maximum usable sample for this study. See Table 1 for sample statistics.

Table 1: Sample Descriptive Statistics

Average Age	41		
Remaining Payments		Income	
Forgiven	20%	Under \$55,000	16%
0-12 Payments	20%	\$55,000-\$64,999	15%
13-24 Payments	13%	\$65,000-\$74,999	16%
25-36 Payments	11%	\$75,000-\$84,999	14%
37-48 Payments	6%	\$85,000-\$99,999	16%
49-60 Payments	9%	\$100,000+	23%
61+ Payments	21%		
Race		Highest Degree Earned	
White	80%	Associate’s	0%
African American/Black	8%	Bachelor’s	7%
American Indian/Alaskan Native	0%	Master’s	50%
Asian American	0%	MBA	3%
Hispanic/Latinx	2%	JD	14%
Prefer Not to Answer	5%	MD	5%
Two or More Races	4%	Ph.D/Ed.D./Other Doctorate	20%
Gender		Organization Worked For	
Female	87%	College or University	24%
Male	10%	K-12 School	19%
Non-Binary/Third Gender	2%	Federal Government	8%
Other	0%	Local Government	10%
Prefer Not To Say	0%	Other 501c3 Organization	29%
Family-Life		State Government	9%
Married	62%		
Have Dependent Children	52%		



Instrument

The survey consisted of five sections. The first section asked participants to provide information on how many payments remain until forgiveness or if they have achieved forgiveness and answers to demographic questions capturing gender, race, highest degree earned, marriage, and the number of dependents. The second section captured data on individuals' jobs – their occupation title, income, and the type of organization worked for. The third section focused on financially-related variables – monthly non-retirement and retirement savings, homeownership, monthly rent and mortgage payments, and FICO scores. The fourth section asked participants for details about student loan debt including monthly payments (before the pause), the total balance of remaining or forgiven student loan debt, and possessing private student loan debt. The final section asked students to respond to prompts from the following scales: Financial Stress,^{xiv} Satisfaction with Life,^{xv} Kessler Psychological Distress,^{xvi} Perceived Stress,^{xvii} and the Short Index of Job Satisfaction.^{xviii} Here, these scales are reliable from between $\alpha=.786$ to $\alpha=.901$. The final set of questions in the last section asked participants to report how many days per week (from zero to seven) they engaged in selected behaviors – this analysis focused on suicidal thoughts, drinking alone, and non-prescription drug use.

Analysis

We used a series of descriptive and inferential analyses. However, we primarily leaned on linear regressions for continuous data and linear probability models (LPM) for binary outcomes (e.g. homeownership, suicidal thoughts). For the LPM analyses, outcomes are represented in percentage-points – for example, in the homeownership regression, being married was related to a 26 percentage-point increase in the outcome. Where data are categorical, the following categories serve as reference groups in each of the regressions: Forgiven Borrowers, White Borrowers, Female Borrowers, Unmarried Borrowers, Borrowers with No Children, Master's Degree, and Income of \$75,000-\$84,999 (the bin that houses median income of Master's degree earners, \$81,848).^{xix} In regressions, these reference categories serve as a point from which to compare against: e.g., with results showing how much married borrowers or those with forgiven loans *differ* from the group of respondents who match each of these reference categories. Here, we mainly focus on the outcome of comparing those who have achieved forgiveness versus those in various remaining payment categories - as such, the outcomes in the models are a comparison against the reference group of Forgiven borrowers. For example, when examining financial distress differences were found between Forgiven borrowers (the reference group) and borrowers in various remaining payment bins, as these borrowers had significantly higher stress levels. The same concept is applied to the other categorical variables.

Full regression tables can be found in the Appendix. For ease of reading, we reported the marginal effects graphs (with confidence intervals) of the variable of interest – remaining payments and forgiveness. For this analysis, we dis-included profiles with missing data. Additionally, for categorizations that had less than $N=10$, we dropped those variables from regressions – for example, Associates' Degrees.

Findings

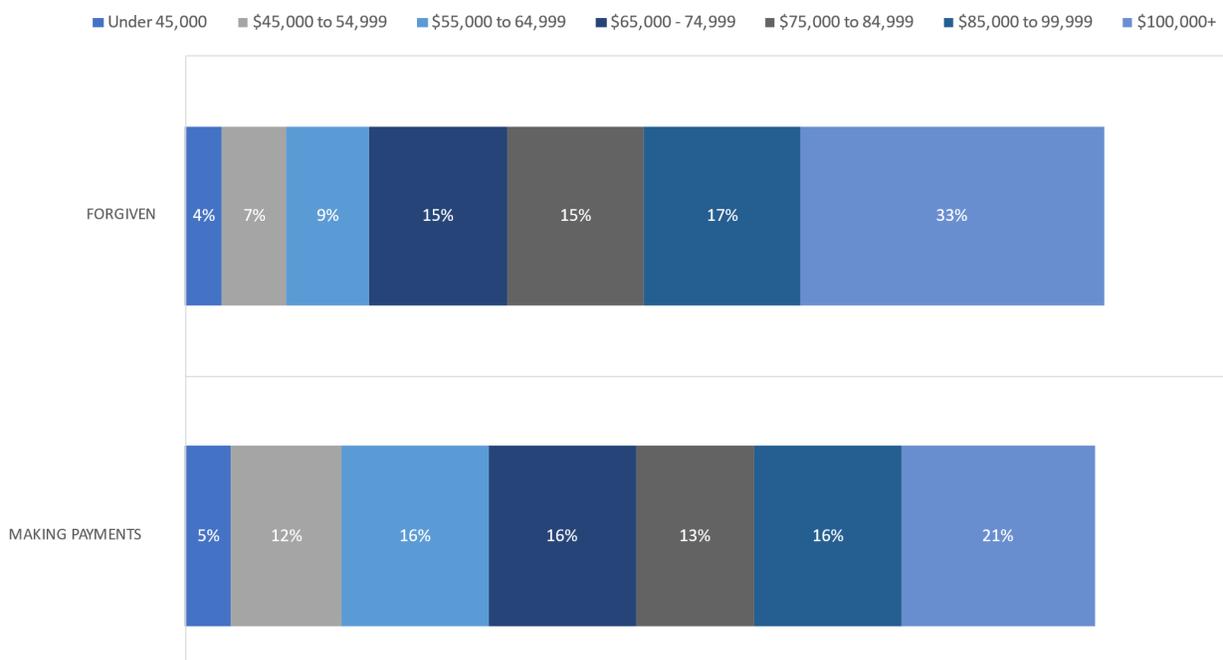
Binary Examination – Forgiven Borrowers versus Borrowers In Repayment

First, we tested for differences between those who reported achieving forgiveness and those who were still in repayment. As expected, given how PSLF works as a time-based process, differences were found in age ($p < .001$) as forgiven borrowers were older – aged 44 versus 40. Forgiven borrowers also demonstrated descriptive differences in marriage rates as 69% reported being married versus 60%. Similarly, a higher percentage of borrowers still in repayment had zero children (50%) versus forgiven borrowers (36%).

Another significant difference between the two groups existed within individuals’ incomes. Notably, those earning \$100,000+ consisted of 33% of forgiven borrowers versus 21% of those in repayment. While a higher percentage of the repayment groups consisted of those earning between \$45,000 to \$54,999 (12% v. 7%) and \$55,000 to \$64,999 (17% vs. 9%) – see Figure 1.

Racially the two groups were statistically similar with White participants consisting of the majority at 78% and 80% respectively, followed by African American/Black respondents at 10% and 8%. Additionally, the groups were similar in gender with the majority being Female at 85% and 88% respectively. Next, the two groups were statistically similar by degree type with Master’s Degrees leading the way for each at 46% for forgiven borrowers at 51% for those in repayment, followed by a Ph.D./Ed.D./Other Doctorate at 21% and 20%. The type of organization respondents reported working in was also statistically similar.

Figure 1 - Income by Forgiven Borrowers and Those With Remaining Payments



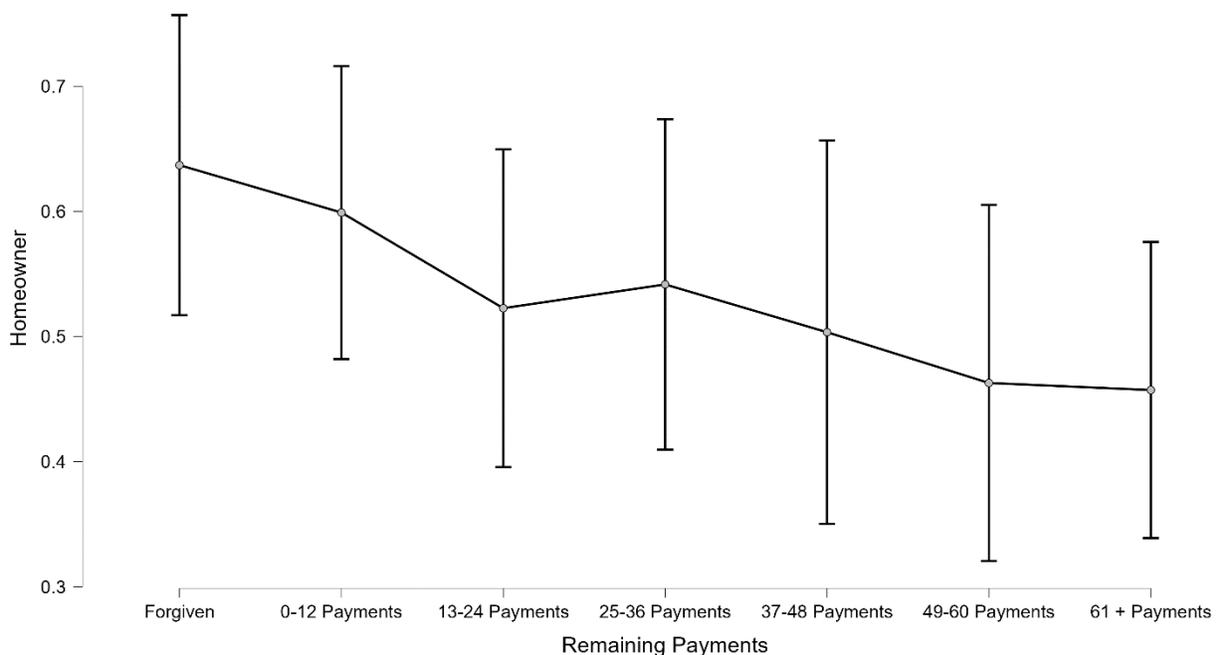
Homeownership

Descriptively, for borrowers who have 61+ payments remaining, 50% were homeowners. Linearly, homeownership rates increased as borrowers’ remaining payments decreased. For those who have 0 to 12 remaining payments, the homeownership rate was 78% - and for forgiven borrowers, 80% reported homeownership. To be noted, the U.S. homeownership rate in the second quarter of 2022 was 66%^{xx} – with 74% of individuals with at least a 4-year college degree owning homes according to the 2019 Survey of Consumer Finances data.^{xxi}

Regression suggests that as compared to forgiven borrowers those in repayment were less likely to be homeowners. Borrowers who had 61+ payments (-18 percentage-points) were the least likely to be homeowners in this comparison and those with 0 to 12 payments were the closest to forgiven borrowers at just -4 percentage-points (a non-significant outcome, see Figure 2).

Between forgiveness and repayment groups, there were no discernible trends for monthly rent or mortgage payments - the sample average monthly rent was \$1,612 (Median=\$1,508) and the average mortgage payment was \$1,843 (Median=\$1,645). For reference, in the U.S. median monthly rent in August was \$1,771^{xxii} and the median U.S. mortgage repayment for 2021 was \$1,672.^{xxiii} In a future analysis, we will use American Community Survey data and residency zip codes to examine more nuanced comparisons to rent and mortgage payments.

Figure 2 - Marginal Effect of Homeownership by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)

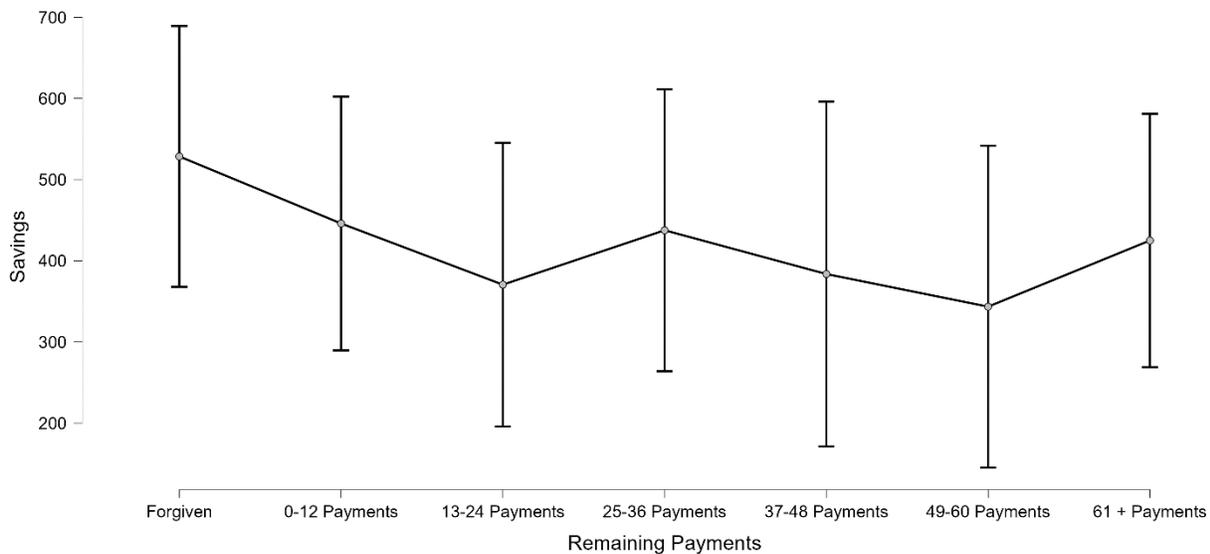


Non-Retirement Savings

Next, we examined how changes in reported monthly non-retirement and retirement savings were related to remaining payments and forgiveness. Analysis of Variance (ANOVA) analysis suggests that non-retirement savings remained statistically similar. The average non-retirement savings for all respondents was \$403 per month (Median=\$254). For reference, a non-nationally represented study conducted before the repayment pause found that on average those in income driven repayment saved considerably less at \$197 but those in traditional repayment have monthly savings similar to this sample at \$437.^{xxiv} Although borrowers in PSLF seem to be faring better than indications from a wider income-driven repayment sample, we have not found comparable data since the pause to provide better contextualization - so we promote caution in interpreting this comparison.

The regression model illustrates that as compared to those who have achieved forgiveness, borrowers with between 13 to 24 payments (-\$158) and 49 to 60 payments (-\$185) put less money into non-retirement savings accounts. However, regressions did not produce strong trends to suggest movement towards forgiveness was worth significantly more non-retirement savings per month. To be clear, we are not saying that an additional \$100+ saved per month on average is not beneficial to individuals, it likely is – but our tests show that non-retirement savings are not statistically different between forgiven borrowers and those in repayment.

Figure 3 - Marginal Effect of Non-Retirement Savings by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)

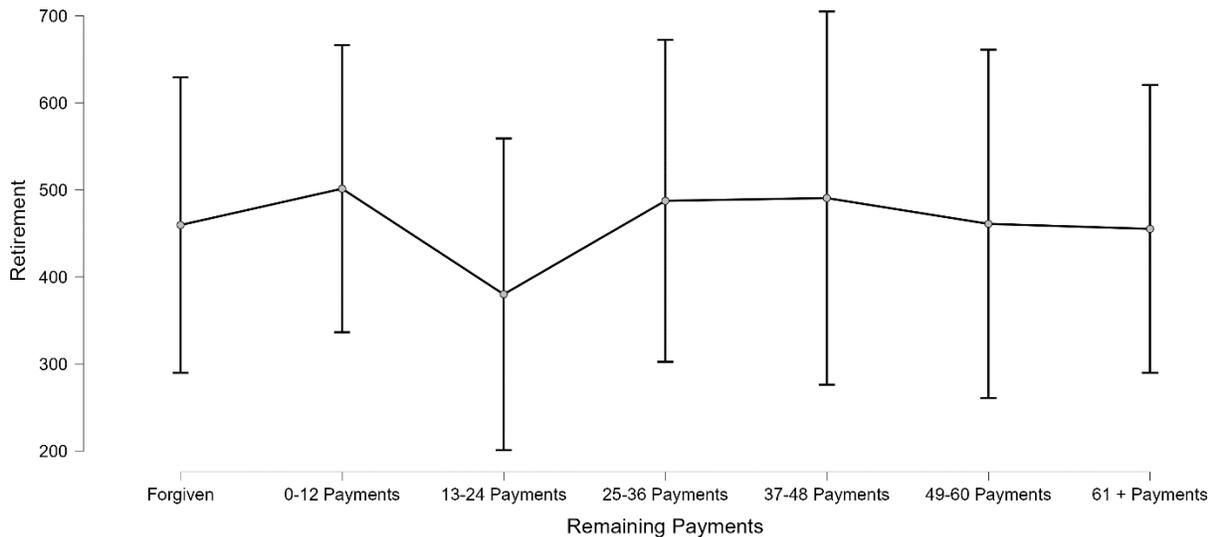


Monthly Retirement Savings

Descriptively, no statistical differences in retirement savings were found. The average retirement savings were \$538 (Median=\$396). The same income-driven repayment-focused study cited above indicated that average monthly retirement savings were much lower than for this sample for borrowers in standard repayment (\$374) and IDR borrowers (\$138). Again, this sample seems to be faring better than indications from prior research which could be from the eased financial conditions of the pause or that this sample has career pathways that provide higher pay or better retirement matching benefits.

The regression model produced null findings for this outcome. Meaning that borrowers who had debt forgiven placed a statistically similar amount of money in retirement savings as did individuals across each of the remaining payment groups - see Figure 4 below.

Figure 4 - Marginal Effect of Retirement Savings by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)



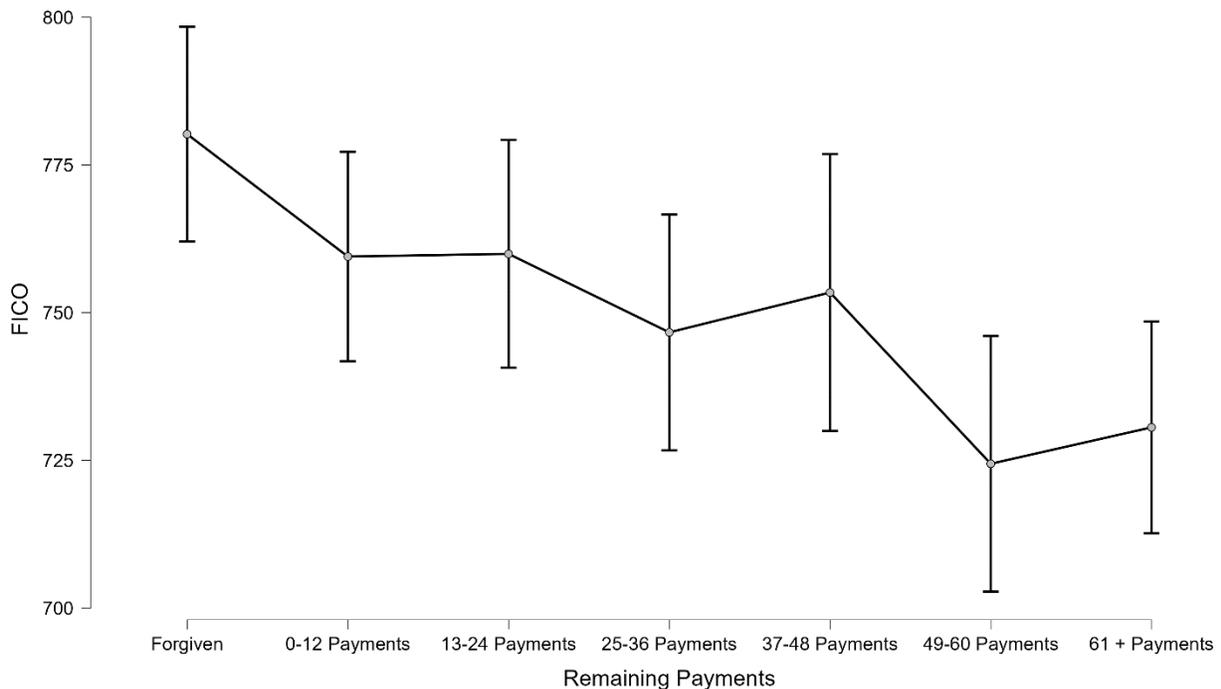
FICO Scores

The average FICO score for the sample was 742 (Median=751) - which is in the “Very Good” category (740-799) and is above the national average FICO score of 714.^{xxv} Descriptively, in a linear fashion as borrowers move toward forgiveness FICO scores generally increase – those with 61+ remaining payments have an average FICO of 721 and forgiven borrowers 766.

Regression illustrates clear trends when comparing forgiven borrowers against those in repayment – with each repayment group having a significantly lower FICO score. For individuals with between 49-60 remaining payments, the decrease in FICO score as compared to forgiven borrowers was -56 points. Marginal effects place FICO scores at about 780 for the forgiven group; with those who have at least 49 remaining repayments falling into the “Good” category (670-739) – the categorization the average American would be in. Further illustrating the importance of forgiveness in relation to FICO score, those with 0-12 remaining payments had FICO scores that are -21 points lower than those with discharged balances (see Figure 5).

The full regression models for financially related outcomes are found in Table A1 in the Appendix.

Figure 5 - Marginal Effect of FICO Score by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)



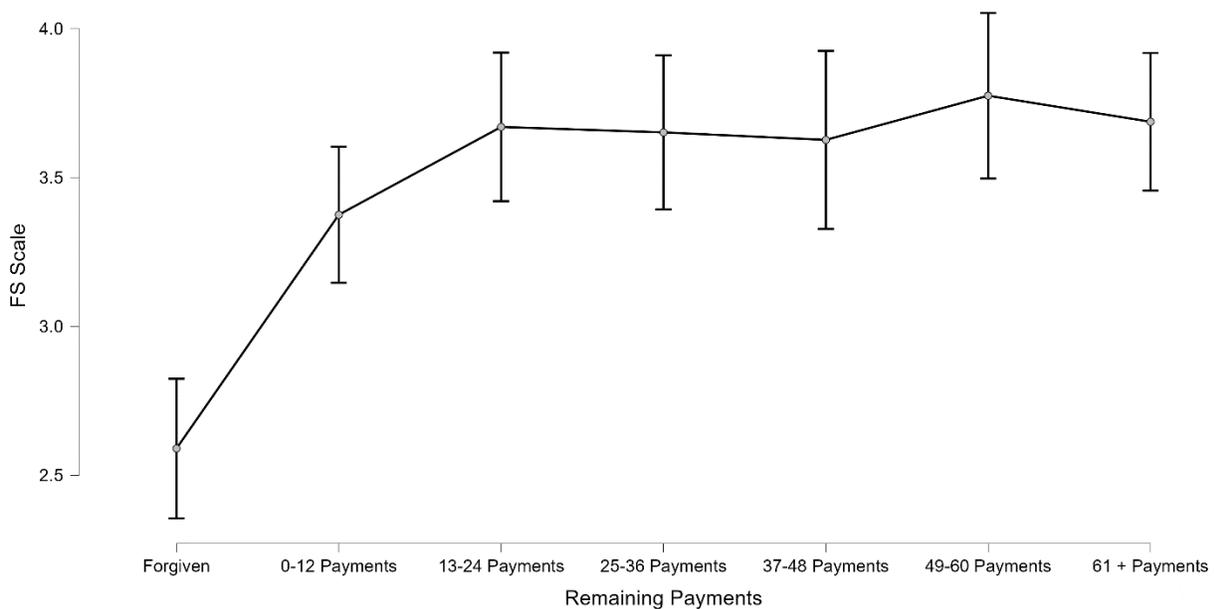
Financial Stress

The Financial Stress Scale was calculated as an average with scores ranging from a possible 1.00 to 5.00. Descriptively, Financial Stress does not change much from having 61+ remaining payments (3.70) to 13-24 payments (3.73). However, the declines are noticeable from when borrowers get close to forgiveness, at 3.40 for 0-12 payments, and scores were the lowest for forgiven borrowers (2.66).

As illustrated in Figure 6, regression shows that as compared to forgiven borrowers – borrowers in all repayment bins were statistically more financially stressed, ranging from an increase of 0.79 (0-12 remaining payments) to 1.19 (49-60 remaining payments) on the scale. Another way to consider these findings is that generally, forgiven borrowers were just about one standard deviation less financially stressed than those with more than a year left in repaying (S.D.=0.94).

Simply said, forgiven borrowers were considerably less financially stressed. Of the well-being measures, financial stress had the most obvious improvement upon forgiveness. However, arguably, the decline in psychological distress may be more “important” to individuals’ overall health.

Figure 6 – Marginal Effect of Financial Stress by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)



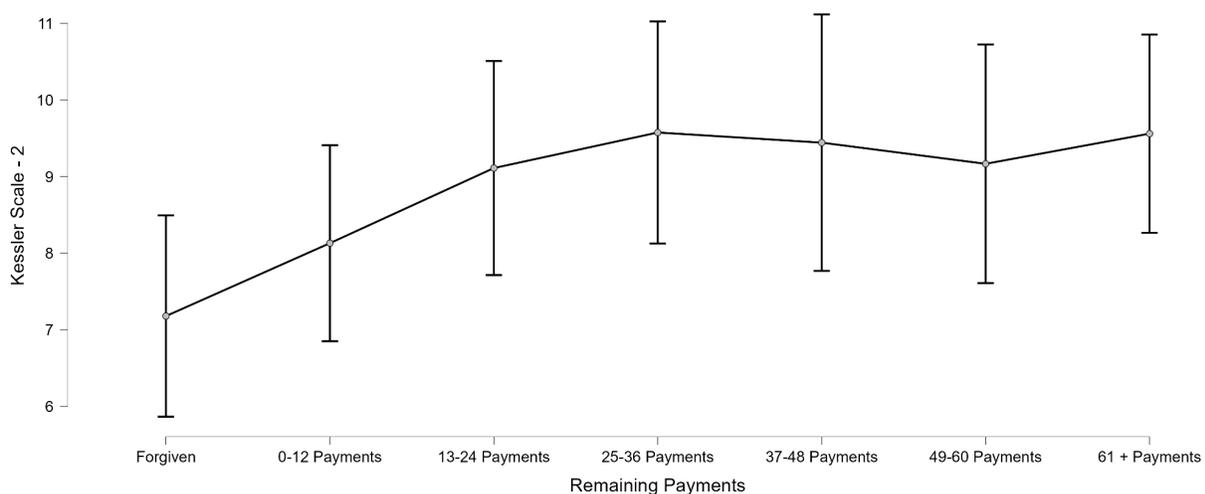
Psychological Distress

The psychological distress scale is scored via aggregate totals – ranging from 0 to 24 points. Here, psychological distress remained rather consistent from 13+ remaining payments at about a score of 9. However, those with 0 to 12 remaining repayments on average had a score of nearly 8 – and those whose debts were forgiven had a score of 7. The regression model suggests that as compared to forgiven borrowers, those with 0-12 repayments had marginally statistically similar psychological distress (0.95, $p=.086$). Whereas those with 13 or more payments had significantly increased distress ranging from 1.93 to 2.40 points higher (Figure 7).

Put into context, the average borrower in the full sample had a score of 8.50 which falls within the lower range of the mild to moderate distress categorization (8-12 points). The only group of borrowers who on average reported no to low distress (0-7 points) are those with forgiven debts who reside on the higher end of the bound at 7 points. Recent research suggests most U.S. adults would fall into the no to low distress group (between 63% to 74%) and about 15% to 30% would be in the mild/moderate distress group^{xxvi,xxvii}. The mean score in the regression was 8 – suggesting the average participant in this sample was more (dis)stressed than in other studies of U.S. adults.

A score of 13 or more puts individuals within the severe mental distress category – which 16% of this sample is in. The studies cited above suggest that between 9% to 10% of U.S. adults tend to be in this category, respectively. Only borrowers whose debts have been forgiven align with this expectation as only 9% are in the severe categorization – the remaining groups range from 12% (0 to 12 remaining payments) to 25% (25 to 36 remaining payments). To be noted, compared to no/low distress, those with severe distress are 28 percentage-points more likely to have any suicidal thoughts, 9 percentage-points more likely to use non-prescription drugs, and 11 percentage-points more likely to drink alone (see Table A4). Addressing severe psychological distress is critically important as doing so will decrease the likelihood of reporting these behaviors and could reduce perceived stress ($r=.72$).

Figure 7 – Marginal Effect of Psychological Distress by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)

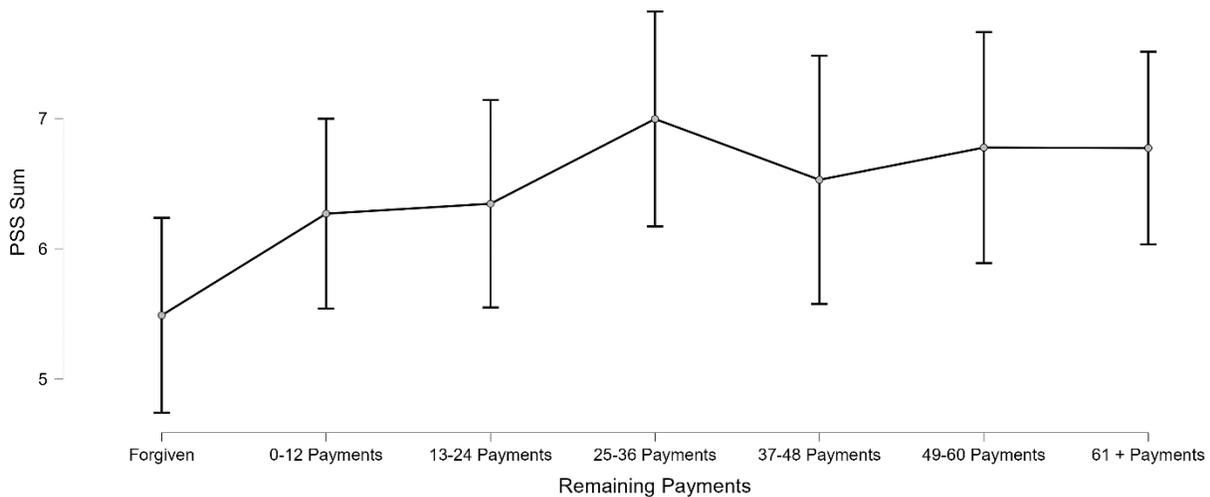


Perceived Stress

The Perceived Stress Scale is scored via a summative total – ranging from 0 to 16. As highlighted in Figure 8, the regression showed that compared to forgiven borrowers, borrowers with remaining payments had significantly more stress. Those with 0-12 remaining payments had 0.78 increased stress and those with 61+ repayments had 1.29.

For wider context, a recent study focused on women with a mean age of 31 years old who were mostly graduate school educated reported a mean Perceived Stress score of 6.70.^{xxviii} Additionally, another study with a predominantly female (79%) and White (73%) sample, with a mean age of 45 years old reported a mean score of 6.00.^{xxix} Overall, it appears that this sample’s stress is aligned with other studies but also shows that forgiven borrowers had lower than average perceived stress.

Figure 8 – Marginal Effect of Perceived Stress by Remaining Payments (Controls for Demographics, Earnings, Family Variables, and Degree Type)

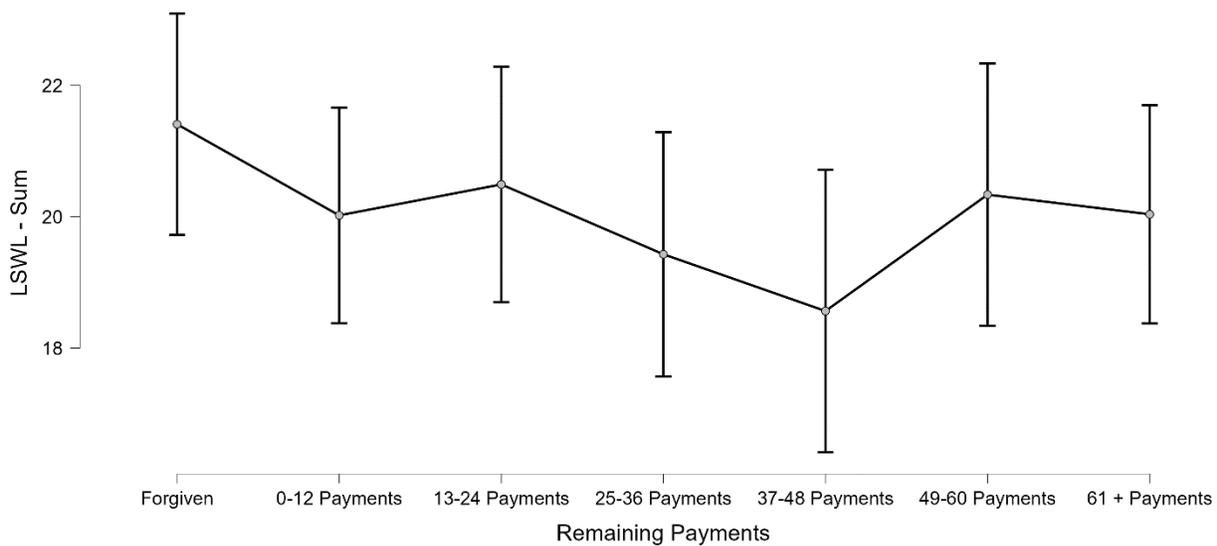


Satisfaction With Life

The Satisfaction with Life Scale (SWLS) is also scored in a summative fashion with scores ranging from 5 (Extremely Dissatisfied) to 35 (Extremely Satisfied). For the sample, the mean satisfaction score was 22 – which is in the “Slightly Satisfied” category (20-24) – when not adjusting for covariates. For context, a recent paper on middle-aged American adults with a mean age of 54 reported a mean SWLS score of 24^{xxx} – the same mean SWLS score as another study with a younger sample (32 years old).^{xxxi} Although these studies had SLWS scores that were on average 2-points higher, both studies’ samples were on average in the same “Slightly Satisfied” category as this study.

As compared to borrowers who have achieved forgiveness, most remaining repayment categories have statistically similar outcomes – except for those with 0-12 ($B=-1.38$), 25-36 ($B=-1.96$), and 37-48 remaining payments ($B=-2.85$). As the graphic below shows, borrowers with 37-48 remaining payments scored 19 or below – suggesting they are “Slightly Dissatisfied” with life. Borrowers with 25-36 and 37-48 remaining payments also had the highest levels of psychological distress, as well - which has a medium correlation of $r=-.46$ ($p<.001$) to the SWLS scale.

Figure 9 – Marginal Effect of Satisfaction With Life Scale by Remaining Repayments (Controls for Demographics, Earnings, Family Variables, and Degree Type)



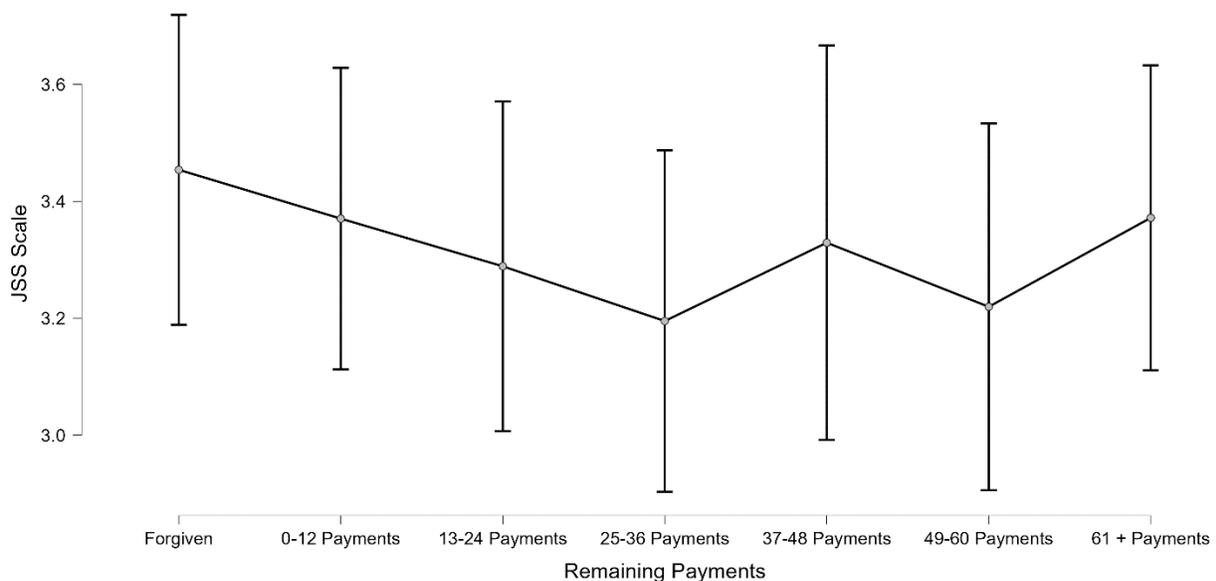
Job Satisfaction

Reported job satisfaction was generally consistent across the repayment groups; for example, those with 61+ repayments reported 3.36 (out of 5.00) and those with 0-12 repayments 3.40. Job satisfaction for forgiven borrowers was just over 3.40. Regression suggests that compared to forgiven borrowers those in repayment had generally lower job satisfaction but not to a statistically significant extent, with decreases ranging from -0.26 (25-36 repayments) to -0.08 (0-12 repayments). Furthermore, the ANOVA for this regression was non-significant ($p=.459$) – suggesting the model is suboptimal and these variables are not suitable predictors of job satisfaction for this sample.

In pursuit of understanding job satisfaction, we asked participants two additional single-item questions. First, for borrowers who have achieved forgiveness, we asked whether they have considered switching jobs since their debt was forgiven – to which 42% said they were. For borrowers in repayment, we asked if they would still be working in their jobs upon forgiveness to which 36% said they would not be. To be noted, participants eyeing the next move could be looking for other positions within the same organization - and these outcomes do not necessarily denote movement beyond current employers. In future qualitative inquiry, we intend to explore more about this topic.

The full regressions for all subjective well-being measures are in Table A2 in the Appendix.

Figure 10 – Marginal Effect of Job Satisfaction Scale by Remaining Repayments (Controls for Demographics, Earnings, Family Variables, and Degree Type)



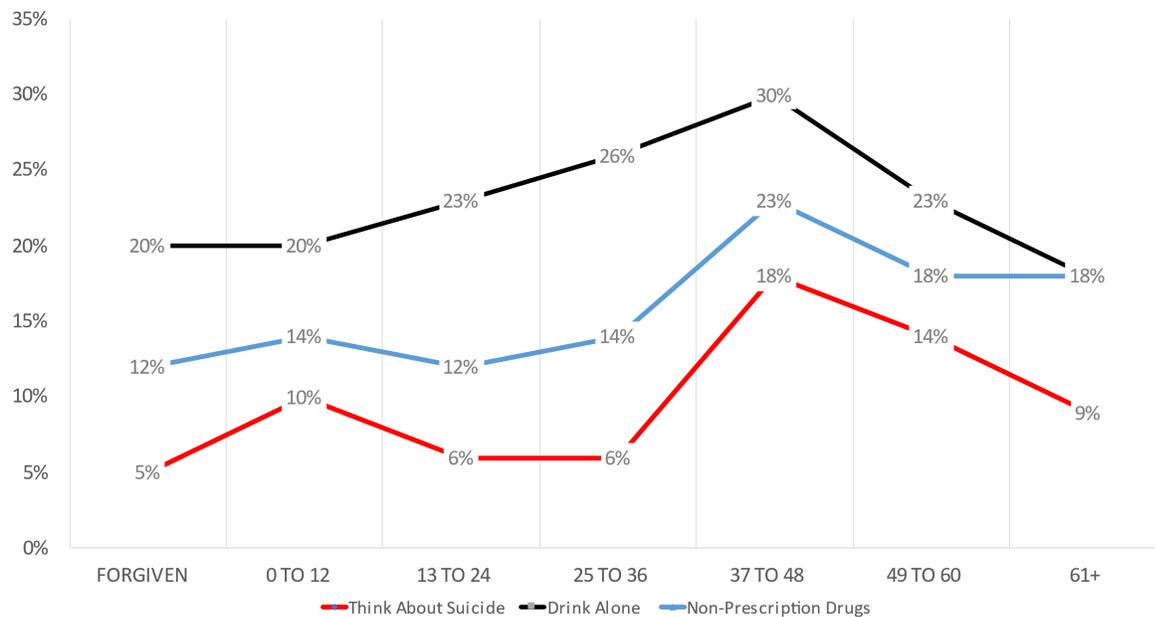
Suicidal Thoughts, Drinking, and Non-Prescription Drug Usage

Finally, we examined whether people engaged in the selected behaviors of thinking about suicide, non-prescription drug use, and drinking alone. We asked participants to report how many days per week they engaged in these behaviors from 0 to 7 days. Highlighted in Figure 11 – the percentage of participants who reported any degree of engagement in each of these behaviors is elevated in those with 49-60 repayments and peaks for those with 37-48 remaining repayments – where 30% of these borrowers drink alone, 23% use non-prescription drugs, and 18% report suicidal thoughts.

The frequency with which affected borrowers engage in these behaviors is concerning. Among students who reported suicidal thoughts, borrowers with 37-48 payments remaining had them 2 days per week and borrowers with 25-36 payments remaining had them 2.6 days per week. Those who reported any non-prescription drug use reported an average of 3.9 days of use per week, with a peak of 4.5 days per week for borrowers with 25-36 payments remaining. Borrowers who drank alone on average reported drinking alone 2.1 days per week, with a high of 2.5 days per week for those with 12-24 payments left.

Regression showed generally null results when comparing forgiven borrowers against the repayment groups except for those with 37-48 and 49-60 remaining payments - who were 13 and 9 percentage points more likely to have any suicidal thoughts, respectively. Results for non-prescription drug use and drinking alone were generally null - see Table A3 in the Appendix. Although remaining repayments were not generally related to these outcomes, the Kessler score was (Table A4). Therefore, there are likely and indirect effects from remaining payments through the Kessler score this study does not examine but a future analysis will.

Figure 11 - Percentage of Participants Reporting Engagement in Suicidal Thoughts, Drinking Alone, and Non-Prescription Drug Use by Remaining Payments



Discussion

These early analyses suggest a variety of findings, most of which were previously unknown – because until recently the PSLF program was not working properly and few borrowers had ever been granted forgiveness. With the changes to PSLF, more borrowers have achieved forgiveness and more studies like this could be extremely helpful in understanding both the financial and non-cognitive related outcomes. Before we move to discuss these early findings, we remind readers that these data have been collected during the student loan repayment pause. Therefore, it is likely that many findings here may not match in conditions where people are actively in repayment – which we intend to test when payments resume. Notably, we expect monthly savings and satisfaction scales to shift downward and (dis)stress scales to move higher as people cope with resuming payments.

As related to who is still currently repaying and who has achieved forgiveness, for this sample, many variables were statistically similar across the two groups – like as the highest degree earned, race, gender, and type of organization worked for. However, some notable differences existed between the two groups. For example, the forgiveness group was on average 4 years older, a larger percentage had children (74% v. 50%) – and a larger percentage consisted of individuals earning \$100,000+ (33% v. 21%). The age differences can be explained by the natural progression of repayment – and shows the importance of controlling for age in regressions. As related to income, the differences between the two groups (i) could be a function of age as the natural earnings cycle would suggest more people would earn more as time progresses, (ii) may suggest that individuals in these earlier cohorts with more financial (and likely social) resources had a stronger ability to ensure their repayments were properly tracked, or (iii) may indicate that some borrowers move to higher-paying jobs once they achieve loan forgiveness. These are topics we intend to explore in our impending qualitative inquiry.

Next, evidence suggests that homeownership is related to remaining payments and achieving forgiveness. However, there is limited evidence that suggests being in different payment groups produces significantly different outcomes for non-savings retirement and retirement savings. Although we did not see statistically significant differences, again we note that an increased savings of \$100 or more per month is indeed valuable to forgiven borrowers. As a reminder, these data were collected during the repayment pause and prior studies have shown that money that would have otherwise gone to student loan payments was used to pay down other debts or save.^{xxxii, xxxiii} Therefore, we cannot be sure whether these outcomes are a consistent feature of the PSLF program, or if our results are a product of the repayment pause. It remains possible trends will be more obvious after the pause is lifted.

Regressions on FICO scores indicated that forgiven borrowers had a score on the higher end of the “Very Good” range – and that compared to the borrowers nearing forgiveness (0-12 remaining payments), their scores were about 20 points higher. However, those with 49 or more remaining payments fall into the “Good” category – which is the same categorization as the average U.S. score. In the wider context of FICO scores, again, this sample is generally doing better than the average American adult.



On the topic of (dis)stress, across the three scales employed – financial stress, psychological distress, and perceived stress – the trends were rather consistent in that the reported degree of (dis)stress was statistically similar among individuals with 13 or more remaining payments. For those who had 12 or fewer remaining payments changes in (dis)stress tended to revise downward. Sometimes this outcome was significant, other times it was non-significant but indicative of a decline. However, borrowers who have achieved forgiveness on average reported the lowest levels of (dis)stress with the changes in financial stress being most obvious – which makes sense. Additionally, there is weak evidence that satisfaction with life increases after forgiveness, but job satisfaction was not correlated with the outcome. Overall, these measures suggest several changes in quality of life occur starting when individuals are within 12 months of remaining payments with another improvement once forgiveness is achieved.

Finally, regressions did not suggest that remaining payments and forgiveness were generally related to the behaviors of drinking alone, non-prescription drug usage, or suicidal thoughts. However, the Kessler scale had a strong relationship with each of these behaviors. Thus, easing these individuals' mental distress before forgiveness **should be a priority** – and any interventions here are quality opportunities to conduct pilot studies. We believe the descriptive data show that mental health outreach is necessary for borrowers who have between 37 and 60 remaining payments. Across all three of these behaviors, there is a spike in the percentage of individuals engaging – of concern is that 18% of borrowers with 37 to 48 remaining payments report suicidal thoughts. This percentage is at least double those reporting suicidal thoughts with fewer remaining payments or forgiveness; therefore, we encourage advocates to identify individuals in these repayment buckets to check in and see who may need help.

Limitations & Future Intentions

As detailed, this is an initial analysis and data collection will continue throughout the winter of 2022 – to be noted, that sample will be more narrowly focused on individuals within unions. Although this is an early analysis, currently – this study is among the first to examine the relationship between forgiveness through PSLF and various financial and non-cognitive outcomes. There are two things to consider here, first while the analytic sample is over $N=700$ – these outcomes could change after the next round of data collection and with a larger sample size, we could generate different analyses to control for more factors and provide more information. For example, we hope to disaggregate the remaining payment groups with more than 60 remaining payments – with the current sample we had to condense these groups into one for any meaningful explanations. Second, the quantitative data collected during this first round (and the first year in total) occurred during the repayment pause. As such, we cannot be sure how measurements would be different during a period of ongoing re-payment. As this study is a multiple-year effort intending to collect future quantitative data from the same participants who were engaged this year, we will be able to test for differences between the pause and the future unpaused conditions. Additionally, once the second round of data collection has been completed at the end of 2022 – we will merge in American Community Survey data to control for additional socioeconomic factors, using participants' zip codes. Furthermore, we will probe for additional information in interviews conducted in spring 2023 – as we aim to understand how borrowers make sense of their debt, repayment, forgiveness, and subjective well-being.

Conclusion

These preliminary analyses indicate that being closer to forgiveness or achieving debt relief is related to many positive outcomes – including increased FICO scores, a higher chance at homeownership, and lower (dis)stress levels. These findings bring to light some early evidence on both borrowers’ financial and subjective well-being – which can help move the conversation toward how achieving forgiveness could translate into measures of overall well-being. A focus on these issues is sorely missing from conversations associated with the PSLF program, cancellation in general, and student loan debt more widely.

Appendix A – Full Regression Tables

Table A1 – Linear Regression Models Exploring the Relationship Between Remaining Repayments and Monthly Non-Retirement Savings, Monthly Retirement Savings, Homeownership, and FICO Scores

	Homeownership (LPM)		Monthly Non-Retirement Savings		Monthly Retirement Savings		FICO Score	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
0-12 Remaining Payments	-0.04	0.05	-\$82.63	64.98	\$41.78	69.72	-20.73**	7.49
13-24 Remaining Payments	-0.11*	0.06	-\$158.00*	75.53	-\$79.59	79.63	-20.28*	8.50
25-36 Remaining Payments	-0.10	0.06	-\$90.98	76.44	\$27.85	83.71	-33.55***	9.03
37-48 Remaining Payments	-0.13+	0.07	-\$144.90	101.21	\$30.99	101.10	-26.81*	11.04
49-60 Remaining Payments	-0.17**	0.06	-\$185.10*	87.16	\$1.37	90.69	-55.79***	9.78
61+ Remaining Payments <REF Forgiven>	-0.18**	0.05	-\$103.61	68.45	-\$4.41	73.98	-49.63***	7.88
Age	0.01***	0.00	-\$7.13*	2.85	-\$0.03	3.00	-0.74*	0.32
African American/Black	-0.02	0.06	\$79.67	74.37	-\$85.68	86.75	-12.77	8.92
Hispanic/Latinx	-0.08	0.07	-\$70.05	96.58	-\$11.80	100.33	-20.45+	10.50
Two or More Races <REF White>	-0.06	0.08	-\$74.04	103.25	-\$111.71	101.67	-23.89*	11.33
Male	-0.02	0.05	\$37.91	63.25	-\$9.46	70.05	17.05*	7.58
Non-Binary/Third Gender <REF Female>	-0.39***	0.12	-\$90.35	173.02	-\$128.57	173.23	-18.11	18.02
Married	0.26***	0.04	\$126.00**	47.13	\$132.50**	49.57	23.66***	5.30
One Dependent Child	0.09*	0.04	-\$150.66**	55.66	-\$55.50	59.10	-18.70**	6.39
Two Dependent Children	0.11*	0.04	-\$132.91*	58.40	-\$58.34	61.40	-25.19***	6.50
Three or More Dependent Children <REF No Dependent Children>	0.14*	0.06	-\$128.98	88.89	-\$136.08	85.62	-42.29***	9.17
Possess Private Student Loan Debt	-0.06	0.04	\$21.88	57.68	-\$144.69*	60.05	-16.32*	6.49
Bachelor's Degree	-0.05	0.06	\$6.70	90.87	-\$85.63	87.21	-22.79*	9.25
Graduate Degree – MBA	-0.12	0.09	-\$82.63	123.24	-\$50.47	123.29	-19.34	13.96
Law Degree – J.D.	-0.07	0.05	-\$9.26	66.82	\$4.03	69.72	2.53	7.41
Medical Degree (M.D.)	-0.06	0.09	\$407.90***	114.25	\$784.61***	126.83	2.47	14.32



Ph.D./Ed.D./Other Doctorate <REF Master's Degree>	0.02	0.04	-\$1.35	54.48	\$13.60	58.68	13.90*	6.41
Income – Under \$55,000	-0.08	0.06	-\$205.70**	77.29	-203.28*	83.89	-14.12	8.83
Income - \$55,000 to \$64,999	0.01	0.06	-\$124.84+	75.03	-77.22	81.60	-8.48	8.77
Income - \$65,000 to \$74,999	-0.05	0.06	\$43.72	79.20	-116.01	78.77	-19.14*	8.53
Income - \$85,000 to \$99,999	-0.07	0.06	\$106.55	76.68	162.87*	80.25	-1.91	8.71
Income - \$100,000+ <REF Income - \$75,000-\$84,999>	0.06	0.06	\$25.30	76.25	334.63***	77.33	-9.44	8.46
+= $p \leq .100$, *= $p \leq .050$, **= $p \leq .010$, ***= $p \leq .001$								
<i>Adjusted R-squared</i>	0.20		0.09		0.19		0.15	
<i>ANOVA p-value</i>	<.001		<.001		<.001		<.001	
<i>F-statistic</i>	7.60		2.89		6.61		5.52	
<i>N</i>	722		529		634		712	

Table A2 – Linear Regression Models Exploring the Relationship Between Remaining Repayments and Measures of (Dis)Stress and Satisfaction

	Financial Distress		Psychological Distress		Perceived Stress		Satisfaction with Life		Job Satisfaction	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.A
										2
0-12 Remaining Payments	0.79***	0.10	0.95+	0.54	0.78*	0.31	-1.38*	0.69	-0.08	0.11
13-24 Remaining Payments	1.08***	0.11	1.93**	0.62	0.87*	0.35	-0.90	0.79	-0.16	0.13
25-36 Remaining Payments	1.07***	0.12	2.40***	0.66	1.52***	0.37	-1.96*	0.84	-0.26+	0.13
37-48 Remaining Payments	1.04***	0.14	2.26**	0.78	1.04**	0.45	-2.85**	1.01	-0.13	0.16
49-60 Remaining Payments	1.19***	0.13	1.99**	0.70	1.30***	0.40	-1.04	0.90	-0.23	0.14
61+ Remaining Payments	1.10***	0.10	2.38***	0.57	1.29***	0.33	-1.37+	0.73	-0.08	0.12
<REF Forgiven>										
Age	0.02***	0.00	0.03	0.02	0.02+	0.01	-0.11***	0.03	0.00	0.01
African American/Black	0.01	0.11	-0.82	0.63	-0.42	0.36	-1.17	0.81	-0.02	0.13
Hispanic/Latinx	0.28*	0.14	0.15	0.78	-0.02	0.44	-0.42	1.00	0.17	0.16
Two or More Races	0.41**	0.15	0.79	0.82	-0.05	0.47	-2.30*	1.05	-0.32+	0.17
<REF White>										
Male	-0.12	0.10	0.52	0.56	0.20	0.32	-0.18	0.71	0.06	0.11
Non-Binary/Third Gender	0.24	0.23	0.03	1.30	0.47	0.74	-0.83+	1.67	-0.34	0.26
<REF Female>										
Married	-0.34***	0.07	-0.91*	0.39	-0.58**	0.22	3.65***	0.49	0.17*	0.08
One Dependent Child	0.18*	0.08	-0.65	0.47	0.04	0.27	1.07+	0.60	0.06	0.09
Two Dependent Children	0.16+	0.08	-0.65	0.47	0.01	0.27	0.90	0.60	0.08	0.09
Three or More Dependent Children	0.42***	0.12	0.24	0.66	0.90*	0.38	-0.23	0.85	-0.01	0.13
<REF No Dependent Children>										
Possess Private Student Loan Debt	0.44***	0.08	0.67	0.47	0.34	0.27	-1.00+	0.60	-0.05	0.09
Bachelor's Degree	0.10	0.12	0.35	0.67	0.30	0.38	-0.78	0.86	-0.22	0.14
Graduate Degree – MBA	0.20	0.18	0.12	0.99	0.37	0.56	-0.77	1.27	-0.14	0.20
Law Degree – J.D.	-0.15	0.10	0.65	0.54	0.46	0.31	-0.73	0.69	-0.09	0.11
Medical Degree (M.D.)	-0.16	0.18	-1.39	1.02	-0.21	0.58	1.03	1.30	0.03	0.21
Ph.D./Ed.D./Other Doctorate	-0.10	0.08	-0.32	0.46	-0.13	0.26	0.79	0.59	0.06	0.09
<REF Master's Degree>										



Income – Under \$55,000	0.09	0.11	0.78	0.64	0.76*	0.37	-1.91*	0.82	-0.07	0.13
Income - \$55,000 to \$64,999	0.04	0.11	0.09	0.64	0.23	0.36	-0.83	0.81	-0.07	0.13
Income - \$65,000 to \$74,999	0.11	0.11	0.08	0.62	0.22	0.35	-0.01	0.79	0.01	0.13
Income - \$85,000 to \$99,999	0.01	0.11	-0.54	0.63	0.12	0.36	0.92	0.80	-0.03	0.13
Income - \$100,000+	0.06	0.11	-0.13	0.61	0.08	0.35	-0.47	0.78	-0.04	0.12
<REF Income - \$75,000-\$84,999>										
	+= $p \leq .100$, *= $p \leq .050$, **= $p \leq .010$, ***= $p \leq .001$									
<i>Adjusted R-squared</i>	0.26		0.05		0.04		0.14		0.01	
<i>ANOVA p-value</i>	<.001		<.001		.003		<.001		.431	
<i>F-statistic</i>	9.78		2.29		1.96		5.05		1.03	
<i>N</i>	714		713		711		714		712	

Table A3 – Linear Regression Models Exploring the Relationship Between Remaining Repayments and Any Reported Instances of Suicidal Thoughts, Non-Prescription Drug Use, and Drinking Alone (Linear Probability Models)

	Suicidal Thoughts		Non-Prescription Drug Use		Drinking Alone	
	B	S.E.	B	S.E.	B	S.E.
0-12 Remaining Payments	0.06+	0.04	0.02	0.04	0.00	0.05
13-24 Remaining Payments	0.02	0.04	0.01	0.05	0.01	0.06
25-36 Remaining Payments	0.02	0.04	0.01	0.05	0.03	0.06
37-48 Remaining Payments	0.13*	0.05	0.11+	0.06	0.06	0.07
49-60 Remaining Payments	0.09*	0.05	0.08	0.05	0.02	0.06
61+ Remaining Payments	0.05	0.04	0.09+	0.04	-0.05	0.05
<REF Forgiven>						
Age	0.00	0.00	0.01***	0.00	0.00	0.00
African American/Black	0.00	0.04	-0.07	0.05	0.04	0.06
Hispanic/Latinx	0.01	0.05	-0.01	0.06	0.13+	0.07
Two or More Races	0.00	0.05	-0.10	0.06	-0.01	0.07
<REF White>						
Male	0.03	0.04	0.01	0.04	0.05	0.05
Non-Binary/Third Gender	0.06	0.08	0.03	0.10	0.12	0.12
<REF Female>						
Married	-0.03	0.03	0.01	0.03	-0.06+	0.03
One Dependent Child	-0.02	0.03	-0.08*	0.04	-0.01	0.04
Two Dependent Children	-0.02	0.03	-0.07+	0.04	-0.05	0.04
Three or More Dependent Children	0.00	0.04	-0.11*	0.05	-0.10	0.06
<REF No Dependent Children>						
Possess Private Student Loan Debt	0.04	0.03	-0.10**	0.04	-0.01	0.04
Bachelor's Degree	0.09*	0.04	0.01	0.05	0.04	0.06
Graduate Degree – MBA	-0.09	0.06	-0.08	0.08	-0.04	0.09
Law Degree – J.D.	0.02	0.04	0.03	0.04	0.11*	0.05
Medical Degree (M.D.)	-0.02	0.07	-0.05	0.08	0.02	0.09
Ph.D./Ed.D./Other Doctorate	-0.02	0.03	0.01	0.04	0.04	0.04
<REF Master's Degree>						



Income – Under \$55,000	-0.05	0.04	-0.01	0.05	-0.06	0.06
Income - \$55,000 to \$64,999	-0.06	0.04	-0.08	0.05	-0.11+	0.06
Income - \$65,000 to \$74,999	-0.04	0.04	-0.02	0.05	-0.01	0.06
Income - \$85,000 to \$99,999	-0.06	0.04	-0.08	0.05	-0.04	0.06
Income - \$100,000+	-0.04	0.04	-0.09+	0.05	-0.03	0.06
<REF Income - \$75,000-\$84,999>						
+= $p \leq .100$, *= $p \leq .050$, **= $p \leq .010$, ***= $p \leq .001$						
<i>Adjusted R-squared</i>		.00	.03		.01	
<i>ANOVA p-value</i>		.331	.004		.176	
<i>F-statistic</i>		1.10	1.93		1.25	
<i>N</i>		707	711		712	

Table A4 – Linear Regression Models Exploring the Relationship Between Remaining Repayments and Any Reported Instances of Suicidal Thoughts, Non-Prescription Drug Use, and Drinking Alone (Linear Probability Models) – KESSLER SCORES INCLUDED

	Suicidal Thoughts		Non-Prescription Drug Use		Drinking Alone	
	<i>B</i>	<i>S.E.</i>	<i>B</i>	<i>S.E.</i>	<i>B</i>	<i>S.E.</i>
Mild/Moderate Psych Distress	0.09***	0.02	0.02	0.03	0.07+	0.03
Severe Psych Distress	0.28***	0.03	0.09*	0.04	0.11*	0.05
<REF No/Low Distress>						
0-12 Remaining Payments	0.04	0.03	0.03	0.04	-0.01	0.05
13-24 Remaining Payments	-0.02	0.04	0.00	0.05	-0.01	0.06
25-36 Remaining Payments	-0.03	0.04	0.00	0.05	0.01	0.06
37-48 Remaining Payments	0.10*	0.05	0.11+	0.06	0.04	0.07
49-60 Remaining Payments	0.06	0.04	0.07	0.05	0.00	0.06
61+ Remaining Payments	0.02	0.04	0.08+	0.04	-0.07	0.05
<REF Forgiven>						
Age	0.00	0.00	0.01***	0.00	0.00	0.00
African American/Black	0.01	0.04	-0.06	0.05	0.05	0.06
Hispanic/Latinx	0.02	0.05	0.00	0.06	0.14+	0.07
Two or More Races	-0.02	0.05	-0.11+	0.06	-0.02	0.07
<REF White>						
Male	0.02	0.03	0.01	0.04	0.04	0.05
Non-Binary/Third Gender	0.05	0.08	0.03	0.10	0.11	0.12
<REF Female>						
Married	-0.02	0.02	0.01	0.03	-0.05	0.04
One Dependent Child	-0.01	0.03	-0.07+	0.04	-0.01	0.04
Two Dependent Children	0.00	0.03	-0.06	0.04	-0.05	0.04
Three or More Dependent Children	0.00	0.04	-0.11*	0.05	-0.10+	0.06
<REF No Dependent Children>						
Possess Private Student Loan Debt	0.02	0.03	-0.10**	0.04	-0.02	0.04
Bachelor's Degree	0.07+	0.04	0.01	0.05	0.04	0.06
Graduate Degree – MBA	-0.09	0.06	-0.08	0.08	-0.04	0.09
Law Degree – J.D.	0.01	0.03	0.01	0.04	0.11*	0.05



Medical Degree (M.D.)	0.00	0.06	-0.04	0.08	0.03	0.09
Ph.D./Ed.D./Other Doctorate	-0.01	0.03	0.01	0.04	0.05	0.04
<REF Master's Degree>						
Income – Under \$55,000	-0.06	0.04	-0.02	0.05	-0.07	0.06
Income - \$55,000 to \$64,999	-0.05	0.04	-0.07	0.05	-0.11+	0.06
Income - \$65,000 to \$74,999	-0.05	0.04	-0.02	0.05	-0.01	0.06
Income - \$85,000 to \$99,999	-0.05	0.04	-0.07	0.05	-0.04	0.06
Income - \$100,000+	-0.03	0.04	-0.09+	0.05	-0.03	0.06
<REF Income - \$75,000-\$84,999>						
+= $p \leq .100$, *= $p \leq .050$, **= $p \leq .010$, ***= $p \leq .001$						
<i>Adjusted R-squared</i>	.11		.04		.02	
<i>ANOVA p-value</i>	<.001		.001		.074	
<i>F-statistic</i>	4.10		2.02		1.42	
<i>N</i>	706		710		711	



-
- ⁱ Federal Student Aid. (2022a). *Public service loan forgiveness* (PSLF). Retrieved April 22, 2022 from <https://studentaid.gov/manage-loans/forgiveness-cancellation/public-service>
- ⁱⁱ Ruddy, S., Akabas, S., & Miller, K. (2021, November). *Student debt and the federal budget: How student loans impact the U.S. fiscal outlook*. Bipartisan Policy Center. Retrieved April 22, 2022 from <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2021/11/Student-Debt-and-the-Federal-Budget.pdf>
- ⁱⁱⁱ Friedman, A.B., Grischkan, J.A., Dorsey, E.R., & George, B.P. (2016). Forgiven but not relieved: U.S. physician workforce consequences of changes to public service loan forgiveness. *Journal of General Internal Medicine*, 31, 1237-1241. <https://link.springer.com/article/10.1007/s11606-016-3767-2>
- ^{iv} United States Government Accountability Office. (2021). *Public service loan forgiveness: DOD and its personnel could benefit from additional program information* (GAO-21-65). Retrieved April 22, 2022 from <https://www.gao.gov/products/gao-21-65>
- ^v Eaton, C., Goldstein, A., Hamilton, L., & Wherry, F. (2021, June). *Student debt cancellation is progressive: Correcting empirical and conceptual errors*. Roosevelt Institute. Retrieved April 22, 2022 from <https://rooseveltinstitute.org/publications/student-debt-cancellation-is-progressive/>
- ^{vi} Looney, A., (2022, January). *Student loan forgiveness is regression whether measured by income, education, or wealth*. Brookings. Retrieved April 22, 2022 from <https://www.brookings.edu/research/student-loan-forgiveness-is-regressive-whether-measured-by-income-education-or-wealth/>
- ^{vii} Collier, D.A. (2020). Exploring IDR: A comparison of financial situations and behaviors between those in traditional student loan repayment and those in income-driven repayment. *Journal of Student Financial Aid*, 49(2). <https://ir.library.louisville.edu/jsfa/vol49/iss2/3/>
- ^{viii} Collier, D.A., Fitzpatrick, D., & Marsicano, C. (2021). Another lesson on caution in IDR analysis: Using the 2019 Survey of Consumer Finances to examine income-driven repayment and financial outcomes. *Journal of Student Financial Aid*, 50(1). <https://ir.library.louisville.edu/jsfa/vol50/iss2/4/>
- ^{ix} Collier, D.A., Fitzpatrick, D., & Marsicano, C. (2022). Exploring the relationship of enrollment in IDR to borrower demographics and financial outcomes. *Journal of Student Financial Aid*, 51(2). <https://ir.library.louisville.edu/jsfa/vol51/iss2/2/>
- ^x Ryu, S., & Fan, L. (2022). The relationship between financial worries and psychological distress among U.S. adults. *Journal of Family and Economic Issues*. <https://doi.org/10.1007/s10834-022-09820-9>
- ^{xi} Sweet, E. (2021). Debt-related financial hardship and health. *Health Education & Behavior*, 48(6), 885-891. <https://doi.org/10.1177/1090198120976352>
- ^{xii} Federal Student Aid. (2022). *Public service loan forgiveness data*. Retrieved October 24th, 2022 from <https://studentaid.gov/data-center/student/loan-forgiveness/pslf-data>
- ^{xiii} The second round of data collection will consist almost entirely of union members.
- ^{xiv} Lim, HA., Heckman, S.J., Letkiewicz, J.C., & Montalto, C.P. (2014). *Journal of Financial Counseling and Planning*, 25(2), 148-160. <https://files.eric.ed.gov/fulltext/EJ1048681.pdf>
- ^{xv} Pavot, W., Diener, E. (2009). Review of the Satisfaction With Life Scale. In: Diener, E. (eds) *Assessing Well-Being. Social Indicators Research Series, vol 39*. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-2354-4_5



-
- ^{xvi} Kessler, R.C... Zaslavsky, A.M. (2010). Screening for serious mental illnesses in the general population with the K6 screening scale: Results from the WHO World Mental Health (WMH) survey initiative. *International Journal of Methods in Psychiatric Research*, 19(51), 4-22. <https://doi.org/10.1002/mpr.310>
- ^{xvii} Cohen, S., Kamark, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396. <http://www.jstor.org/stable/2136404>
- ^{xviii} Judge, T. A., Bono, J. E., & Locke, E. A. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology*, 85(2), 237–249. <https://doi.org/10.1037/0021-9010.85.2.237>
- ^{xix} U.S. Bureau of Labor Statistics (2022). Career outlook: Education Pays, 2021. Retrieved from <https://www.bls.gov/careeroutlook/2022/data-on-display/education-pays.htm>
- ^{xx} U.S. Census Bureau. (2022). *Homeownership rate in the United States [RHORUSQ156N]*. Retrieved from <https://fred.stlouisfed.org/series/RHORUSQ156N>
- ^{xxi} Tax Policy Center (2020). *Percent of families holding nonfinancial assets*. Retrieved from <https://www.taxpolicycenter.org/statistics/percentage-families-holding-nonfinancial-assets>
- ^{xxii} Leckie, J. (2022). *A monthly Look at rent price trends across the United States*. Rent.com. Retrieved from <https://www.rent.com/research/average-rent-price-report/>
- ^{xxiii} U.S. Census Bureau. (2022). Financial characteristics for housing units with a mortgage [S2506]. Retrieved from <https://data.census.gov/cedsci/table?q=median%20monthly%20mortgage%20payment&tid=ACST1Y2021.S2506>
- ^{xxiv} Collier, D.A. (2020). Exploring IDR: A comparison of financial situations and behaviors between those in traditional student loan repayment and those in income-driven repayment. *Journal of Student Financial Aid*, 49(2). <https://ir.library.louisville.edu/jsfa/vol49/iss2/3/>
- ^{xxv} DeNicola, D. (2022). *What is a good credit score?* Experian. Retrieved from <https://www.experian.com/blogs/ask-experian/credit-education/score-basics/what-is-a-good-credit-score/>
- ^{xxvi} Breslau J., Finucane, M... & Collins, L. (2021). A longitudinal study of psychological distress in the United States before and during the COVID-19 pandemic. *Preventive Medicine*, 143. <https://doi.org/10.1016/j.ypmed.2020.106362>
- ^{xxvii} Prochaska, J.J., Sung, H.Y., Max, W., Shi, Y., & Ong, M. (2012). Validity study of the K6 scale as a measure to moderate mental distress based on mental health treatment and need utilization. *Int. J. Methods Psychiatr. Res.* 21, (2), 88-97. <https://doi.org/10.1002%2Fmpr.1349>
- ^{xxviii} Naya, C.H., Saxbe, D.E., & Dunton, G.F. (2021). Early effects of the COVID-19 pandemic on fertility preferences in the United States: An exploratory study. *Fertil Steril.*, 116(4), 1128-1138. [10.1016/j.fertnstert.2021.05.092](https://doi.org/10.1016/j.fertnstert.2021.05.092)
- ^{xxix} Mercado, N., Wachter, K... & Johnson, C.E. (2022). A cross-sectional analysis of factors associated with stress, burnout and turnover intention among healthcare workers during the COVID-19 pandemic in the United States. *Health & Social Care in the Community*, 30(5). <https://doi.org/10.1111/hsc.13712>
- ^{xxx} Urban-Wojcik, E.J., Mumford, J.A... & Schaefer, S.M. (2022). Emodiversity, health, and well-being in the Midlife in the United States (MIDUS) daily diary study. *Emotion*, 22(4), 603–615. <https://doi.org/10.1037/emo0000753>
- ^{xxxi} Gierc, M., Riaz, N.A... Faultker, G. (2021). Strange days: Adult physical activity and mental health in the first two months of the COVID-19 pandemic. *Frontiers in Public Health*. <https://doi.org/10.3389/fpubh.2021.567552>
- ^{xxxii} Ghoshal-Datta, N., Jambulapati, V., White, E. (2022). Who benefits from the student loan payment pause and what will happen when it ends?. California Policy Lab. <https://www.capolicylab.org/who-benefits-from-the-student-loan-payment-pause-and-what-will-happen-when-it-ends/>
- ^{xxxiii} Akana, T. & Ritter, D. (2022, May 13). *Expectations of student loan repayment, forbearance, and cancellation: Insights from recent survey data*. Federal Reserve Bank of Philadelphia. Retrieved from <https://www.philadelphiafed.org/consumer-finance/education-finance/expectations-of-student-loan-repayment-forbearance-and-cancellation-insights-from-recent-survey-data>