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Debt and College Graduation: Differences by Race/Ethnicity

Min Zhan

University of Illinois

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Campus Box 1196 One Brookings Drive St. Louis, MO 63130-9906 • (314) 935.7433 • csd.wustl.edu



Washington University in St. Louis

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Youth Debt and College Graduation: Differences by Race/Ethnicity

This study examines the relationship between youth debt (from education loans and credit cards) and college graduation, considering the ways in which the relationship differs by race/ethnicity. Results show little evidence that student loans and credit card debt reduce the gaps between White and minority students in the likelihood of college graduation. Findings also indicate that the likelihood of graduating from college is higher among White and Black students with education loans of \$10,000 or more than among those without education loans. However, among minority students (Black and Hispanic students), those with education loans of \$10,000 or more are less likely to graduate than those with loans between \$5,000 and \$10,000. I discuss the policy implications of the findings.

Key words: college graduation, credit card debt, education loans, parental assets, race/ethnicity

College education has become progressively more important for long-term economic success (Baum & Ma, 2007; U.S. Census Bureau, 2009). Despite growing college enrollment among Blacks and Hispanics, there are still marked racial/ethnic disparities in rates of college graduation (U.S. Census Bureau, 2008). For example, a report by Lee, Edwards, Menson, and Rawls (2011) examines the rates at which full-time students complete bachelor's degrees at 4-year colleges, finding that, as of 2008, less than 60% graduate in 6 or fewer years; however, this rate is about 40% among Black students and about 50% among Hispanic students. Racial/ethnic disparity in college completion has important individual (e.g., economic success, health) and societal consequences (e.g., racial inequality, skills of the workforce; Baum & Ma, 2007). Thus, it is important to examine factors that may explain racial differences in rates of college graduation.

College cost is among these factors. It is one of the most recognized barriers to college access and success, especially among low-income and minority families (Long & Riley, 2007). College costs have risen sharply over the last decade (College Board, 2008); the income and savings of many families are insufficient to cover the expenditure. Increasingly, families meet the cost by incurring substantial amounts of debt (Lewin, 2009).

Financial aid policy once focused on need-based aid but now is oriented toward merit-based aid and education tax credits (Long & Riley, 2007). However, federal and private loans are becoming increasingly accessible to youth and their families (College Board, 2009). As a result, education loans have become a common tool employed by families to cover college costs. There is evidence that minority college students are more likely than nonminority counterparts to be burdened with heavy debt payments exceeding their monthly income (Baum and Steele, 2010; Price, 2004).

Since the 1990s, there has been a trend toward the deregulation of financial markets. The resulting credit environment allows many young adults to obtain credit cards that they could not access before (Kamenetz, 2006). Findings from a recent national survey by Sallie Mae (2009) indicate that both credit card ownership and credit card balances rose sharply among college students in recent years. A large proportion of college students rely on credit cards to pay direct educational expenses, including textbooks, school supplies, and tuition (Sallie Mae, 2009).

Although a growing body of literature examines the relationships between education loans and college education (e.g., Dwyer, McCloud, & Hodson, 2012; Zhan, 2012), little research considers how the associations differ by race/ethnicity. The current study examines the associations between youth debt (from education loans and credit cards, respectively) and attainment of a bachelor's degree (hereafter, college graduation), considering variations across White, Black, and Hispanic families. This research makes two important contributions. First, it elucidates the ways in which debt contributes to racial/ethnic gaps in college graduation. Little is known about those associations, but there is some evidence that access to student loans improves college enrollment among minority students (Baum & McPherson, 2008; Heller, 2008). Second, this study also contributes to the literature by investigating whether associations between youth debt and college graduation vary among different racial/ethnic groups. Such variations could be due in part to differences in levels of parental economic capacity (e.g., income and assets) as well as to differential returns of college education among various racial/ethnic families. Thus, perceptions of debt could differ among these students, as could repayment ability.

Prior Research on Debt and College Graduation

A nonlinear relationship

Debt from education loans and credit cards, two types of unsecured debt, may have nonlinear effects on the ways in which families finance a youth's college education (Gruber, 2001; Nam & Huang, 2009). On one hand, incurring such debt may increase the chances of graduation if the investment is rational and will pay off in the future (Bowen, Chingos, & McPherson, 2009; Frank, 1999). On the other hand, heavy debt could have diminishing or even negative effects on college education.

Debt indicates access to credit markets; access could provide necessary resources in times of economic difficulty (Mayer & Jencks, 1989; Sullivan, 2008) and increase the chances of enrollment in and graduation from college. Also, the ability to borrow might reduce the number of hours that youth work to support themselves in college and, thus, increase their chances of remaining in school.

In addition, research suggests that access to borrowed resources during economically challenging times may reduce anxiety and stress (Drentea, 2000). It also may improve youth's self-esteem, mastery, and status attainment. For example, Dwyer, McCloud, and Hodson (2011) find that education and credit-card debt are respectively and positively linked to both mastery and self-esteem among youth, especially youth from low- and middle-income families. This attitudinal and emotional impact may, in turn, affect the chances of graduation.

Large amounts of debt, however, may prevent families and youth from saving, securing additional loans, and investing in the future. Large debt burdens also could harm physical and mental health (Drentea & Lavrakas, 2000; Jenkins et al., 2008). Heavy debt is associated with financial stress, which may lead youth to feel out of control. Such stress may reduce capacity for future planning and orientation. Drentea (2000) suggests that young people tend to experience more stress and anxiety associated with heavy debt than do older counterparts. Among college students, this stress and anxiety could be due to limited resources and to inexperience in managing finances (Christie & Munro, 2003).

A recent study by Dwyer et al. (2012) indicates the aforementioned nonlinear association between education loans and college graduation among a sample of youth who attended public universities. As a special resource for making investments in education, education loans have a positive impact on college completion but only up to \$10,000. Heavy debt (beyond \$10,000) reduces the chances of graduation among students from the bottom 75% of the sample's bottom household-income quartile (Dwyer et al., 2012).

Differential links by race/ethnicity

The limited research suggests possible reasons for variation by race/ethnicity in the effects of youth debt on college graduation. Studies indicate that the impact of youth debt on chances of graduation differs by parental economic capacities (e.g., levels of income and levels of assets; see, e.g., Dwyer et al. 2012; Kim, 2007). Also, a qualitative study among college students indicates that knowing whether additional resources are available to pay back debt affects youth's perception of benefits and risks of debt (Christie & Munro, 2003). Education loans and credit cards may be the only resources available to low-income and low-asset students; others may have additional resources, such as parental income and wealth, to shelter them from the effects of debt. Therefore, high-income and high-asset students may be more likely to have confidence that investments in college are worthwhile; low-income and low-asset students may be more likely to perceive risks, recognizing the financial challenges that their parents face in supporting them. Given the racial/ethnic gaps in income and assets (e.g., Bucks, Kennickell, Mach, & Moore, 2009), debt could have a stronger impact on the college graduation of minority students than on that of nonminority counterparts; minority students are more likely to use education loans and credit cards as primary sources of education funding. Because debt burden can elevate stress, heavy debt might have a more negative impact on the education of minority students than on that of their nonminority counterparts.

Another possible reason for racial/ethnic variation in debt's effects on graduation may be found in the different economic benefits associated with a college degree. Studies indicate that Black students receive less economic return from their college education compared to their White counterparts (e.g., Crissey, 2009). Also, the risk of losing jobs in times of economic recession is greater for Black college graduates (Austin, 2009). These findings suggest that perceptions of debt and repayment ability among minority students could be different from those among White students.

Existing studies produce mixed findings on the relationship between education loans and college persistence and completion (Hossler et al., 2008), but research generally suggests that the effect of loans is more likely negative for disadvantaged families than for higher-income families. For example, Kim's (2007) study finds that, only among low-income and Black students, the amount of the student loan in the first year of college is negatively related to degree completion. Paulsen and St. John (2002) indicate that amount of loans negatively affect within-year persistence of students from low- and lower-middle-income families. Similarly, the study by Dwyer et al. (2012) finds that education loans have stronger impact on college graduation of students from lower and middle-class families than on the graduation of those from upper-class families; loans above \$10,000 have a negative impact only for students from lower and middle-class families.

As the above literature review suggests, this study is motivated by two hypotheses. First, having education loans and credit card debt helps increase the chances of college graduation; but at higher levels of loans and debt, the effect will diminish or even become negative on college graduation.

Second, the impact of education loans and credit card debt is stronger (both positive and negative) for minority students (Black and Hispanic students) than for White students.

Data and Methods

Data and sample

Data for this study come from the National Longitudinal Survey of Youth (NLSY) main file and from the NLSY Young Adult sample (NLSY-YA). The original NLSY sample included 12,686 individuals who were between ages 14 and 22 in 1979. It includes an oversample of minority and economically disadvantaged White youth. From 1979 through 1994, NLSY interviewed respondents annually. It conducted biennial interviews thereafter (Center for Human Resources Research, 2006). Beginning in 1994, NLSY conducted biennial interviews with the adolescent children (ages 15–20) of the female respondents in the original NLSY sample, referring to these youth as young adults. The young adult survey includes questions related to schooling, labor-market experience, education, physical and mental health, relationships, and fertility. There were 980 young adults in the original survey in 1994. As of 2008, over 6,000 young adults were surveyed. Data related to parental education, family income, and family assets come from the NLSY main file. All other variables in the study come from NLSY-YA data. These two data sets are linked by a mother's identification number.

The sample for the current study includes the young adults who enrolled in the first year of college between 2000 and 2004 ($n = 1,278$). I measure their college graduation status in survey year 2008. The measure allows each youth at least 4 years to finish college. I exclude young adults from the sample if they reported college enrollment in 2008 ($n = 231$). I also exclude cases that lack a value for any of the variables in the analysis ($n = 196$). The final analytic sample for this study includes 851 young adults.

Measures

Youth debt

This focal variable is drawn from two measures: the total accumulative dollar amount of education loans and the average yearly dollar amount of credit card debt. Both measures assess amounts during the period a student is enrolled in college. Two questions pertain to education loans in each survey year: whether a student received a loan to cover any of the costs for college expenses, and if he or she did, the amount of loans received. The accumulative amount of education loans in this study is constructed by adding the amount from each survey year. A similar two-question sequence concerns credit card debt: whether a student owes any money on credit cards and, if so, how much he or she owes altogether. Because levels of credit card debt can change, I measure credit card debt as the average annual amount instead of the cumulative amount. Specifically, I calculate this as the average total amount owed on all cards during the years of the youth's college enrollment.

According to the hypothesis that debt has nonlinear relationships with college graduation and the distribution of the variable, the measure of education loan amount is recoded into four categories: no education loans, education loans less than \$5,000, education loans between \$5,000 and \$10,000, and education loans of \$10,000 or more. Similarly, credit card debt is recoded into three categories:

no credit card balance, credit card balance of less than \$500, and credit card balance of \$500 or more.

College graduation

The dependent variable in this study captures whether a youth completed a bachelor's degree by 2008. The NLSY-YA assesses a youth's level of educational attainment by asking respondents to indicate the highest grade or year of school completed. In this study, I define a bachelor's degree as the equivalent of 16 years of schooling. It is measured with a dummy variable (yes = 1, no = 0).

Race/ethnicity

Race/ethnicity is dummy coded (White, Black, and Hispanic). White sample members comprise the reference group in the regression analyses.

Control variables

Because of their potential influence on college graduation, I control for several demographic, social, and economic characteristics of parents and youth. I include these control variables to rule out the possibility that the results might be biased by omitted variables. I also include them to rule out possible alternative explanations of variance in the dependent variable.

The demographic controls for youth include age, gender, marital status during college enrollment, and parental status during enrollment. Marital status is dummy coded into two groups: ever married during enrollment (coded as 1) and unmarried during enrollment (coded as 0). Similarly, parental status is measured with whether a youth had a child during the enrollment period (1 = yes, 0 = no). A youth's academic performance in high school is measured with his/her average letter grade earned from classes during the last year of high school. It is measured with a dichotomous variable: respondents are coded as 1 if their average grade across classes was A or -A in the last year of high school and as 0 otherwise. I also include a control for enrollment status (1 = full-time enrollment, 0 = part-time enrollment). Because only a small proportion of sampled youth attended private colleges (about 3%), this variable is not included in the regression analysis.

Parental controls include mother's education status and total net family income of parents as of the year in which the youth first enrolled in college. The NLSY measures mothers' education level with a question that asks whether she holds a bachelor's degree (i.e., at least 16 years of school completed). Mothers with a degree are coded as 1, and those without one are coded as 0. I also control for the net worth of a youth's parents. The variable is constructed from a measure of the family net worth of the parents in the year when the youth first enrolled in college. This variable is created by summing all asset values and subtracting all debts. It is recoded into three categories according to distribution: negative or zero net worth, net worth of less than \$50,000, and net worth of \$50,000 or above.

Analysis

I conduct two sets of regression analyses. In the first set, I estimate several regressions with different groups of predictors to examine whether education loans and credit card debt are related to racial

disparity in college graduation. The first model in this set includes only race/ethnicity. The second includes race/ethnicity as well as control variables for youth and parent characteristics. The third model of the set includes all preceding controls as well as variables for education loans and credit card debt.

In the second set of regressions, I examine terms for the interaction between debt and race/ethnicity to investigate whether associations between debt and college graduation differ by race/ethnicity. I estimate separate logistic regressions with the subsamples of each of the three racial/ethnic groups.

Results

Descriptive analysis

Table 1 details weighted descriptive statistics for the study sample and for each racial/ethnic group. The sample ($N = 851$) includes 379 White students, 295 Black students, and 177 Hispanic students. Their average age in 2008 was 26. During their enrollment, about 12% were married and 14% had at least one child. About 27% of youth had an average letter grade of A or -A in their last year of high school. Most youth enrolled full-time (85%) in public universities (95%). As of 2008, only about 38% of youth in the study sample held a bachelor's degree.

The average total family income during the youth's college enrollment year is about \$54,000. About 12% of them come from families with negative or zero net worth; among families with positive net worth, the median value of net worth is about \$5,000. About 15% of youth's mothers hold a bachelor's degree or more education.

About 47% of sampled students have education loans, and 58% have credit card balances during college enrollment. Among those who have education loans, the median amount owed on such a loan is \$5,000 (mean is \$7,663); among those who have credit card debt, the median annual debt value is \$425 (mean is \$926).

Table 1 also shows differences in sample characteristics by the three racial/ethnic groups. The proportion of female students is higher among Black sample members than among the other racial/ethnic groups. Black college students are less likely than White and Hispanic counterparts to be married during college enrollment. However, minority college students, both Blacks and Hispanics, are more likely than White students to parent a child while enrolled in college. Twenty-seven percent of the full sample reports having an average grade of A or -A during the last year of high school; the same is reported by 30% of White students, 23% of Hispanic students, and 13% of Black students. White students are much more likely to report holding a bachelor's degree in 2008 (45%) than are their Black (21%) and Hispanic (19%) counterparts. The family income of Black and Hispanic students is lower than that of White students. Black and Hispanic students also are more likely to come from families with negative, no, or low net worth (i.e., less than \$50,000): 39% of White students' families have net worth below \$50,000, but that is so for the families of 81% of Black students and for 59% of Hispanic students.

The groups also differ in use of loans and credit. Hispanic students are less likely to take education loans (37% having loans) than are their White (48%) and Black counterparts (44%). The median

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Table 1. Sample Characteristics (Weighted)

| Variables | Full Sample (N = 851) | White (n = 379) | Black (n = 295) | Hispanic (n = 177) |
|---|--------------------------|--------------------|--------------------|-----------------------|
| Student characteristics | | | | |
| Age in 2008 (years) | 26 | 25 | 26 | 26 |
| Gender (% Female) | 57 | 54 | 68 | 55 |
| Marital status during enrollment | | | | |
| Married | 12 | 12 | 9 | 14 |
| Parental status during enrollment | | | | |
| Have child | 14 | 10 | 26 | 18 |
| Avg. grade in last year of high school | | | | |
| A or -A | 27 | 30 | 13 | 23 |
| Institutional characteristics | | | | |
| Public university | 95 | 95 | 97 | 99 |
| Enrollment status | | | | |
| Full-time students | 85 | 87 | 79 | 78 |
| Educational status in 2008 | | | | |
| Have bachelor's degree | 38 | 45 | 21 | 19 |
| Family characteristics | | | | |
| Mother's education | | | | |
| Bachelor's degree or above | 15 | 17 | 11 | 12 |
| Mean (and median) family income in dollars | 54,136 (45,787) | 63,867 (58,100) | 40,002 (33,300) | 56,857 (46,333) |
| Family net worth | | | | |
| Negative or zero | 12 | 10 | 22 | 15 |
| Net worth < \$50,000 | 35 | 29 | 59 | 44 |
| Net worth ≥ \$50,000 | 53 | 61 | 19 | 41 |
| Education loans | | | | |
| Have loans | 47 | 48 | 44 | 37 |
| Loans < \$5,000 | 18 | 16 | 24 | 23 |
| Between \$5,000 and \$10,000 | 16 | 15 | 11 | 7 |
| Loans ≥ \$10,000 | 13 | 17 | 9 | 7 |
| Mean (and median) loan amount in dollars | 7,663 (5,000) | 9,442 (6,431) | 6,345 (4,500) | 5,429 (3,500) |
| Credit card debt | | | | |
| Have debt | 58 | 57 | 55 | 73 |
| Debt < \$500 | 31 | 29 | 32 | 41 |
| Debt ≥ \$500 | 27 | 28 | 23 | 32 |
| Mean (median) debt in dollars | 926 (425) | 1,023 (425) | 810 (414) | 913 (400) |

Notes: Mean (median) is presented for continuous variables. Unless otherwise specified, results are presented as percentages.

amount of education loans is highest among White students (\$6,400); the median among Black students is \$4,500, and that among Hispanic students is \$3,500.

Credit card debt follows a pattern different from the one observed for education loans. Among the three groups, Hispanic students are most likely to hold credit card debt (73%), followed by White (57%) and Black students (55%). The median and mean amount of such debt is similar across the three groups of students.

Bivariate analysis

In order to examine how graduation rates differ by levels of debt from education loans and credit cards, I conduct bivariate analyses of possible associations between each type of debt and graduation status. I conduct these for the full sample and for each of racial/ethnic group. The results are presented in Tables 2 and 3.

Results in Table 2 indicate that the education loans are significantly associated with college graduation for the full sample and for each of the racial/ethnic groups. Students with education loans of less than \$10,000 are more likely to graduate from college than are those who do not take out loans; however, the rate of graduation is lower among students with loan amounts of \$10,000 or more than among those with loan amounts between \$5,000 and \$10,000. This pattern holds for each of the three groups. Table 3 indicates that credit card debt is only related to graduation among Black students. The results suggest that rates of graduation are higher among students with credit card debt than among those without such debt.

Logistic regression: Debt and racial/ethnic gaps in college graduation

Table 4 presents the results from logistic regressions examining college graduation. Results from Model 1, which controls only for race/ethnicity, suggest that college students from Black and Hispanic families are less likely to graduate than counterparts from White families. More specifically, White students are about 3 times more likely to graduate than Black students and about 4 times more likely than Hispanic students.

Inclusion of controls for student and family characteristics (Model 2) reduces the estimated gaps in college graduation across the groups, but the differences remain statistically significant. White students' odds of graduating are about 2 times greater than those for Black students and about 3 times greater than those for Hispanic students. Results from Model 2 indicate that female students are more likely to graduate than their male counterparts and that age is positively associated with graduation (i.e., that older students are more likely to graduate). Parenting a child during enrollment reduces the likelihood of graduation. As I expected, those with an average letter grade of A or -A during the last year of high school are more likely to graduate than those with lower average grades, and those who enroll full time have a higher probability of graduating than those who enroll part-time. Some noteworthy results also emerge from the family characteristics. Having a mother who graduated from college increases the odds that a student will graduate. Students from families with net worth of \$50,000 or more are more likely to graduate than those from families with negative or zero net worth.

Model 3 includes controls for debt from education loans and credit cards as well as the control variables from previous models. The results suggest that the racial/ethnic disparities in college graduation remain almost the same as those in model 2 and are statistically significant. Students with education loans of \$10,000 or above are more likely to graduate than those without such loans, but the odds of graduation for those with \$10,000 or more in loans are not statistically different from the odds for students with loans of less than \$5,000. Furthermore, students with loans of \$10,000 or more are less likely to graduate than are those with between \$5,000 and \$10,000 in loans. Therefore, having education loans increases the probability of college graduation, but that probability declines

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Table 2. Education Loans by Graduation Status and Race/Ethnicity (Percentages)

| Education Loans | Graduates | Nongraduates |
|------------------------------|-----------|--------------|
| Full sample (%)*** | | |
| No loans | 16 | 84 |
| <\$5,000 | 35 | 65 |
| Between \$5,000 and \$10,000 | 59 | 41 |
| ≥\$10,000 | 53 | 47 |
| White (%)*** | | |
| No loans | 25 | 75 |
| <\$5,000 | 44 | 56 |
| Between \$5,000 and \$10,000 | 74 | 26 |
| ≥\$10,000 | 64 | 36 |
| Black (%)*** | | |
| No loans | 7 | 93 |
| <\$5,00 | 31 | 69 |
| Between \$5,000 and \$10,000 | 48 | 52 |
| ≥\$10,000 | 38 | 62 |
| Hispanic (%)* | | |
| No loans | 12 | 88 |
| <\$5,000 | 29 | 71 |
| Between \$5,000 and \$10,000 | 34 | 66 |
| ≥\$10,000 | 20 | 80 |

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. Credit Card Debt by Graduation Status and Race/Ethnicity (Percentages)

| Credit card debt | Graduates | Nongraduates |
|------------------------------|-----------|--------------|
| Full sample (%) ⁺ | | |
| No debt | 26 | 74 |
| <\$500 | 31 | 69 |
| ≥\$500 | 35 | 65 |
| White (%) | | |
| No debt | 39 | 61 |
| <\$500 | 40 | 60 |
| ≥\$500 | 49 | 51 |
| Black (%)** | | |
| No debt | 12 | 88 |
| <\$500 | 26 | 74 |
| ≥\$500 | 32 | 68 |
| Hispanic (%) | | |
| No debt | 17 | 83 |
| <\$500 | 20 | 80 |
| ≥\$500 | 16 | 84 |

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

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Table 4. Unstandardized Coefficients and Odds Ratios from Logistic Regression: Models of College Graduation

| Independent and Control Variables | Model 1 | | Model 2 | | Model 3 | |
|--|----------|-----|-----------|------|-----------|------|
| | Coeff. | OR | Coeff. | OR | Coeff. | OR |
| Race/ethnicity | | | | | | |
| Black | -1.00*** | .36 | -.65** | .52 | -.69** | .49 |
| Hispanic | -1.25*** | .28 | -.99*** | .37 | -.98*** | .38 |
| Youth characteristics | | | | | | |
| Age | | | .22*** | 1.24 | .19*** | 1.21 |
| Gender | | | | | | |
| Female | | | .49** | 1.64 | .38* | 1.46 |
| Marital status | | | | | | |
| Married | | | -.16 | .85 | -.19 | .83 |
| Parent status | | | | | | |
| Having child | | | -1.58*** | .21 | -1.46*** | .23 |
| Avg. grade in last year of high school | | | | | | |
| A or -A | | | .97*** | 2.65 | .99*** | 2.70 |
| Enrolment status | | | | | | |
| Full-time students | | | 1.78*** | 5.94 | 1.81*** | 5.86 |
| Family characteristics | | | | | | |
| Mother's education | | | | | | |
| Mother with bachelor's degree | | | .91*** | 2.48 | .85** | 2.34 |
| Family income | | | .0001 | .10 | .0001 | 1.0 |
| Family net worth | | | | | | |
| (Negative or zero net worth) | | | | | | |
| Low net worth: <\$50,000 | | | .43 | 1.53 | .38 | 1.47 |
| High net worth: ≥\$50,000 | | | .81** | 2.25 | .94** | 2.56 |
| Education loans and credit card debt | | | | | | |
| Education loans | | | | | | |
| (≥\$10,000) | | | | | | |
| No loans | | | | | -1.41*** | .24 |
| <\$5,000 | | | | | -.23 | .79 |
| Between \$5,000 and \$10,000 | | | | | .55+ | 1.73 |
| Credit card debt | | | | | | |
| (Debt ≥ \$500) | | | | | | |
| No debt | | | | | -.47* | .63 |
| Debt < \$500 | | | | | -.18 | .84 |
| X ² | 41.09*** | | 210.56*** | | 300.63*** | |
| df | 2 | | 12 | | 17 | |
| N | 851 | | 851 | | 851 | |

Notes: Coeff. = coefficient; OR = odds ratio. Categories in parentheses are reference groups.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5. Logistic Regression Models of College Graduation by Race/Ethnicity

| Education Loans and Credit Card Debt | White (<i>n</i> = 379) | | Black (<i>n</i> = 295) | | Hispanic (<i>n</i> = 177) | |
|--------------------------------------|----------------------------|------|----------------------------|------|-------------------------------|------|
| | Coeff. | OR | Coeff. | OR | Coeff. | OR |
| Education loans | | | | | | |
| (≥10,000) | | | | | | |
| No loans | -1.49*** | .22 | -1.99 ** | .14 | .48 | 1.62 |
| <\$5,000 | -.40 | .67 | -.17 | .84 | 1.51 | 4.51 |
| Between \$5,000 and \$10,000 | .55 | 1.73 | .62 ⁺ | 1.87 | 2.17* | 8.78 |
| Credit card debt | | | | | | |
| (Debt ≥ \$500) | | | | | | |
| No debt | -.73 | .48 | -1.18 | .31 | .36 | 1.43 |
| Debt <\$500 | -.63 | .51 | -.71 | .49 | .49 ⁺ | 1.63 |

Notes: Coeff. = coefficient; OR = odds ratio. Categories in parentheses are reference groups. Results of control variables are not presented in the table.

* *p* < .05; ** *p* < .01; *** *p* < .001.

as the amount of the loans grows. Table 4 also shows that students with average credit card debt of \$500 or more per year during enrollment are more likely to graduate than those without credit card debt.

Differential links of debt and college graduation by race/ethnicity

To further examine whether the associations between each type of debt (that from education loans and that from credit cards) and college graduation vary by race/ethnicity, I estimate interaction terms between race/ethnicity and the amount of education loans as well as between race/ethnicity and credit card debt. The results indicate that the interaction term between education loans and race/ethnicity is statistically significant. More specifically, education loans have a stronger impact on the chances of college graduation for Black students than for White ones ($\beta = .001$; $p = .08$), but the effects are weaker for Hispanic students than for their White counterparts ($\beta = -.001$; $p = .08$). The interaction term between credit card debt and college graduation does not differ significantly by race/ethnicity.

In order to further examine how education loans and race/ethnicity interact to influence the chances of college graduation, I examine these relationships separately for each of the three racial/ethnic groups (Table 5; the table does not present the estimated coefficients and odds ratios of control variables). Results indicate that, among both White and Black students, the likelihood of graduating is higher for those with loans of \$10,000 or more than for those without loans, but this impact appears stronger among Black students: among White students, the chances of graduation are about 4.5 times higher for those with loans of \$10,000 or more than for those without loans; among Black students, the chances of graduation are about 7.1 times higher for those with loans of \$10,000 or more than for those without loans. However, for both Black and Hispanic students, the likelihood of graduating is higher for those with between \$5,000 and \$10,000 in loans than for those with loans of \$10,000 or more. In other words, the size of debt has a negative impact on the chances of graduation among minority students. Furthermore, education loans have no positive impact on the chances of college graduation among Hispanic students.

Table 5 also presents estimates from regressions that examine how credit card debt interacts with race/ethnicity to influence the likelihood of college graduation. With the inclusion of controls for education loans and other variables, the amount of credit card debt is only related to the probability of graduation for Hispanic students. Hispanic students with average annual credit card debt of less than \$500 per year during college enrollment are more likely to graduate than those with an annual average of \$500 or more in credit card debt.

Discussion and Conclusion

Discussion

This study contributes to the literature by examining the extent to which education loans and credit card debt are related to racial disparity in college graduation. It also examines variation by race/ethnicity in the association between debt and college graduation. To do so, I analyze data from a sample of students who enrolled in college between 2000 and 2004. Findings indicate that less than 40% of the sampled students graduate from college, and the graduation rate is even lower among those from minority families. Results also indicate that a large proportion of youth have education loans (47%) and credit card balances (58%) during their college enrollment. This supports the notion that these two types of debt are prevalent among college students. Interestingly, Hispanic students are less likely to hold education loans (37%) than their White (48%) and Black (44%) counterparts, but Hispanic students are more likely to hold credit card debt (73%; compare 57% for White students and 55% for Black ones). The amounts that White students owe on education loans and credit card debt are, on average, higher than those owed by their Black and Hispanic counterparts.

Consistent with findings from previous studies (e.g., Dwyer et al., 2012), the current results indicate that education loans have a nonlinear relationship with college graduation; the likelihood of graduating is greater for those with loans of \$10,000 or more than for those with no education loan, but those with loans of \$10,000 or more are less likely to graduate than counterparts with between \$5,000 and \$10,000 in loans. This finding supports the hypothesis that incurring loan debt may increase the chances of college graduation and that heavy debt may diminish or harm the chances of graduation.

This study indicates that the link between education loans and college graduation is different for minority students than for White students. On one hand, some evidence suggests that education loans are positively associated with college graduation and that the positive impact of loans (\$10,000 or above vs. no loans) is stronger for Black students than for White ones. On the other hand, the results suggest that loans are negatively associated with the chances of graduation among Black and Hispanic students: in both groups, the likelihood of graduating is higher among those with between \$5,000 and \$10,000 in loans than among those with loans of \$10,000 or more. This result implies that heavier loans have a more harmful impact on chances of college graduation among minority students. Also, the finding is consistent with theoretical assumptions (Christie & Munro, 2003) and previous empirical research (e.g., Dwyer et al., 2012; Kim, 2007). It is worth noting the finding that education loans do not help Hispanic students graduate from college. In other words, education loans only have a negative impact on college graduation for Hispanic students.

Despite these results, the study finds little evidence that debt from education loans and credit cards reduces the racial gaps in college graduation. The racial/ethnic disparities in college graduation

diminish in size but remain statistically significant with the inclusion of controls for student and parental characteristics (Model 2). The gaps hardly change with the addition of controls for debt from education loans and credit cards (Model 3). This may be partly due to the nature of the association between debt and college graduation, an association that varies by race/ethnicity.

I find that parental net worth is a strong, positive predictor of college graduation. Students with a household net worth of \$50,000 or more are over 2 times more likely to graduate than are students from households with negative or zero net worth. But the graduation rate among students from households with a positive net worth below \$50,000 is no different than that among students from households with negative or zero net worth. This result may indicate the “threshold effects” of family assets on college graduation; that is, assets must reach a threshold amount before they have a positive impact on the outcome.

It is also worth mentioning that, among the control variables, the average grade in the last year of high school is positively related with college graduation; thus, academic readiness matters. First-generation students (i.e., those whose mothers do not have a bachelor’s degree) are less likely to graduate than those whose mother holds a degree. Parenting children during college enrollment is negatively related to college graduation, and the odds of graduation are lower for minority students than for their White counterparts. These findings indicate that parents and minority students may need additional help to finish their college degree.

Limitations and future research

A few limitations are worthy of mention and point to useful directions for future research. First, I cannot distinguish among different types of education loans (e.g., federal, state, private; subsidized or unsubsidized) in the NLSY-YA data. Also, loans for college can be issued to parents and to students, but it’s not clear that the data capture loans taken by parents. It would be helpful if future studies capture these differences.

Second, this study does not examine some financial, attitudinal, and cultural factors that might influence the ways in which education loans and credit card debt affect college graduation. Future research might undertake such analyses to understand, both conceptually and empirically, the roles played by differences in family background, including racial/ethnic differences. For example, additional research might usefully examine how the associations between debt and graduation differ for Hispanic college students.

Third, this study does not consider the long-term impacts of education loans, and future research should do so. For example, research might examine how loans and loan debt affect graduate school attendance and postcollegiate career choices. Previous studies (e.g., Nam & Huang, 2009) indicate that unsecured debt’s short-term effects on graduation may differ from its long-term effects. Subsequent research should evaluate the short- and long-term effects of both education loans and credit card debt; debt from education loans and other sources often burdens college students upon graduation (Lewin, 2009; Steele & Baum, 2009), and such debt burdens might affect other important decisions made after college (e.g., purchase of a home; Long & Riley, 2007). Limited research examines the effect of education debt on postgraduation plans (Monks, 2001) and job decisions (Minicozzi, 2005) but does not consider the effects in the context of family economic circumstances or race/ethnicity.

Implications

The soaring costs make college education an increasingly daunting investment for students and their families, especially minority students with limited economic resources. Consistent with previous research, the current study indicates that a large proportion of college students, including minority students, rely on education loans and credit card debt to pay for college. Although this study indicates that education loans increase the probability of college graduation for college students, it also provides evidence that the chances of graduation are lower for students with large loans (\$10,000 or more) than for those with modest loans (between \$5,000 and \$10,000); the finding is particularly clear for Black and Hispanic students. In addition, this study indicates that education loans and credit card debt have a negative impact on college graduation for Hispanic students, and neither type of debt reduces the racial/ethnic disparities in college graduation. Thus, addressing students' unmet financial needs with additional education loans and other credit may be counterproductive. Furthermore, high debt burden may affect the long-term development (e.g., career choices) of young college graduates.

Given that the unmet financial needs of college students continue to grow with the rapidly rising cost of college, especially the needs of minority students with limited income and financial assets (Long & Riley, 2007), it is necessary to include financial asset accumulation as a long-term investment strategy to enhance college access and graduation. Consistent with findings from emerging research that examines the effects of household assets and youth savings on college education, this study indicates that parental assets are a strong predictor of youth's college graduation, including graduation among minority students. Perhaps more importantly, studies suggest the long-term benefits of asset accumulation and benefits that extend beyond education and economic outcomes (Elliott, Destin, & Friedline, 2011). Such research and the current findings suggest that fostering asset accumulation may provide a critical way to improve college graduation rates as well as the long-term development of college students.

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