Education loan debt and well-being of young adult college students (APLUS)

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Objective and Significance

Aggregate student loan debt in the U.S. has hit 1 trillion dollars (Federal Reserve Board, 2010) and remains troublingly high among recent cohorts of young adults (Houle, 2014). The unprecedented growth in young adults' debt portfolio has increased interest among consumer and education policy advocates and research scholars on the effects of accruing student loan debt while pursuing a college degree in young adulthood. Studies find that in addition to non-pecuniary costs such as long-term effects on family formation (Addo, 2014; Nau, Dwyer, & Hodson, 2015) and career choice (Rothstein & Rouse, 2011), student loan debt also has shorter-term impacts like increased difficulty of college completion and longer times to degree (Dwyer, McCloud, & Hodson, 2012). While a growing number of studies have explored the relationship between consumer debt and health in adulthood (Drentea, 2000; Drentea & Lavrakas, 2000; Richardson et al., 2013), there remains a paucity of research on student loan debt and mental health and physical wellbeing especially among college students. This is surprising given the increased rates of poor mental and physical health on college campuses in recent years (Hunt & Eisenberg, 2010). Not to mention, the acquisition of student loans is intimately tied to a student's ability to continue their studies.

Conceptual Framework and Hypotheses

Consumer debt has consistently been associated with poor health behaviors (Drentea, 2000; Drentea & Lavrakas, 2000; Richardson et al., 2013) and poor mental health (Bridges & Disney, 2010) among adult populations. It is theorized that individuals with a lot of debt or who have to allocate their income to paying down debt may have little to no money to spend on quality health products and services (Kalousova & Burgard, 2013a; 2014). It may also be the case that debt-related financial stress contributes to worse health. Debt can also be stigmatizing, and there may be shame associated with seeking assistance (Graeber, 2012; Hyman, 2012). The societal norms regarding debt and debt-related stigma may contribute to chronic anxiety and stress exacerbating poor health conditions. The first research question addresses the short-run relationship between education loan debt and undergraduate well-being. It is hypothesized that acquiring education loan debt will be associated with negative changes in wellbeing, such as increased depressive symptoms, low physical health and declines in life satisfaction and that this association will be increasing in debt amount.

The relationship between student loan debt and negative educational outcomes is highly stratified, with racial and ethnic minorities (Jackson & Reynolds, 2013) and lower income students struggling the most (Choy & Berker, 2003; Goldrick-Rab & Pfeffer, 2009). Young adults with college-educated parents, and those from the highest income bracket leave school with considerably less debt than their counterparts (Houle, 2014); whereas parental wealth does not appear to reduce student loan debt accumulation for students of color to the same extent as non-Latino Whites (Addo, Houle, & Simon ,2016). The second research question examines: How does the relationship between student loan debt and student well-being vary by race and socioeconomic status? It is hypothesized that the potential health disadvantage associated with student loan debt will differ between Latino students, Asian students, and their White colleagues, and for high versus low socioeconomic status students.

Methods

Data.
The sample data come from waves 1 and 2 of a panel survey of first-year college students at a major, land-grant, public university in the American Southwest. Wave 1 data was collected in spring 2008 when

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the students were between the ages of 18 and 21. The first follow-up survey, Wave 2, was collected approximately two years later in fall 2010 when they were aged 21-24. The final analytic sample consists of 1,511 students interviewed both waves with valid responses on the wellbeing outcome measures.

Dependent Variables

Overall Well-being is measured from responses to the question: How would you rate your overall sense of well-being? *Physical health* is measured from the question: How would you rate your overall physical health**?**" Responses to both questions are reverse-coded from 1 "Excellent" to 5 "Poor." *Psychological distress* is a summated measure of four questions adopted from Barber, Eccles, and Stone (2001). Respondents were asked to record from 1 "Never" to 5 "Daily" how often they (1) felt loss of appetite or eat a lot when upset, (2) feel unhappy, sad, or depressed, (3) overwhelmed, or (4) tired. And, *life satisfaction* is measured as the mean of the following five questions: (1) In most ways my life is close to my ideal. (2) The conditions of my life are exciting. (3) I am satisfied with my life. (4) So far I have gotten the important things I want in life. (5) If I could live my life over, I would change almost nothing.

Education Loan Debt is assessed in each survey wave. Students were first asked whether they owed any undergraduate educational loans, and if so, to approximate the current amount outstanding.

Moderating Variables

Race/ethnicity is self-reported and categorized as non-Latino White, Latino, Asian/Asian-American/Pacific Islander, Native American and Other. Given the sample composition, Latino and Asian students are the predominant focus of the multivariate regression analysis, with descriptive analyses performed for the smaller racial groups.

Parental socioeconomic status will be based on a composite measure that combines educational attainment and household income (Zhang & Wang, 2004).

Additional Controls. Several time-varying variables that may confound the association of student loan debt with the dependent variables examined will be controlled. These include, but are not limited to, the young adult's grade point average, credit card and other debts, assessments of personal relationships (e.g. friends, family), measures of self-efficacy, coping, household and family structure, employment status, and current income.

Analytic Methods

We use multivariate regression models with fixed effects for two periods (first difference models) to estimate the relationship between well-being and education loan debt within the young adult sample. We estimate:

$$\Delta\Delta Y_{"} = \beta_{\&} + \beta_{(}\, \Delta\Delta studentloans_{"} + \gamma \Delta\Delta X_{"} + \Delta\Delta \varepsilon_{"}$$

It will be the point estimate on the student loan measure, $\beta_{(}$, of most interest in this study. Where $\beta_{(}$ is the estimated effect of the average change in a particular well-being measure for students with student loans debt subtracted from the average change in students without debt.To explore variation by race/ethnicity and family socioeconomic status, we introduce an interaction term.

Results

Table 1 summarizes key attributes of the analytic sample along with average student loan debt information. Just over a quarter, 25.22%, of students hold student loans at baseline averaging $7,220. The proportion of students with loans rises by 12% percent two years later as well as the average amount of debt held $13,451. This is unsurprising given students continue to accumulate debt while enrolled without having to repay. Panel B lists the sample percentages by race/ethnicity and socioeconomic status as well as the percent within each group that report having outstanding student loans. While non-Latino White students comprise the largest proportion, only about 40% have education. This is in sharp contrast to the Latino students who are the second largest demographic at 14%. More than half, 56.2% of Latino students have student loan debt, however. The percent if Asian students with debt, 37.4% is similar to the

figures for White students. Whereas the Black and Native American students, who collectively comprise less than five percent of the full sample, have very high rates students with education loan debt. The socioeconomic status categories are as predicted; there is a strong income and education gradient, with student from the lower ends of the distribution more likely to have loans and the numbers decreasing by about 20% in the middle category and dropping another twelve percent to 28.6% with educational debt with the high SES group. Assuming education loan debt is not relegated to only students from economically disadvantaged households.

Table 1. Descriptive Statistics

	Mean (%)	**Average Student Debt**
A. Sample Characteristics		
Students with education loan debt at Wave 1	25.22%	$7,220.20
Students with education loan debt at Wave 2	39.77%	16,451.96
Change in education loan debt from Wave 1 to Wave 2*		$11,963.95
Students who had no debt at Wave 1 but had debt at Wave 2	11.25%	$13,451.00
B. Race/Ethnicity and SES Characteristics		
Race/Ethnicity	**% in sample**	**% with education loan debt**
White	69.0%	38.9%
Hispanic/Latino	13.9%	56.2%
Asian/Asian American/Pacific	9.2%	37.4%
Black	3.2%	61.2%
Native American	1.4%	81.0%
Other	3.2%	45.8%
Socioeconomic Status		
Low	31.1%	63.7%
Middle	25.3%	41.4%
High	43.6%	28.6%
N	1,511	

Note: Sample data are from waves 1 and 2 of the APLUS study. *Conditional on having loans in wave 1

Chart 1 presents the preliminary results from our first research question, which examines the relationship between student well-being and student loan debt status. The unconditional mean scores for all four well-being measures indicate that students with loan debt report poorer outcomes. Student debt is associated with poorer physical health and greater psychological distress. The subjective measures of overall wellbeing and life satisfaction are both higher than the means for student with debt, with the difference being statistically different from zero ($p<0.05$). Chart 2 displays the means for self-rated health and depressive symptoms by student loan and socioeconomic status. In general students from lower

socioeconomic backgrounds report poor physical and mental health. Across all three categories student loan debt is associated with poorer health. Chart 3 indicates a similar pattern with the unconditional means for overall well-being and life satisfaction by loan status and for select race/ethnic groups. The averages for debt holders are consistently lower.

Discussion and Conclusion

This study examines the impact of education loan debt on the health and well-being of young adult college students. It expands upon a growing literature that increasingly find strong linkages between debt and financial strain and poor health in adults. Because student loan debt has increased exponentially in the last twenty years, more students have debt and the average amount they accumulate while in school is considerably higher than previous generations. We also know that young adults are having difficulty with repaying upon school leaving and there are vast inequalities within the student loan and debt repayment system by race/ethnicity and socioeconomic status. Our preliminary analysis suggests there are health disparities present by student loan status at the undergraduate level. Students with loans report lower mean levels of wellbeing across several metrics including life satisfaction, depressive symptoms, and physical health. There are also noticeable patterns when the sample is disaggregated by race or ethnic groups and by parental socioeconomic status with disadvantaged groups with loans reporting lower well-being. Next steps include estimating the multivariate regression models for the full sample with an examination of variations in outcomes when experimenting with different model specifications that account for time invariant measures like race/ethnicity.

References

Addo, F. R. (2014). Debt, Cohabitation, and Marriage in Young Adulthood. *Demography, 51*, 1677-1701.

Addo, F. R., Houle, J. N., & Simon, D. (2016). Young, Black, and (Still) in the Red: Parental Wealth, Race, and Student Loan Debt. *Race and Social Problems*, *8*, 64-76.

Bridges, S., & Disney, R. (2010). Debt and depression. *Journal of Health Economics, 29*(3), 388-403. DOI: 10.1016/j.jhealeco.2010.02.003.

Choy, S. P., & Berker, A. M. (2003). How Families of Low-and Middle-Income Undergraduates Pay For College: Full-Time Dependent Students in 1999-2000 *Postsecondary Education Descriptive Analysis Reports*. Washington, D.C.: National Center for Education Statistics.

Drentea, P. (2000). Age, debt and anxiety. *Journal of Health and Social Behavior, 41,* 437-450.

Drentea, P., & Lavrakas, P. J. (2000). Over the limit: the association among health, race and debt. *Social Science & Medicine*, *50*, 517-529.

Dwyer, R. E., McCloud, L., & Hodson, R. (2012). Debt and graduation from American universities. *Social Forces*, *90*, 1133-1155.

Federal Reserve Board. (2010). G.19 Consumer Credit. Federal Reserve Statistical Release. Retrieved May 10, 2011, from http://www.federalreserve.gov/releases/g19/20100607/

Goldrick-Rab, S., & Pfeffer, F. T. (2009). Beyond Access: Explaining Social Class Differences in College Transfer. *Sociology of Education, 82*, 101-125.

Graeber, D. (2014). *Debt-Updated and Expanded: The First 5,000 Years*. New York: Melville House.

Houle, J. N. (2014). Disparities in Debt: Parents' Socioeconomic Status and Young Adult Student Loan Debt. *Sociology of Education*, *87*, 53-69.

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, *46*, 3-10.

Hyman, L. (2012). *Borrow: The American way of debt*. New York: Vintage Books.

Jackson, B. A., & Reynolds, J. R. (2013). The Price of Opportunity: Race, Student Loan Debt, and College Achievement. *Sociological Inquiry, 83*, 335-368.

Kalousova, L. & Burgard, S. A. (2013). Debt and foregone medical care. 2013. *Journal of Health and Social Behavior*, *54*, 203-219.

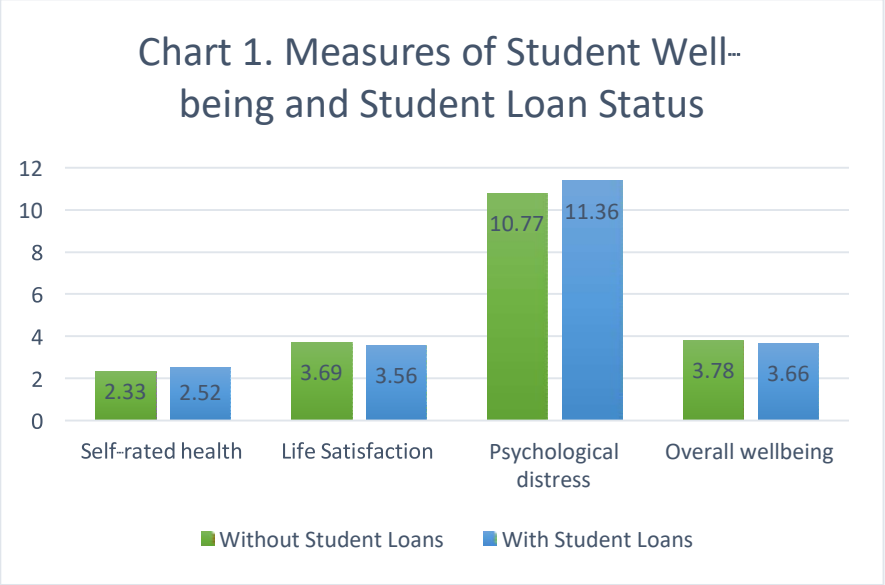
Kalousova, L., & Burgard, S. A. (2014). Tough choices in tough times debt and medication nonadherence. *Health Education & Behavior*, *41*, 155-163.

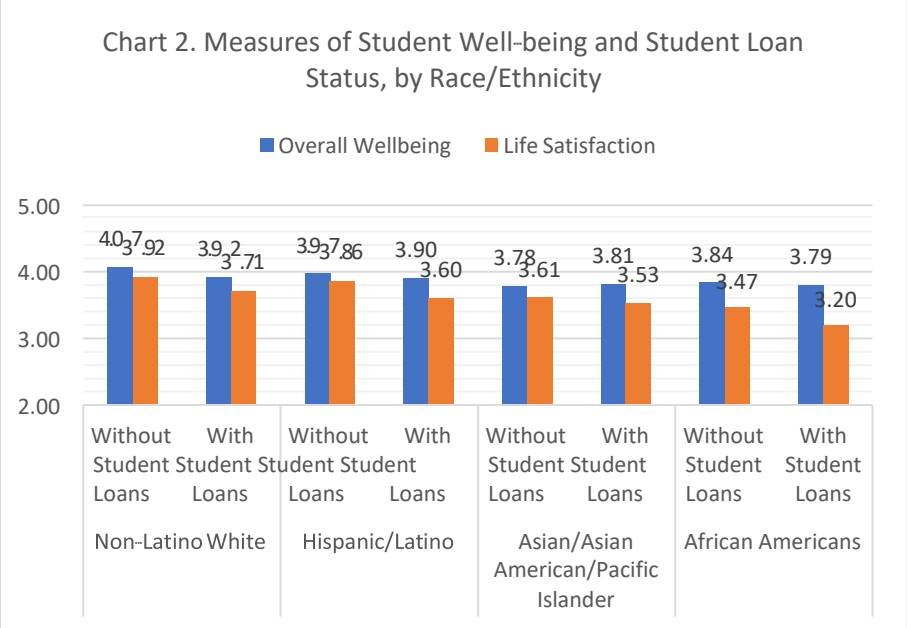
Nau, M., Dwyer, R. E., & Hodson, R. (2015). Can't afford a baby? Debt and young Americans. *Research in Social Stratification and Mobility, 42,* 114-122.

Richardson, T., Elliott, P., & Roberts, R. (2013). The relationship between personal unsecured debt and mental and physical health: a systematic review and meta-analysis. *Clinical Psychology Review*, *33*, 1148-1162.

Rothstein, J., & Rouse, C. E. (2011). Constrained after college: Student loans and early-career occupational choices. *Journal of Public Economics*, *95*, 149-163.

Zhang, Q., & Wang, Y. (2004). Trends in the association between obesity and socioeconomic status in U.S. adults: 1971 to 2000. *Obesity Research, 12*, 1622 – 1632.





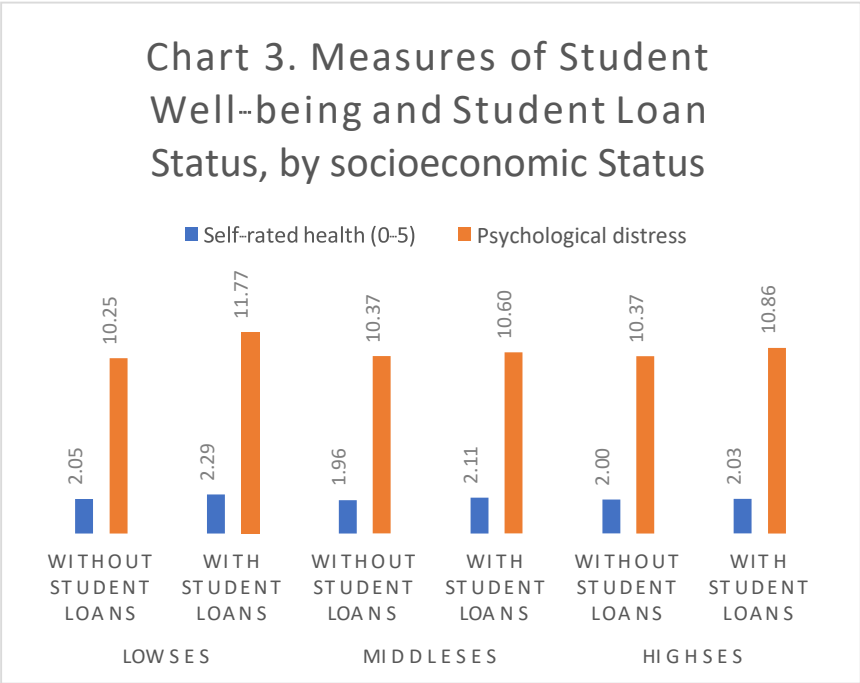


Chart 3. Measures of Student Well-being and Student Loan Status, by socioeconomic Status
Self-rated health (0-5)
Psychological distress
2.05
10.25
2.29
11.77
1.96
10.37
2.11
10.60
2.00
10.37
2.03
10.86
WITHOUT STUDENT LOANS
WITH STUDENT LOANS
WITHOUT STUDENT LOANS
WITH STUDENT LOANS
WITHOUT STUDENT LOANS
WITH STUDENT LOANS
LOW SES
MIDDLE SES
HIGH SES