

2-11-2021

Does the House Always Win? An Analysis of Barriers to Wealth Building and College Borrowing


Katherine E. Fletcher

Texas A&M University, kfletcher@tamu.edu

Matthew B. Fuller

Sam Houston State University, mfuller@shsu.edu

Follow this and additional works at: <https://ir.library.louisville.edu/jsfa>

 Part of the [Education Policy Commons](#), [Higher Education Administration Commons](#), [Inequality and Stratification Commons](#), and the [Race and Ethnicity Commons](#)

Recommended Citation

Fletcher, Katherine E. and Fuller, Matthew B. (2021) "Does the House Always Win? An Analysis of Barriers to Wealth Building and College Borrowing," *Journal of Student Financial Aid*: Vol. 50 : Iss. 1 , Article 3.

DOI: <https://doi.org/10.55504/0884-9153.1638>

Available at: <https://ir.library.louisville.edu/jsfa/vol50/iss1/3>

This Research Article is brought to you for free and open access by ThinkIR: The University of Louisville's Institutional Repository. It has been accepted for inclusion in *Journal of Student Financial Aid* by an authorized administrator of ThinkIR: The University of Louisville's Institutional Repository. For more information, please contact thinkir@louisville.edu.

Does the House Always Win? An Analysis of Barriers to Wealth Building and College Borrowing

Cover Page Footnote

This manuscript was completed in partial fulfillment of the M.A. requirements in Higher Education Administration at Sam Houston State University, under the direction of Matthew B. Fuller, Ph.D.

Does the House Always Win? An Analysis of Barriers to Wealth Building and College Borrowing

By Katherine E. Fletcher & Matthew B. Fuller

The racial differences in student loan debt must be interpreted through a lens of wealth building inequality. Black individuals in particular are negatively affected by official and unofficial policies that create barriers to building wealth. Financial aid policies then exacerbate this inequality with an Expected Family Contribution (EFC) formula that protects the majority of family assets from being used as required educational contributions. Using the 2011-12 National Postsecondary Student Aid Survey (NPSAS:12), we examined differences in student loan debt based on wealth building barriers (students' access to banks, father's education, and mother's education). Our ANOVA models show cumulative loan debt is highest amongst students who experience barriers to wealth building (students who do not have bank accounts, students whose fathers have less than a Bachelor's degree, and students whose mothers have less than a Bachelor's degree) ($p < .05$). In addition, a greater percentage of black students than white experience these wealth building barriers.

Rising student loan debt is a familiar concept to college students and their families, faculty and staff working in higher education, policymakers, and the public at large. Due to policies restricting the growth of federal grants while increasing the availability of student loans, and exacerbated by rising tuition costs, today's students and their families are expected to cover a considerable proportion of college costs themselves (Elliott & Friedline, 2013; Price, 2004). Additionally, differences exist between students of various racial/ethnic groups with regards to the percentage of students who borrow to pay for college and the amount of cumulative debt these students incur (Addo, Houle, Simon, 2016; Grinstein-Weiss, Perantie, Taylor, Guo, & Raghavan, 2016; Hillman, 2015; Jackson & Reynolds, 2013). According to Hillman (2015), black students have higher average cumulative federal loan debt than white students, while white students have more debt than Latino students. One study found that black students experienced significantly greater debt burdens than white students, even when both groups of students had similar socioeconomic statuses and levels of college completion (Grinstein-Weiss et al., 2016).

We argue for a need to build upon existing research on racial disparities in student loan borrowing by examining the role hidden, racist policies and tactics established outside of higher education seep into our institutions and negatively affect our students of color. Without understanding possible root causes of the issue, we risk blaming rising student loan debt solely on students, specifically black students as they have the greatest debt burdens (Grinstein-Weiss et al., 2016). Just as academic advisors would not expect a student who has repeatedly failed remedial mathematics courses to suddenly excel in a college calculus class, we must not expect students whose families have historically faced barriers in building wealth to have the financial resources necessary to alleviate the need for loans. We must treat the accumulation of student loan debt, not as a deficit of character, but as a symptom of greater societal injustices.

An important factor in our argument is the role wealth, as opposed to income, plays in the student loan debt disparity. While income refers to the money people receive for their work, retirement, or social welfare, wealth is more complex (Oliver & Shapiro, 1995). Wealth involves the "financial resources that a family has accumulated over its lifetime along with the resources that have been inherited across generations" (Oliver & Shapiro, 1995, p. 2). Income is used to purchase the necessities we all need to survive; wealth creates opportunities and guarantees class status for future generations (Oliver & Shapiro, 1995).

Black students may not be protected by their parents' wealth as the disparity between the debt levels of black students and white students is greatest at the highest levels of parents' net worth (Addo et al., 2016).

This may be because black parents are less likely to possess the types of wealth that are more easily transferrable to their children and can be used to pay for college costs (e.g., stocks, bonds, and savings) (Addo et al., 2016). Recognizing barriers to building wealth in the United States is important to understanding the difficulties students face when paying for college. The decreased financial resources experienced by students and their families, coupled with public policy that shifted the burden of college financing from society (i.e., grants) to individuals (i.e., loans), causes many students to go into debt at precisely the moment they attempt to begin climbing the socioeconomic ladder through higher education.

When it comes to gambling, the saying, *the house always wins*, means that casinos are structured in a way that ensures they will always make money, even while promising patrons the opportunity to win big. In our larger society, the *house* represents the hidden institutional racism that “unfairly subordinate[s] persons of color while allowing Whites to profit from such actions” (Sue, 2016, p. 23). The purpose of this study is to determine the role the metaphorical *house* plays in higher education with regards to increasing or decreasing the wealth gap across various racial groups. We examine the existence of wealth barriers in various racial groups and draw further hypotheses about policies that might influence these wealth building barriers. Finally, we conclude with calls for future research into various policy positions that may influence wealth building and access to higher education.

Literature Review

Before we analyzed the barriers to wealth building as it relates to student borrowing, we engaged in a review of relevant literature on the evolution of student financial aid, barriers to wealth building, racial disparity in wealth, and patterns in higher education access according to racial demographics. A brief history of financial aid is necessary to understand how federal policies have decreased support to students with financial need. Literature pointing to areas of inequity in wealth building opportunities serves as a guide to both the theoretical framework and variables used in this study. In addition, we also reviewed research regarding the effects of student loans to understand the role student debt plays in wealth building. A theoretical framework was selected to inform this review of literature and study and guide considerations of data related to the topic of wealth building and its relationship to higher education access.

Theoretical Framework

Oliver and Shapiro (1995) argued that in order to truly address social inequality in the U.S., “we must turn away from explanations of black disadvantage that focus exclusively on the supposed moral failings of the black community” (pp. 193-194). They posited that analyzing wealth, rather than income, is necessary to get a clearer understanding of racial inequality (Oliver & Shapiro, 1995). Wealth is dependent on the capacity to secure assets, which in turn, contribute to the accrual of wealth. Wealth is not merely income, but instead a network of tools and assets contributing to the attainment of wealth and other benefits. Oliver and Shapiro viewed wealth as a sociological construct, one that was prone to racial inequality. According to Oliver and Shapiro, different opportunities, assets, and types of access enjoyed by blacks and whites have had additive or deductive effects on whites and blacks’ ability to accrue wealth. Historically, these circumstances have negatively affected blacks by slowing or preventing wealth accumulation across generations. Oliver and Shapiro’s work framed the present study and offered a particular lens through which various barriers to wealth building, detailed below, could be measured in higher education data.

Financial Aid Policy

Plateau of Pell Grant funding. The purpose of Higher Education Act (HEA) of 1965 was to create a path of upward economic mobility for those of lower socioeconomic status by attaining a college degree

(Updegrove, 2012). The HEA provided funding for student grants, which later became Pell Grants (Updegrove, 2012). The early intent of policymakers was for Pell Grants to eventually increase to an amount that covered 75 percent of average college costs for low income students (Cahalan, Perna, Yamashita, Ruiz, & Franklin, 2016). However, the average percentage of college costs covered by Pell Grants has decreased over the years, starting with a high of 67 percent in 1975-76 and falling to 27 percent in 2012-13 (Cahalan et al., 2016). The decreased buying power of Pell Grants is due to both rising college costs and the stunted federal funding of the program (maximum Pell Grant in 1974-75 was \$4,690; maximum in 2012-13 was \$5,550) (Cahalan et al., 2016).

Rise of student loans. In the decades following the initial authorization of the HEA, federal legislation prioritized the creation and expansion of student loan programs (see Fuller, 2014, for a history of student financial aid). With the guaranteed student loan program, the federal government only pays for the interest and any default costs, reducing the cost to the government while still providing federal financial aid to students (Price, 2004). In the 1990s, the U.S. saw an increase in both the number of students borrowing for college as well as the percentage of students borrowing the maximum allowable amount (Fuller, 2014).

Tuition increases. In addition to the impact public policy on higher education appropriations has had on students and their families, colleges and universities have also been affected. The Bennett Hypothesis, a popular argument in the 1980s, claimed higher education costs rose as federal aid increased (Fuller, 2014). Although research on the accuracy of the Bennett Hypothesis has produced mixed results, its popularity remained, “furthering the idea that government agendas have surpassed student merit or needs as important in financial aid policy” (Fuller, 2014, p. 56). College enrollments have grown, while state and federal funding for higher education have not kept pace (Price, 2004). As funding decreased, institutions responded by further increasing tuition (Pace, 2004), shifting the financial burden from the state to the student.

Income vs. assets in needs analysis. When calculating a student’s expected family contribution (EFC), financial aid offices use the federal methodology established in the *Higher Education Act of 1965 (HEA as amended in Title IV, Part F, §§ 1087kk–1087vv* (Collins, 2018). In the HEA, assets are defined as “cash on hand, including the amount in checking and savings accounts, time deposits, money market funds, trusts, stocks, bonds, other securities, mutual funds, tax shelters, qualified education benefits, and the net value of real estate, income producing property, and business and farm assets” (*Higher Education Act of 1965 as amended, 20 U.S.C. 1087vv(f)*). This is comparable to our variable for wealth. Families with greater amounts of assets will experience less burden when paying for college than families with equal incomes but fewer assets. This is because the HEA favors asset protection over income protection when calculating EFC.

Families of dependent students are given an education savings and asset protection allowance (APA) based on the age of the parent(s); the older the parent, the more protection they are allowed (Collins, 2018; *Higher Education Act of 1965 as amended, 20 U.S.C. 1087oo(d)(3)*). Research shows a difference in the age people start families based on race/ethnicity. According to the National Center for Health Statistics, the average age of a mother at her first birth was 26.0 years for non-Hispanic white women and 22.7 years for non-Hispanic black women (Matthews & Hamilton, 2009). These age gaps translate into real differences in APA. For Academic Year (AY) 2019-2020, if the oldest parent is age 44 (i.e., the average age of a white mother at first birth plus 18 years), a two-parent household will have an APA of \$10,900 (HEA ED Federal Need Analysis Methodology for the 2019-20 Award Year, pp. 22968-22969). On the other hand, if the oldest parent is age 41 (i.e., the average age of a black mother at first birth plus 18 years, rounded up), a two-parent household will have an APA of \$10,100 (HEA ED Federal Need Analysis Methodology for the 2019-20 Award Year, pp. 22968-22969). This policy rewards families who have children later in life by protecting more of their assets (i.e., wealth) from mandatory allocation to educational expenses. In our example, the white family with the older parents would have \$800 more in assets that were not calculated into their EFC compared to the

black family with the younger parents. Parents have the opportunity to self-select to use those assets to pay for college, thereby offsetting some need for student loans.

The HEA allows for income protection allowance (IPA), although this amount is based on the family size and the number of family members in college (Collins, 2018; *Higher Education Act of 1965 as amended, 20 U.S.C. 108700(c)(4)*). The IPA also appears to favor “traditional” families. For example, a family with four members, including one dependent college student, will have an IPA of \$28,580 in AY 2019-2020 (HEA ED Federal Need Analysis Methodology for the 2019-20 Award Year, pp. 22968). A family with four members, including three college students, which could indicate a single-parent household or a household in which one or both parents are in college themselves, will have an IPA of \$22,240 (HEA ED Federal Need Analysis Methodology for the 2019-20 Award Year, pp. 22968). In this example, the “traditional” four-person family with one college student will have \$6,340 more in income protected from being calculated into the EFC than the four-person family with three college students. In multi-student families, the EFC is divided by the number of students in college (Collins, 2018); while the overall cost to the family may be higher because of the smaller IPA, the individual cost to the student may be lower when the EFC is split across the various family members in college.

Finally, the weighted formula for adjusted available income (AAI), as defined in the HEA, is the sum of 100% parents’ available income (after subtracting the IPA) and 12% of parents’ available assets (after subtracting the APA) (Collins, 2018; *Higher Education Act of 1965 as amended, 20 U.S.C. 108700(d)(4)*), heavily protecting assets a family can then freely choose to use to pay for college expenses, rather than taking student loans. Students whose families possess these types of assets will have a lesser debt burden than students whose families financial resources consist primarily or totally of income.

Barriers to Wealth Building

Access to banks. Baradaran (2013) discussed the exodus of banks from low income neighborhoods in the 1980s and the ensuing influx of payday lenders, check-cashing businesses, and pawnshops providing high-interest loans to individuals. When individuals lack formal relationships with banks, they experience barriers to saving and struggle to establish a credit history (Baradaran, 2013). Both barriers can present obstacles when it comes to paying for out-of-pocket college costs. Kim, Kim, and Moon (2016) found childhood bank account ownership to be disproportionate by race/ethnicity. A greater percentage of white children had bank accounts (74%) than black (38%) and Latino (37%) children (Kim et al., 2016). The racial/ethnic differences in bank account ownership in childhood continued into youth and adulthood (Kim et al., 2016). Developing relationships with financial institutions early in life has a positive influence on wealth building capacity across a student’s lifetime, particularly as they enter and exit college and the workforce.

Homeownership. The growth of suburban America in the 1930s to 1960s served as a major generator of wealth for those who were able to move from urban areas and purchase homes outside of the city (Oliver & Shapiro, 1995). These financial gains overwhelmingly benefited white Americans while black Americans faced discriminatory public policy and corporate practices that sought to prevent them from building wealth through homeownership (Oliver & Shapiro, 1995). Even those in the highest wealth quintile (over \$191,180) are not immune to the black-white wealth disparity with white parents having on average \$154,627 in home equity compared to black parents’ average of \$92,555 (Addo et al., 2016).

Educational attainment. Price (2004) argues that the rising cost in tuition coupled with the urge to minimize student loan debt can lead low income, black, and Latino students to attend colleges and universities that are more affordable and, usually, less prestigious. If low income, black, and Latino students are less likely to attend and graduate from research doctoral universities, then their opportunities to attend graduate school may be more limited, negatively impacting their lifetime earning potential (Price, 2004). Research doctoral

university graduates are 1.6 times more likely to have completed a graduate or professional degree four years after completing their bachelor's degree (Price, 2004). Heller (2001) studied the borrowing patterns of students by graduate school enrollment and occupational status in April 1994. While there was no statistically significant difference between the total undergraduate borrowing for those who were in graduate school only (\$10,704) and those who worked only (\$10,198), a smaller percentage of graduate students borrowed as undergraduates (40%), compared to those who only worked (50%) (Heller, 2001, p. 17).

Carlson and McChesney's (2015) study of wealth gap trends from 1991 to 2010 found that a Master's degree or higher allowed an individual to improve his or her standard of living considerably. Over two decades, individuals with Bachelor's degrees kept pace with inflation, but did not improve their buying power (Carlson & McChesney, 2015). They concluded that individuals with less than a Bachelor's degree, who made up 70 percent of the U.S. population at the time of the study, have experienced a decreased standard of living from 1991 to 2010 (Carlson & McChesney, 2015).

This disparity in wealth between the highly educated and everyone else will affect parents' ability to pay for college, creating a situation where first generation college students must pay for more of their college costs on their own. According to Chen and Wiederspan (2014), first generation students experienced a greater debt burden than their peers after graduating from college. Even educational attainment cannot erase the wealth gap completely. Racial disparities in wealth building exist, with whites controlling four times the wealth of blacks who have the same degrees (Oliver & Shapiro, 1995).

Student loan debt. Student loan debt can have a negative effect on a borrower's ability to accumulate wealth by restricting their financial options when it comes to attending graduate school (Zhang, 2013), owning a home (Elliott, Grinstein-Weiss, & Nam, 2013b; Jackson & Reynolds, 2013), accumulating assets (Elliott, Grinstein-Weiss, & Nam, 2013a), and qualifying for small business loans (Jackson & Reynolds, 2013). While student loans have the ability to reduce income inequality through educational attainment, on average, black students borrow more and have a greater risk of loan default than white students (Hillman, 2014; Hillman, 2015; Jackson & Reynolds, 2013). In 2010, almost 375,000 borrowers had entered default within two years of repayment, with black borrowers approximately 1.4 times more likely to default than white borrowers (Hillman, 2014). In addition, higher levels of borrowing among first year students are associated with lower graduation rates for low income and black students (D. Kim, 2007). Kim (2007) found a statistically significant association in borrowing and degree completion for low income students with every \$1,000 in loans negatively related to a 1.6 percentage point difference in the likelihood that a low income student will complete a degree. The negative relationship was even stronger for black students with every \$1,000 in loans associated with a negative 5.6 percentage point difference in the likelihood that a black student will complete a degree (D. Kim, 2007). These differences hinder students' abilities to build wealth upon leaving higher education by representing a considerable financial burden upon graduation.

Each of these factors were hypothesized by Oliver and Shapiro (1995) and other scholars to have adverse influences over minorities' capacities to build wealth. To examine these effects, we used Oliver and Shapiro's work to guide the development of a model using data available from the National Center of Education Statistics' Restricted Data License for the 2011-12 National Postsecondary Student Aid Survey (NPSAS:12). This theoretical framework guided our selection of variables and analyses and served as a lens through which we viewed results and offered recommendations.

The aforementioned literature on wealth building, loan encumbrance, and repayment are suggestive of some of the broader trends in policy-based inequalities. Guided by this research, we will address a variety of research questions related to wealth building's relationship with loan encumbrance. Results from these analyses will aid future researchers in continued discussions about this topic.

Research Questions

There are many barriers when it comes building wealth, such as educational attainment, marital status, number of dependents, occupation and wage, stability of work, geographic region, and homeownership (Oliver & Shapiro, 1995), all of which cannot be addressed within the scope of one study. For the purpose of the present study, we focused on three wealth building barriers and their relationship to a student's wealth building capacity, represented by students' loan encumbrance. Additionally, we sought to understand the extent influences of wealth barriers on loan encumbrance varied across racial/ethnic groups. This study answers a series of research questions, each focusing on a central question of the relationship of the independent variables to the dependent variable of student loan encumbrance. We will use undergraduate classification ("class level") as a grouping variable when interpreting the analyses. Loan encumbrance may increase the more time a student spends in college and grouping students by the length of time in college may help us to identify trends. Our specific research questions are:

1. Is there a difference in cumulative undergraduate loan amounts by students' access to bank accounts? If there is an overall difference by this type of wealth building barrier, are there any differences by students' race/ethnicity?
2. Is there a difference in cumulative undergraduate loan amounts by father's highest education level? If there is an overall difference by this type of wealth building barrier, are there any differences by students' race/ethnicity?
3. Is there a difference in cumulative undergraduate loan amounts by mother's highest education level? If there is an overall difference by this type of wealth building barrier, are there any differences by students' race/ethnicity?

Methods for analyzing data related to these research questions will be discussed next.

Methods

Dataset and Study Sample

To answer the research questions, restricted data licensed to the researchers from the 2011-12 National Postsecondary Student Aid Survey (NPSAS:12) were used to analyze differences in the level of borrowing. NPSAS:12, administered by the National Center for Education Statistics (NCES), focuses on how students and their families finance college. NPSAS:12 consists of student data from institutions, administrative data sources like the Central Processing System, National Student Clearinghouse, and National Student Loan Data System (NSLDS), and interviews with students (Wine, Bryan, & Siegel, 2014). NPSAS:12 includes 128,120 undergraduate and graduate students attending 1,480 different institutions of all types (Wine et al., 2014). For this study, only the results of domestic students classified as first through fifth year undergraduates were analyzed ($n = 92,130$).

Because of the key role student loans plays in this study, a benefit of using NPSAS:12 data is that loan amounts are pulled from the NSLDS, rather than relying on self-reported data from students (Hillman, 2015). Self-reported figures are subject to possible flaws in students' memories. In one study, 13 percent of students were unaware they had borrowed a student loan while 37 percent knew they borrowed but underestimated the amount of their student loan debt (Andruska, Hogarth, Fletcher, Forbes, & Wohlgemuth, 2014). Relying on actual loan amounts from databases such as NSLDS is a reliable method for reviewing the dependent variable in the present study.

NPSAS:12 Variables

Bank accounts (BANK1). Students were asked in their NPSAS:12 interview if they had a checking or savings account at a bank or credit union (Wine et al., 2014). The dichotomous results (no or yes) serve as the independent variable for the first research question. This variable captures bank access of students, not parents, which may not fully account for the barriers to wealth building experienced by families. In addition, bank account ownership does not equal the type of short- and long-term investments parents may have that contribute to their wealth.

Father's (PDADED) and mother's (PMOMED) highest education level. The student's father's and mother's highest education level serve as the independent variables for the second and third research question, respectively. These variables have nine categories of responses: do not know father's/mother's education level, did not complete high school, high school diploma or equivalent, vocational/technical training, Associate's degree, some college but no degree, Bachelor's degree, Master's degree or equivalent, Doctoral degree – research/scholarship, and Doctoral degree – professional practice (Wine et al., 2014).

Cumulative undergraduate loan amounts (TOTDUE1). Although NPSAS:12 has several variables capturing student loan amounts, TOTDUE1, defined as the “cumulative amount owed, principle and interest, all loans for undergraduate” (Wine et al., 2014, p. N-13), was selected as the outcome variable in order to include the most comprehensive loan amounts possible in the analysis. Borrowing is not a requirement for college enrollment and there are students at each level of college who do not have any student loan debt. There are many reasons why a student may not have debt. For instance, students may receive scholarships and grants that fully cover the cost of attendance or they may have parents who can afford to pay college expenses out-of-pocket. These differences could also be related to race/ethnicity as Latino students are less likely to take out student loans than white or black students (Elliott & Friedline, 2013). Students with zero dollars in cumulative loans were included in the study in order to best capture the borrowing habits of all students.

Class level (for loans) (UGLVL2). There are two variables for undergraduate classification in NPSAS:12. This study uses the grouping variable UGLVL2 (“class level [for loans]”) rather than UGLVL1 (“class level”), in order to best fit the outcome variable in the analysis, cumulative undergraduate loan amounts. This variable has six categories: first year undergraduate ($n = 57,130$), second year undergraduate ($n = 18,010$), third year undergraduate ($n = 8,990$), fourth year undergraduate ($n = 7,610$), fifth year undergraduate ($n = 1,350$), and unclassified undergraduates ($n = 2,020$). Unclassified undergraduates were omitted from the analysis as students' loan amounts can vary drastically from one level of college to another. Without knowing the student's true classification, it would be difficult to analyze the results of this category.

Race/ethnicity (RACE2). The second grouping variable in the analysis, RACE2, includes the categories: white, black or African American, Hispanic or Latino, Asian, American Indian or Alaska Native, Native Hawaiian/other Pacific Islander, more than one race, and foreign students. Foreign students were excluded from the analysis in order to focus on the barriers of wealth building experienced by U.S. students in relation to student loans. In addition, federal student aid, including loans, is not usually accessible to foreign citizens (U.S. Department of Education, Federal Student Aid, 2012); including foreign students in the data analysis could skew the results.

Missing Data

NCES staff imputed missing data in NPSAS:12 for all variables prior to releasing the survey as a restricted-use dataset (Wine et al., 2014). Cumulative undergraduate loan amounts did not have any missing data. For undergraduate student data, almost 35 percent of bank account information was originally missing, along with 18 percent of father's highest education level, 20 percent of mother's highest education level, and 7 percent

of race/ethnicity demographics (Wine et al., 2014). Data also underwent a cleaning procedure by NCES staff to ensure that original levels of missing data were limited below the standard level of acceptance (10 percent of data missing). Following imputation, cleaning, and weighting procedures by NCES staff, data available to the researchers were completely free of missing data. Procedures for cleaning, imputing, and weighting are documented by Wine et al. (2014). A plan for analyzing the restricted data available through NCES is offered below.

Data Analysis Plan

Once the study sample was established, we began the analysis by running descriptive statistics on the variables for bank account, father's highest education level, mother's highest education level, and cumulative student loan amounts using IBM SPSS Statistics version 22.0. These descriptive statistics were grouped by class level. All sample sizes have been rounded to the nearest ten in accordance with the IES Restricted-Use Data Procedures Manual (n.d., p. 20).

The decision was made to take a serialized approach when comparing means of the independent variables. A model that combined all three independent variables into one research question would have a minimum of 200 separate outputs to interpret (two bank account categories * 10 father's education categories * 10 mother's education categories). Since the outcome variable is cumulative student loan encumbrance, these outputs would also need to be examined by class level (five categories), which would require analyzing 1,000 outputs. In addition, a preliminary analysis of variance (ANOVA) model that included the interaction effects of the three independent variables only found two significant interaction effects: the interaction of father's and mother's education in fourth year undergraduates, $F(78, 7450) = 1.41, p = .01$, and the interaction of bank accounts and father's education in fifth year undergraduates, $F(9, 1230) = 2.24, p = .018$. ANOVA was chosen as the statistical technique since it is the preferred analysis to examine a continuous outcome variable based upon categorical predictor variables (Scheffé, 1959). Moreover, restricted-use data from NPSAS:12 allowed for the confirmation of ANOVA's assumptions and were of the appropriate scale type to conduct ANOVA.

Limitations

Several limitations to this research should be taken into consideration when interpreting the results. As previously discussed, the variable capturing bank account ownership (BANK1) is an imperfect measure of wealth building barriers. BANK1 originally had 35 percent missing data, which was then imputed by the NPSAS staff (see Wine et al., 2014, p. 156 for imputation procedures). However, this variable is subject to racially motivated biases encouraging banks to leave black communities (Baradaran, 2013), and imputation procedures could potentially struggle to fully replicate the logic behind illogical and unwritten biases.

Second, this study did not filter by institutional type. Perna (2007) found that black and Latino students are more likely to attend for-profit institutions than white students. Students at for-profit institutions typically have higher levels of student loan debt (Hillman, 2015) and are more likely to default on their loans (Hillman, 2014; Jackson & Reynolds, 2013). Moreover, students attending historically black colleges and universities or minority serving institutions may also have varying levels of loan encumbrance. The influence of wealth building barriers also differs according to various institutional types. Low income, black, and Latino students are less likely to enroll in more prestigious research doctoral universities due to their higher costs (Price 2004). The decision to enroll in one institution over another is influenced by family wealth and willingness to take on student debt. Taking the institutional type into consideration may allow future researchers the opportunity to provide greater resolution on issues faced by students attending these specific institutions.

Third, the study did not separate dependent students from independent students. The Department of Education's federal financial aid policies allow independent students to borrow a maximum of \$57,500 in subsidized and unsubsidized loans, compared to \$31,000 for dependent students (U.S. Department of Education, Federal Student Aid, n.d.b). Since independent students have a greater maximum loan cap, including their cumulative loan amounts in the same analysis with dependent students could skew the results. Older independent students are more likely to have accumulated wealth of their own and could potentially offset any barriers to wealth building their parents may have experienced. On the other hand, younger students who have independent status due to having children or having aged out of the foster care system could have little to no personal wealth.

As the NPSAS:12 survey only captures a single year of data on students, this study is limited by the inability to analyze the change in students' loans over time. For example, the varying effects of the financial crisis of 2007-08 could result in different cumulative loan amounts depending on the year a student entered college. That is, first year students in 2007-08 may have borrowed more or less than first year students in 2011-12 due to differences in family income and assets, loan interest rates, college savings accounts, and more. Students from wealthier families may have had a greater need for student loans following the financial crisis due to the sudden, decreased worth of family assets. NPSAS data are available across a wide array of time. Therefore, the emergence of a longitudinal perspective on loan encumbrance might suggest the extent to which wealth building barriers are more or less prevalent in alumnae's early or latter span of loan repayment. Answering this question will require a longitudinal review on NCES's data. Results for the planned analyses are provided below.

Results

Overall Borrowing

Black students have greater average cumulative loan amounts than students of other racial/ethnic groups across all years of college (see Table 1). First year black students have almost \$1,200 more in student loan debt than the overall average. By the fifth year of college, the difference grows to over \$9,500.

Table 1

Cumulative Loan Amounts (in Dollars) by Class Level and Race/Ethnicity

Race/Ethnicity	Undergraduate Year				
	1 st	2 nd	3 rd	4 th	5 th
Overall					
<i>n</i>	57130	18010	8990	7610	1350
<i>M</i>	5222.24	10562.28	17300.18	21971.74	32254.60
(<i>SD</i>)	(7481.33)	(13095.98)	(17069.66)	(21675.63)	(22495.47)
White					
<i>n</i>	28860	10320	5070	4820	850
<i>M</i>	5000.12	10208.57	16652.73	20811.70	30755.63
(<i>SD</i>)	(7294.22)	(12745.52)	(16904.67)	(21062.47)	(22292.69)
Black					
<i>n</i>	11420	2850	1420	970	210
<i>M</i>	6409.72	14954.62	23954.92	32249.17	41831.64
(<i>SD</i>)	(8786.18)	(14962.32)	(18132.33)	(21895.97)	(21474.96)
Latino					
<i>n</i>	11680	3000	1580	930	160
<i>M</i>	5083.85	9215.55	15242.70	21694.76	32744.94
(<i>SD</i>)	(6625.22)	(11635.42)	(15013.01)	(20712.63)	(21568.73)
Asian					
<i>n</i>	1870	800	420	460	60
<i>M</i>	3839.42	6356.08	12189.65	15267.09	20860.74
(<i>SD</i>)	(6305.84)	(9973.53)	(16231.57)	(19976.53)	(19701.72)
American Indian					
<i>n</i>	700	150	70	60	10
<i>M</i>	4065.49	12911.05	17586.35	29179.32	29956.15
(<i>SD</i>)	(5991.70)	(14934.78)	(16287.22)	(31902.36)	(26776.46)
Native Hawaiian					
<i>n</i>	310	100	60	40	10
<i>M</i>	4916.16	10019.69	15830.97	29214.00	32246.60
(<i>SD</i>)	(6031.53)	(14726.01)	(15721.23)	(19704.15)	(20543.24)
More than one race					
<i>n</i>	1770	570	290	210	40
<i>M</i>	5556.15	11078.58	18794.19	23135.34	33622.26
(<i>SD</i>)	(8243.52)	(13904.83)	(18293.93)	(22109.46)	(21663.56)

Banking (BANK1)

The first research question, regarding bank accounts, was analyzed through an independent samples t-test. First, we confirmed the assumptions necessary to employ a t-test (Laerd Statistics, n.d.a). Normal distribution of cumulative student loans was verified through the Kolmogorov-Smirnov test of normality ($p < .001$ at every class level). Homogeneity of variance was assessed through Levene’s Test for Equality of Variances and identified equal variances only in fifth year students ($p = .670$); first ($p = .004$), second ($p = .005$), third ($p = .003$), and fourth ($p = .001$) year data all failed Levene’s Test for Equality of Variances. SPSS corrects for violations of homogeneity of variance by adjusting the degrees of freedom using the Welch-Satterthwaite method (Laerd Statistics, n.d.a). The adjusted p-values were used for the first through fourth years. We found that the cumulative loan debt of students who did not have bank accounts was significantly greater than students who did have bank accounts at every class level, statistically significant at an alpha level of .05 (see Table 2).

Table 2

Cumulative Student Loans (in Dollars) by Class Level

Class Level	Had Checking or Savings Account		t-test for Equality of Means			Effect Size	
	No <i>M</i> (<i>SD</i>)	Yes <i>M</i> (<i>SD</i>)	<i>t</i>	df	<i>p</i>	Cohen's <i>d</i>	<i>r</i> ²
1 st year	5954.23 (7176.28)	5052.23 (7540.33)	11.64	0	<.00	.121	.004
	13256.02 (13626.92)	10217.24 (12986.54)					
2 nd year	20430.88 (18090.99)	16983.31 (16931.80)	9.54	2540	<.00	.233	.01
	29270.93 (23811.20)	21644.92 (21519.02)					
3 rd year	39889.64 (21192.44)	31929.33 (22499.56)	5.25	980	<.00	.202	.01
	29270.93 (23811.20)	21644.92 (21519.02)					
4 th year	39889.64 (21192.44)	31929.33 (22499.56)	5.68	350	1	.353	.03
	29270.93 (23811.20)	21644.92 (21519.02)					
5 th year	39889.64 (21192.44)	31929.33 (22499.56)	2.58	1340	.01	.355	.03
	29270.93 (23811.20)	21644.92 (21519.02)					

Although the total number of white students without bank accounts is higher than any other racial/ethnic group, this is due to the greater overall number of white students in the dataset (see Table 3). The percentage of students without bank accounts was lowest among white students, compared to all other racial/ethnic groups across all levels of college, except in the third year when approximately seven percent of both Asian and white students did not have bank accounts. Black, American Indian, and Native Hawaiian students consistently had the highest rates of students without bank accounts.

Table 3

Students Without Bank Accounts by Class Level and Race/Ethnicity

Race/Ethnicity	Undergraduate Year				
	1 st	2 nd	3 rd	4 th	5 th
	<i>n</i> (% of group)	<i>n</i> (% of group)	<i>n</i> (% of group)	<i>n</i> (% of group)	<i>n</i> (% of group)
Overall	10770 (19%)	2050 (11%)	830 (9%)	330 (4%)	60 (4%)
White	4170 (14%)	830 (8%)	360 (7%)	150 (3%)	30 (3%)
Black	3120 (27%)	590 (21%)	220 (15%)	80 (8%)	20 (8%)
Latino	290 (21%)	80 (14%)	30 (11%)	20 (5%)	0 (6%)
Asian	190 (15%)	30 (10%)	10 (7%)	10 (4%)	10 (0%)
American Indian	80 (27%)	10 (17%)	10 (17%)	10 (8%)	0 (8%)
Native Hawaiian	360 (27%)	60 (13%)	30 (12%)	10 (11%)	10 (0%)
More than one race	360 (21%)	60 (11%)	30 (10%)	10 (3%)	10 (5%)

Father’s Education (PDADED)

The second research question, regarding father’s highest level of education, was analyzed through a one-way ANOVA model and Tukey’s HSD post hoc tests. First, we verified the study data met the assumptions of ANOVA (Laerd Statistics, n.d.b). The Kolmogorov-Smirnov test of normality confirmed the normal distribution of cumulative student loans ($p < .001$ at every class level). In addition, the categories of educational levels are independent of each other. Homogeneity of variance was verified by Levene’s Test for Equality of Variance ($p < .001$).

There were statistically significant differences in the mean cumulative student loans for father’s highest education at all class levels ($\alpha = .05$): first year ($F(9, 57030) = 2.69, p = .004, \epsilon^2 = 0.03\%$), second year ($F(9, 17910) = 7.71, p < .001, \epsilon^2 = 0.33\%$), third year ($F(9, 8890) = 2.34, p = .01, \epsilon^2 = 0.14\%$), fourth year ($F(9, 7510) = 5.306, p < .001, \epsilon^2 = 0.50\%$), and fifth year ($F(9, 1260) = 4.04, p < .001, \epsilon^2 = 2.02\%$). We ran Tukey’s HSD post hoc tests to identify where the significant differences occurred. Most of the significant differences were between students whose fathers had at least a Bachelor’s degree and students whose fathers had less than a Bachelor’s degree. Students in the first through fourth undergraduate years whose fathers obtained a Bachelor’s degree almost always had significantly less cumulative loans than students who did not know their father’s education level (first year: \$729, $p < .001$; second year: \$3722, $p < .001$; third year: \$5289, $p < .001$; fourth year: \$9064, $p < .001$; fifth year: \$8178, $p = .06$) or whose fathers did not complete high school (first year: \$852, $p < .001$; second year: \$3196, $p < .001$; third year: \$3267, $p < .001$; fourth year: \$7955, $p < .001$; fifth year: \$3996, $p = .81$), had a high school diploma or equivalent (first year: \$653, $p < .001$; second year: \$3212, $p < .001$; third year: \$4291, $p < .001$; fourth year: \$7955, $p < .001$; fifth year: \$4610, $p = .25$), had vocational/technical training (first year: \$918, $p < .001$; second year: \$3178, $p < .001$; third year: \$4498, $p < .001$; fourth year: \$6146, $p < .001$; fifth year: \$4083, $p = .88$), had an Associate’s degree (first year: \$480, $p = .18$; second year: \$1291, $p = .20$; third year: \$3574, $p = .002$; fourth year: \$4299, $p = .01$; fifth year: \$2435, $p = .998$), or had some college but no degree (first year: \$790, $p < .001$; second year: \$1812, $p < .001$; third year: \$2657, $p = .007$; fourth year: \$3081, $p = .03$; fifth year: \$4445, $p = .71$).

The percentage of students whose fathers received less than a Bachelor’s degree decreased each class year until the fifth year when the percentage increased for most racial/ethnic groups (see Figure 1), suggesting that the father’s education may play a role in a student graduating college within four years. When looking at the breakdown of father’s education by race/ethnicity, trends emerge (see Figure 1). Black, Latino, and American Indian students consistently have a larger percentage of fathers with less than a Bachelor’s degree in first through fourth years. White students consistently have one of the smallest percentages of fathers with less than a Bachelor’s degree.

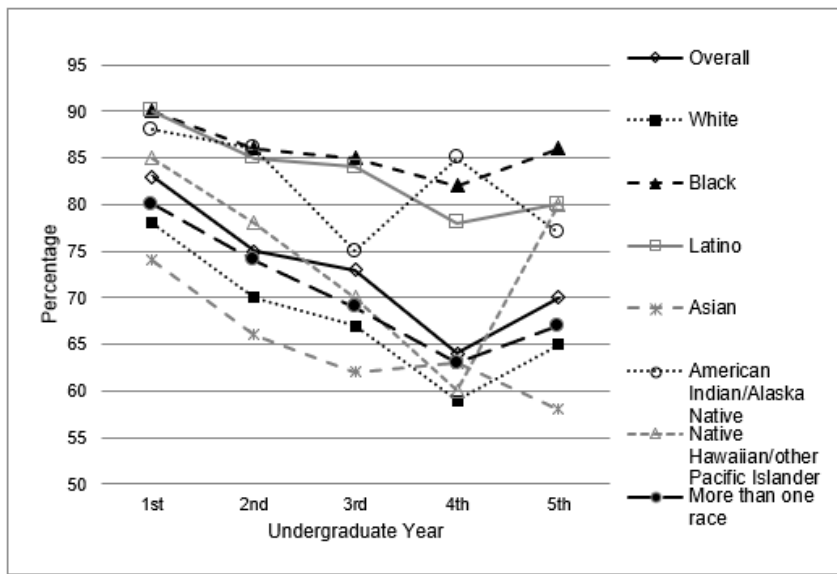


Figure 1. Percentage of each racial/ethnic group of students whose fathers received less than a Bachelor’s degree by undergraduate year.

Mother’s Education (PMOMED)

Like father’s highest education level, the third research question regarding mother’s highest education level was analyzed using a one-way ANOVA model and Tukey’s HSD post hoc tests. Assumptions of ANOVA were verified in the same way as father’s education. The Kolmogorov-Smirnov test of normality confirmed the normal distribution of cumulative student loans ($p < .001$ at every class level). In addition, the categories of educational levels are independent of each other. Homogeneity of variance was verified by Levene’s Test for Equality of Variance ($p < .001$).

There were statistically significant differences ($\alpha = .05$) in the mean cumulative student loans for mother’s highest education at all class levels: first year ($F(9, 57030) = 5.33, p < .001, \epsilon^2 = 0.81\%$), second year ($F(9, 17910) = 4.28, p < .001, \epsilon^2 = 0.17\%$), third year ($F(9, 8890) = 4.76, p < .001, \epsilon^2 = 0.38\%$), fourth year ($F(9, 7510) = 2.84, p = .002, \epsilon^2 = 0.22\%$), and fifth year ($F(9, 1260) = 2.12, p = .03, \epsilon^2 = 0.79\%$). We ran Tukey’s HSD post hoc tests to identify where the significant differences occurred. Most of the significant differences were between students whose mothers had at least a Bachelor’s degree and students whose mothers had less than a Bachelor’s degree. Students at all class levels whose mothers obtained a Bachelor’s degree almost always had significantly less cumulative loans than students who did not know their mother’s education level (first year: \$581, $p = .001$; second year: \$3217, $p < .001$; third year: \$4978, $p < .001$; fourth year: \$6863, $p < .001$; fifth year: \$9057, $p = .24$) or whose mothers did not complete high school (first year: \$1090, $p < .001$; second year: \$3254, $p < .001$; third year: \$4754, $p < .001$; fourth year: \$6409, $p < .001$; fifth year: \$9045, $p = .01$), had a high school diploma or equivalent (first year: \$819, $p < .001$; second year: \$3391,

$p < .001$; third year: \$5105, $p < .001$; fourth year: \$7313, $p < .001$; fifth year: \$8363, $p < .001$), had vocational/technical training (first year: \$1319, $p < .001$; second year: \$3851, $p < .001$; third year: \$4202, $p < .001$; fourth year: \$5037, $p = .001$; fifth year: \$7125, $p = .27$), had an Associate’s degree (first year: \$601, $p = .001$; second year: \$2443, $p < .001$; third year: \$4722, $p < .001$; fourth year: \$4858, $p < .001$; fifth year: \$6577, $p = .16$), or had some college but no degree (first year: \$621, $p < .001$; second year: \$2409, $p < .001$; third year: \$4421, $p < .001$; fourth year: \$5537, $p < .001$; fifth year: \$6858, $p = .049$).

In addition, the percentage of students whose mothers received less than a Bachelor’s degree decreased each class year (see Figure 2). The downward trend continued until the fifth year when the percentage of students whose mothers had less than Bachelor’s degree increased in most racial/ethnic groups, suggesting that, like fathers’ education, mothers’ education might also be associated with a student graduating on time. The breakdown of mother’s education by race/ethnicity has similar trends as father’s education. Black, Latino, and American Indian students consistently have a larger percentage of mothers with less than a Bachelor’s degree in first through fourth years. White students consistently have one of the smallest percentages of mothers with less than a Bachelor’s degree. This and other aforementioned results require further research to comprehensively inform this issue.

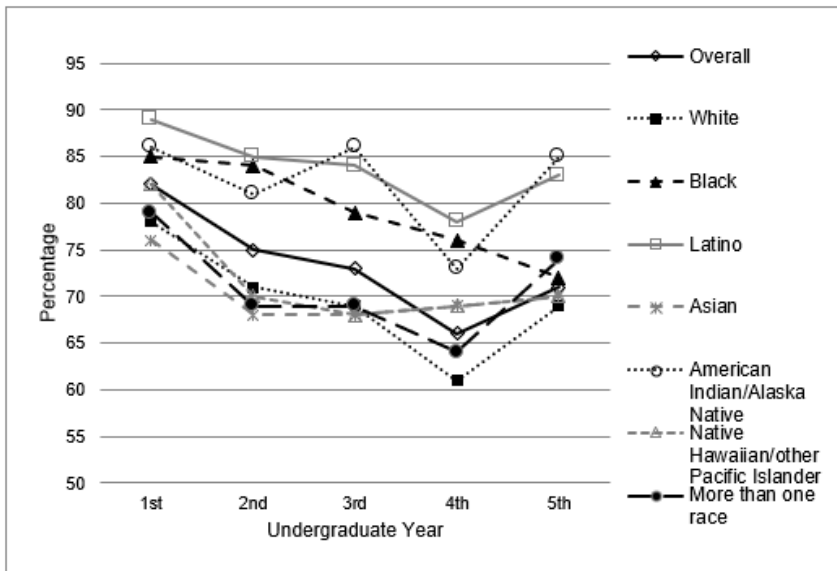


Figure 2. Percentage of each racial/ethnic group of students whose mothers received less than a Bachelor’s degree by undergraduate year.

Future Research

This study serves as an introductory examination of the barriers to wealth building and student loan borrowing. As the main analysis for the study utilized ANOVA to compare group means, future research should seek to identify whether experiencing wealth building barriers is correlated with increased student loan debt. In addition, research that can determine if causation is present would be hugely beneficial to our understanding of the second-generation effects of wealth inequality. Although a controlled, randomized study would be neither realistic nor socially responsible, a quasi-experimental design, such as case-control matching, could identify causation (Shadish, Cook, & Campbell, 2002).

Future research that examines housing as a potential barrier to wealth building would add to our understanding of the effects that such barriers have on student loans. NPSAS:12 includes a variable to identify whether a student owns a home or pays a mortgage (Wine et al., 2014). However, in order to determine the

second-generation effects of wealth building barriers on student loans, a variable capturing parental home ownership is needed. The dataset does include the degree of urbanization of the student's permanent address (Wine et al., 2014), which could possibly be used in analysis.

Finally, most of this study's research involves barriers to wealth building faced by black Americans. Unfortunately, the history of discrimination in the U.S. is not restricted to only on racial/ethnic group. Research that focuses on barriers experienced by Latinos, American Indians, and Native Hawaiian students would give a clearer understanding of the ways that wealth inequality persists in unexpected ways, such as through student loan borrowing. The following section focuses on recommendations drawn from the present analyses.

Discussion

The results of this study demonstrate that barriers to wealth building are associated with differences in undergraduate student borrowing. In addition, there are racial disparities when it comes to the students most impacted by wealth building barriers. Black students are more likely to not have a bank account and have parents who received less than a Bachelor's degree; they also have the highest level of student loans at every class year. While white students can suffer from the negative effects of wealth building barriers, as a group they are affected to a lesser degree than black students.

Our research is not an exact replication of any prior studies. As such, there is a lack of findings to compare our results to. We can compare our results to the limited research that is available, though it is important to note that differences in design can account for differences in effect sizes (Vacha-Haase & Thompson, 2004).

Our study found that father's education level explained less than one percent of differences in student loan amounts at almost every year of college (first year, $\epsilon^2 = 0.03\%$; second year, $\epsilon^2 = 0.33\%$; third year, $\epsilon^2 = 0.14\%$; fourth year, $\epsilon^2 = 0.50\%$; fifth year, $\epsilon^2 = 2.02\%$). We found similar effect sizes for mother's educational level on student loans (first year, $\epsilon^2 = 0.81\%$; second year, $\epsilon^2 = 0.17\%$; third year, $\epsilon^2 = 0.38\%$; fourth year, $\epsilon^2 = 0.22\%$; fifth year, $\epsilon^2 = 0.79\%$). Hillman (2014) used the NCES Beginning Postsecondary Students survey for 2003-04 through 2008-09 to analyze student loan default. Although effect size is not reported in his study, we were able to calculate Cohen's d and r^2 . According to Hillman (2014), in 2009 63 percent of borrowers in repayment and 82 percent of borrowers in default were first generation students. We calculated that almost four percent of the differences in repayment and default percentages can be explained by first generation status ($d = -.40$). Hillman (2014) also found 15 percent of borrowers in repayment and 28 percent of borrowers in default were black. We calculated that about three percent of these differences can be explained by a student being black ($d = -.36$).

Although the effect sizes calculated for bank accounts, mother's education, and father's education may be small, they do represent an increase in student loan debt for the very real students in our sample, debt they will have to pay back after leaving college. Even small effects can move our society either towards or away from a more equitable future. If reducing the barriers to wealth building can have a positive effect on student loan debt, even if it is a small one, it is important that we not minimize those results.

Conclusions and Implications

The wealth gap in the U.S. will continue to exist if individuals who experience wealth building barriers have children who face barriers of their own in pursuit of a higher education. In fact, the amount a family must contribute to a dependent child's education, as established in the Higher Education Act, is calculated using a formula that disproportionately protects family wealth over income. With these barriers, the true financial benefits of a college education may not be felt for several generations.

For example, suppose an individual in Generation 1 has less than a Bachelor's degree. He or she is less likely to have opportunities to build wealth (Carlson & McChesney, 2015). When his or her child (Generation 2) goes off to college, this child is more likely to need student loans to pay for college. Therefore, Generation 2 graduates with student debt, but has the benefits of a degree. Since student loan debt can also serve as a barrier to wealth building (Elliott et al., 2013a, 2013b; Jackson & Reynolds, 2013; Zhang, 2013), Generation 2 will begin their adult lives working to overcome this financial deficit, rather than immediately growing personal assets. If a borrower does not pay off their student loans early, loan repayment can last anywhere from 10 years for the standard repayment plan to 30 years for consolidation loans (U.S. Department of Education, Federal Student Aid, n.d.a). Assuming Generation 2 does not default on their student loans, and they have an occupation and wage appropriate for a college graduate, they may be able to start saving for their own child's (Generation 3) college education. Generation 3 may borrow a lesser amount than their parents, or they may not have to borrow for college at all because of parental contributions. When Generation 3 is in college, they will also have the benefit of having highly educated parents; our findings suggest that students whose parents have at least a Bachelor's degree are less likely to still be enrolled at year five. If Generation 3 graduates in four years instead of five, they will double their financial benefits by not taking out student loans for the additional year and, instead, earning a wage that allows them to start paying off their debt sooner. It may be that the third generation is the one that has the most opportunities to lower the wealth gap.

Providing student loans to students from the least wealthy families will not necessarily help close the wealth gap if the student must borrow a greater amount in order to make up for a lack of financial resources. The debt burden felt by college graduates with large amounts of debt can severely impact their ability to build their own wealth (Elliott et al., 2013a, 2013b; Jackson & Reynolds, 2013; Zhang, 2013). This will be even worse for students who drop out of school, as they will experience the negative consequences of debt without the positive effects of a degree (Jackson & Reynolds, 2013). The risk of experiencing negative effects is highest in black students (Grinstein-Weiss et al., 2016).

Rather than providing a direct path to upward economic mobility, the argument can be made that, particularly for black students, student loans are another way of increasing the wealth gap in the United States (Addo et al., 2016). It is vital, when discussing and creating financial aid policy, that conversations include students' and their families' abilities (or, lack of abilities) to accumulate wealth and understand how wealth building opportunities privilege white families over black. Without taking those factors into consideration, the U.S. higher education system may continue to play a role in widening the wealth gap and supporting institutional racism, letting the *house* continue to win and leaving many in society left to wonder if higher education is a gamble worth taking.

Nexus: Connecting Research to Practice

- Practitioners should tell lawmakers that future amendments to the Higher Education Opportunity Act need to revise the EFC formulas, as the current formulas support and enhance wealth inequality.
- Practitioners need to be aware of the greater wealth inequality that takes place outside of our institutions and disproportionately affects black students more than white students. The fact that student loan borrowing can reinforce this wealth inequality undermines our mission as higher

education practitioners to provide an environment in which students of all backgrounds are able to improve their socioeconomic status by completing a college education.

- Practitioners should advocate for increased funding of grants and scholarships at the federal, state, and local level, especially ones that are targeted towards students whose families experience barriers to wealth building. This will reduce the amount of student loans needed, which will improve graduate's ability to start building their own personal wealth after graduation.
- Practitioners should express caution when their institutions discuss increasing tuition rates, as these increases will likely be funded by loans for those students whose parents lack the wealth needed to pay out of pocket. Operating with a leaner budget may provide difficulties for administrators, faculty, and staff, but could provide a very real impact on students by reducing their overall debt, enabling them to start building their own wealth sooner.

References

- 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. doi:10.1007/s12552-016-9162-0
- Andruska, E. A., Hogarth, J. M., Fletcher, C. N., Forbes, G. R., & Wohlgemuth, D. R. (2014). Do you know what you owe? Students' understanding of their student loans. *Journal of Student Financial Aid*, 44(2), 125–148.
- Baradaran, M. (2013). How the poor got cut out of banking. *Emory Law Journal*, 62(3), 483–548.
- Cahalan, M., Perna, L. W., Yamashita, M., Ruiz, R., & Franklin, K. (2016). *Indicators of higher education equity in the United States: 2016 historical trend report*. Washington, DC.
- Carlson, R. H., & McChesney, C. S. (2015). Income sustainability through educational attainment. *Journal of Education and Training Studies*, 3(1), 108–115. <https://doi.org/10.11114/jets.v3i1.508>
- Chen, R., & Wiederspan, M. (2014). Understanding the determinants of debt burden among college graduates. *The Journal of Higher Education*, 85(4), 565–598. <https://doi.org/10.1353/jhe.2014.0020>
- Collins, B. (2018). *Federal student aid: Need analysis formulas and expected family contribution* (CRS Report No. R44503). Retrieved from Congressional Research Service website: <https://crsreports.congress.gov/product/pdf/R/R44503>
- Higher Education Act; ED Federal Need Analysis Methodology for the 2019-20 Award Year-Federal Pell Grant, Federal Work-Study, Federal Supplemental Educational Opportunity Grant, William D. Ford Federal Direct Loan, Iraq and Afghanistan Service Grant, and TEACH Grant Programs, 83 Fed. Reg. 22967-22971 (May 17, 2018).
- Elliott, W., & Friedline, T. (2013). “You pay your share, we’ll pay our share”: The college cost burden and the role of race, income, and college assets. *Economics of Education Review*, 33, 134–153. <https://doi.org/10.1016/j.econedurev.2012.10.001>
- Elliott, W., Grinstein-Weiss, M., & Nam, I. (2013a). *Does outstanding student debt reduce asset accumulation?* (CSD Working Paper 13-32). St. Louis, MO: Washington University, Center for Social Development.
- Elliott, W., Grinstein-Weiss, M., & Nam, I. (2013b). *Is student debt compromising homeownership as a wealth-building tool?* (CSD Working Paper 13-33). St. Louis, MO: Washington University, Center for Social Development.
- Fuller, M. B. (2014). A history of financial aid to students. *Journal of Student Financial Aid*, 44(1), 4.
- Grinstein-Weiss, M., Perantie, D. C., Taylor, S. H., Guo, S., & Raghavan, R. (2016). Racial disparities in education debt burden among low- and moderate-income households. *Children and Youth Services Review*, 65, 166–174. <https://doi.org/10.1016/j.childyouth.2016.04.010>
- Heller, D. E. (2001). Debts and decisions: Student loans and their relationship to graduate school and career choice. *Lumina Foundation: New Agenda Series*, 3(4).
- Higher Education Act of 1965 as amended through P.L. 115-334. 20 U.S.C. §§ 1087kk–1087vv (2019).

- Hillman, N. W. (2014). College on credit: A multilevel analysis of student loan default. *The Review of Higher Education*, 37(2), 169–195. <https://doi.org/10.1353/rhe.2014.0011>
- (2015). Borrowing and repaying federal student loans. *Journal of Student Financial Aid*, 45(3), 35–48.
- Jackson, B. A., & Reynolds, J. R. (2013). The price of opportunity: Race, student loan debt, and college achievement. *Sociological Inquiry*, 83(3), 335–368. <https://doi.org/10.1111/soin.12012>
- Kim, D. (2007). The effect of loans on students' degree attainment: Differences by student and institutional characteristics. *Harvard Educational Review*, 77(1), 64–100.
- Kim, J., Kim, J. E., & Moon, U. J. (2016). Differences in bank account ownership among white, black, and latino children and young adults. *Journal of Financial Counseling and Planning*, 27(2), 212–230. <https://doi.org/10.1891/1052-3073.27.2.212>
- Laerd Statistics. (n.d.a). *Independent t-test for two samples*. Retrieved from <https://statistics.laerd.com/statistical-guides/independent-t-test-statistical-guide.php>
- (n.d.b). *One-way ANOVA*. Retrieved from <https://statistics.laerd.com/statistical-guides/one-way-anova-statistical-guide-2.php>
- Mathews, T. J., & Hamilton, B. E. (2009). *Delayed childbearing: More women are having their first child later in life* (NCHS Data Brief No. 21). Retrieved from the U.S. Department of Health and Human Services, National Center for Health Statistics website: <https://stacks.cdc.gov/view/cdc/5468>
- Oliver, M. L., & Shapiro, T. M. (1995). *Black wealth/white wealth: A new perspective on racial inequality*. New York: Routledge.
- Perna, L. W. (2007). The sources of racial-ethnic group differences in college enrollment: A critical examination. *New Directions for Institutional Research*, 2007(133), 51–66. <https://doi.org/10.1002/ir.204>
- Price, D. V. (2004). *Borrowing inequality: Race, class, and student loans*. Boulder, CO: Lynne Rienner Publishers, Inc.
- Scheffé, H. (1959). *The analysis of variance*. New York: Wiley.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Belmont, CA: Wadsworth.
- Sue, D. W. (2016). The invisible whiteness of being. In P. S. Rothenberg (Ed.), *White privilege: Essential readings on the other side of racism* (5th ed., pp. 15–28). New York: Worth Publishers.
- Updegrave, M. K. (2012). *Indomitable will: LBJ in the presidency*. New York: Crown Publishing Group.
- U.S. Department of Education, Federal Student Aid (2012). *Information for international students wishing to attend college in the United States*. Retrieved from <https://studentaid.ed.gov/sa/sites/default/files/international-students.pdf>
- U.S. Department of Education, Federal Student Aid (n.d.a). *Repayment plans*. Retrieved from

<https://studentaid.ed.gov/sa/repay-loans/understand/plans>

- U.S. Department of Education, Federal Student Aid (n.d.b). *Subsidized and unsubsidized loans*. Retrieved from <https://studentaid.ed.gov/sa/types/loans/subsidized-unsubsidized#how-much>
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2011). *Restricted-use data procedures manual*. Retrieved from <https://nces.ed.gov/pubs96/96860rev.pdf>
- Vacha-Haase, T., and Thompson, B. (2004). How to estimate and interpret various effect sizes. *Journal of Counseling Psychology*, 51(4), 473-481. doi:10.1037/0022-0167.51.4.473
- Wine, J., Bryan, M., and Siegel, P. (2014). *2011–12 National Postsecondary Student Aid Study (NPSAS:12) data file documentation* (NCES 2014-182). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from <http://nces.ed.gov/pubsearch>
- Zhang, L. (2013). Effects of college educational debt on graduate school attendance and early career and lifestyle choices. *Education Economics*, 21(2), 154–175. <https://doi.org/http://dx.doi.org/10.1080/09645292.2010.545204>