

Research Article

# The Limits of Educational Mobility: Examining Socioeconomic Disparities Among College Graduates by First-Generation Status

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## Abstract

Higher education is often viewed as a pathway to social mobility, yet questions remain about whether college degrees equalize outcomes across different family backgrounds. This study examines whether first-generation college graduates achieve similar socioeconomic outcomes as their continuing-generation peers. Drawing on Bourdieu's theory of capital, the analysis investigates disparities in income, occupational prestige, and subjective social class identification. Using data from the General Social Survey (1972-2022), I employ multivariate regression models to analyze socioeconomic outcomes among 12,526 college graduates, including 4,351 with data on academic major. Results reveal persistent disadvantages for first-generation graduates across all three dimensions of socioeconomic status, even after controlling for demographic characteristics and field of study. First-generation graduates earn 9.2-14.4% less income, work in less prestigious occupations, and are significantly less likely to identify with higher social classes compared to continuing-generation graduates with similar characteristics. These disparities have remained relatively stable over time, suggesting that the expansion of higher education access has not eliminated the advantages associated with having college-educated parents. Furthermore, controlling for academic major actually reveals larger disparities, contradicting assumptions that academic major choice explains these differences. These findings indicate that while higher education provides significant benefits for all graduates, it alone is insufficient to fully disrupt intergenerational advantages transmitted through economic, cultural, and social capital. The study contributes to theoretical understanding of social reproduction and suggests the need for targeted interventions to support first-generation graduates throughout their academic and professional trajectories.

## Keywords

First-generation College Graduates, Higher Education, Social Mobility, Socioeconomic Outcomes, Cultural Capital, Social Class, Intergenerational Advantage

## 1. Introduction

Higher education has long been considered a primary vehicle for social mobility in the United States, offering individuals from disadvantaged backgrounds the opportunity to

improve their socioeconomic status through the acquisition of knowledge, skills, and credentials [9]. This promise of educational attainment as a pathway to upward mobility has

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shaped educational policy, institutional practices, and individual decision-making for generations. Yet, despite significant expansions in college access over the past several decades, questions remain about the extent to which higher education truly serves as an equalizing force in American society [18, 4].

First-generation college students represent a significant segment of the college-going population [16]. These students often come from lower socioeconomic backgrounds and face numerous challenges in accessing and completing higher education, including financial constraints, limited academic preparation, and difficulties navigating the complex social and cultural landscape of higher education institutions [1, 2, 33]. Research has extensively documented these challenges and the lower rates of degree completion among first-generation students compared to their continuing-generation peers [30].

However, substantially less attention has been paid to what happens after first-generation students successfully complete their degrees. The assumption that obtaining a college degree automatically confers similar advantages to all graduates, regardless of family background, remains largely untested [29, 38]. This assumption is central to the narrative of higher education as a “great equalizer” [38] and merits empirical examination. If significant socioeconomic disparities persist between first-generation and continuing-generation graduates, despite having attained the same level of educational credentials, this would challenge the notion that higher education alone is sufficient to overcome intergenerational disadvantages [26].

This study addresses this critical gap in our understanding by examining the socioeconomic outcomes of first-generation college graduates compared to continuing-generation graduates. Specifically, the investigation focuses on three key dimensions of socioeconomic status: income, occupational prestige, and subjective social class identification. These dimensions capture both objective measures of economic well-being and career advancement, as well as subjective perceptions of social standing [34, 22]. Together, they provide a comprehensive picture of how family educational background might continue to influence life outcomes even after individuals have earned college degrees.

The primary research question guiding this investigation is: To what extent does first-generation college graduate status predict differences in income, occupational prestige, and social class identification compared to graduates with college-educated parents? Additionally, the study explores two related questions: (1) Have these differences changed over time, as higher education has become more accessible? (2) Does the field of study (college major) help explain or mitigate any observed disparities between first-generation and continuing-generation graduates?

These questions are explored through the lens of Bourdieu's theory of capital, which provides a multidimensional framework for understanding how various forms of advantage—economic, cultural, and social—are transmitted

across generations and converted into socioeconomic outcomes [7]. Unlike human capital theory, which focuses primarily on the development of skills and knowledge through education [6], Bourdieu's perspective acknowledges the role of embodied dispositions, social networks, and symbolic markers of status in shaping individuals' life trajectories. This theoretical approach is particularly well-suited for examining persistent inequalities among college graduates with similar formal credentials but different family backgrounds [39, 15].

To investigate these questions, the study utilizes data from the General Social Survey (GSS), a nationally representative survey of American adults conducted regularly since 1972 [14]. This dataset provides a unique opportunity to examine socioeconomic outcomes across multiple cohorts of college graduates, allowing for analysis of trends over time. The GSS includes detailed information on respondents' educational attainment, family background, income, occupation, and subjective class identification, making it an ideal source for this investigation.

The study's significance lies in its potential to inform both theoretical understanding of social stratification and practical approaches to promoting educational equity. If the findings reveal persistent socioeconomic disparities between first-generation and continuing-generation college graduates, this would suggest that higher education alone may be insufficient to disrupt intergenerational patterns of advantage and disadvantage [37]. Such a finding would challenge simplistic narratives about education as an automatic equalizer and highlight the need for more comprehensive approaches to promoting social mobility.

From a policy perspective, understanding whether and how family educational background continues to influence outcomes after college completion has important implications for higher education institutions, government agencies, and other stakeholders invested in promoting educational equity [24]. If obtaining a college degree does not fully close the gap between first-generation and continuing-generation students, then additional interventions may be necessary to ensure that all graduates can fully capitalize on their educational investments.

Moreover, examining how these patterns have evolved over time provides insight into whether the expanding access to higher education has led to greater equality of outcomes or simply reproduced existing social hierarchies in new forms. As the proportion of Americans with college degrees has increased, some scholars have argued that elite reproduction strategies have shifted from limiting access to education to differentiating among degree holders based on institution type, field of study, or other markers of distinction [27, 10]. This study contributes to this ongoing conversation by tracking socioeconomic outcomes across different graduation cohorts.

Finally, investigating the role of college major in mediating socioeconomic outcomes for first-generation graduates addresses important questions about stratification within higher education. If certain fields of study are associated with smaller or larger gaps between first-generation and continu-

ing-generation graduates, this would suggest that major choice plays a role in either mitigating or exacerbating the influence of family background on post-graduate outcomes [3]. Such findings would have implications for how institutions guide students in selecting majors and preparing for post-graduate careers.

This study is organized as follows. First, a review of relevant literature situates the current investigation within existing research on first-generation students, social mobility, and stratification in higher education. Next, the theoretical framework drawing on Bourdieu's concepts of capital, habitus, and field is presented, providing a lens for interpreting the empirical findings. The methodology section details the data source, sample construction, variable definitions, and analytical approach. Results are then presented for each dimension of socioeconomic status, examining both main effects of first-generation status and how these effects vary by graduation cohort and field of study. Finally, the discussion and conclusion sections interpret these findings in light of the theoretical framework, consider implications for policy and practice, and suggest directions for future research.

By examining the long-term socioeconomic outcomes of first-generation college graduates, this study contributes to a more nuanced understanding of higher education's role in promoting social mobility. Rather than assuming that degree attainment automatically equalizes outcomes, the investigation empirically assesses whether family educational background continues to shape life trajectories even after individuals have successfully navigated the path to a college degree. The findings will help inform efforts to ensure that higher education truly serves as a pathway to upward mobility for students from all backgrounds.

This research offers several innovative contributions to the existing literature. First, while most studies focus narrowly on educational attainment or early career outcomes, this investigation provides a comprehensive assessment of socioeconomic status across multiple dimensions, capturing both objective measures (income, occupational prestige) and subjective perceptions (class identification). Second, the study directly challenges the prevailing assumption that college completion functions as a “great equalizer” by empirically testing whether graduates from different family backgrounds achieve similar outcomes despite identical credential levels. Third, the longitudinal perspective spanning multiple cohorts provides unique insights into how the relationship between family background and post-graduate outcomes has evolved during a period of significant higher education expansion. Fourth, by examining how college major mediates the relationship between first-generation status and socioeconomic outcomes, the study reveals counterintuitive findings that contradict common explanations for persistent inequality. These innovative aspects provide a more nuanced understanding of the limits of educational mobility and the mechanisms through which social advantage is reproduced despite increasing access to higher education.

## 2. Literature Review

### 2.1. First-Generation College Students and Educational Attainment

Research on first-generation college students has primarily focused on their experiences during the educational process rather than their outcomes after graduation. Numerous studies have documented the challenges these students face in accessing and completing higher education. First-generation students are more likely to come from lower-income backgrounds, belong to racial/ethnic minority groups, and have attended under-resourced secondary schools [32, 33]. These pre-college characteristics are associated with lower rates of college enrollment, persistence, and degree completion.

Even after controlling for academic preparation and demographic factors, first-generation students face distinct challenges in the college environment. Stephens et al. [36] argue that these students experience a “cultural mismatch” between their own interdependent norms and the independent norms that predominate in university settings. This mismatch can create psychological barriers to academic success and institutional integration. Similarly, Allan et al. [1] highlight how first-generation students often struggle with understanding the “role of the college student”, lacking the tacit knowledge about academic expectations and campus culture that continuing-generation students acquire through family socialization.

These challenges result in lower rates of degree completion among first-generation students. According to recent studies, first-generation student's complete bachelor's degrees at significantly lower rates than continuing-generation students, even after controlling for academic preparation, enrollment characteristics, and financial resources [33, 30]. This attainment gap suggests that cultural and social factors play an important role in educational outcomes.

However, while much is known about the barriers to degree completion for first-generation students, substantially less research has examined the experiences and outcomes of those who successfully earn their degrees. Corredor et al. [11] study on how first-generation graduates navigate social integration in elite university contexts, and Armstrong and Hamilton's [4] ethnographic study of female college students suggests that class background continues to shape social experiences and post-college trajectories even among degree completers, but few studies have systematically examined socioeconomic outcomes for first-generation graduates specifically.

### 2.2. Higher Education and Social Mobility

The relationship between higher education and social mobility has been a central concern in sociology and economics for decades. Human capital theory, associated with economists like Becker [6], posits that education enhances productivity through skill development, leading to higher earnings

and improved labor market outcomes. From this perspective, educational credentials serve as signals of skill and ability, helping employers identify productive workers and allocate jobs accordingly.

This theoretical approach undergirds the common assumption that college education serves as a pathway to upward mobility. Empirical evidence consistently shows that, on average, college graduates earn substantially more than individuals with only a high school diploma—what economists call the “college wage premium”. Recent estimates suggest that this premium remains robust, with college graduates earning significantly more than high school graduates over their lifetimes [5, 8].

However, critical perspectives on higher education question whether these benefits are equally available to all graduates. Collins (1979) argued that the expansion of educational credentials has led to “credential inflation”, where the value of degrees diminishes as they become more common, requiring individuals to pursue ever-higher levels of education to maintain advantage. Moreover, the stratification of higher education by institutional prestige and field of study creates horizontal inequalities among degree holders [19, 27].

Research on horizontal stratification suggests that family background influences not only educational attainment but also the type of institutions students attend and the fields they study. Students from more advantaged backgrounds are more likely to attend selective institutions and enter high-paying fields, reproducing socioeconomic advantages through qualitative differences in educational experiences [39]. These patterns raise questions about whether first-generation graduates have equal access to the most lucrative segments of higher education.

Several studies have examined how social background influences post-graduate outcomes more broadly. Pew Research Center [31] found that first-generation college graduates report lower incomes and have accumulated less wealth than continuing-generation graduates. Similarly, Torche [38] found that the intergenerational transmission of advantage is disrupted for bachelor's degree holders (what the author terms the “college equalizer” effect) but re-emerges at higher levels of education. However, her analysis did not specifically examine first-generation status as defined by parental education. More recent work by Kim et al. [26] suggests that subjective social mobility through education does not necessarily translate to improvements in mental health outcomes, indicating complex relationships between educational attainment and well-being.

### 2.3. Mechanisms of Persistent Inequality

If disparities persist between first-generation and continuing-generation college graduates, several mechanisms might explain this phenomenon. Cultural capital theory suggests that first-generation graduates may lack the dispositions, knowledge, and behaviors valued in professional settings,

potentially limiting their career advancement. Recent studies demonstrate how employers use cultural signals to assess job candidates, often favoring those who display upper-middle-class cultural markers acquired through family socialization rather than formal education [1, 2].

Social capital may represent another important mechanism. Continuing-generation students often benefit from family connections to professional networks, providing access to job opportunities, mentorship, and insider knowledge about career advancement [8, 4]. First-generation graduates typically lack these inherited social ties and may have smaller professional networks even after completing their degrees.

Financial resources constitute a third potential mechanism. Continuing-generation graduates often benefit from family wealth that provides safety nets, allowing them to take career risks, pursue unpaid internships, or relocate for better opportunities [20, 21]. In contrast, first-generation graduates frequently have student loan debt and family financial obligations that constrain their post-graduate choices and mobility [21, 25]. Recent research by Tompsett and Knoester [37] confirms that these family resource differentials continue to impact trajectories even after graduation.

Beyond these resource-based explanations, psychological factors may also contribute to persistent disparities. First-generation graduates may experience what Sennett and Cobb [35] called the “hidden injuries of class”—feelings of insecurity, impostor syndrome, or discomfort in professional settings dominated by individuals from more privileged backgrounds. Contemporary research by Rubin et al. [34] and Huang et al. [24] has advanced our understanding of how subjective social class identification impacts one's sense of belonging and psychological well-being in professional and academic settings.

While existing research provides important insights into the challenges facing first-generation students and the relationship between education and social mobility, several significant gaps remain. First, most studies of first-generation students focus on the educational process rather than long-term outcomes after graduation. Second, studies examining post-graduate outcomes often rely on broad measures of family background rather than specifically comparing first-generation and continuing-generation graduates. Third, few studies have examined how the relationship between first-generation status and post-graduate outcomes has changed over time, as higher education has expanded. Fourth, the role of college major in mediating the relationship between family background and post-graduate outcomes remains underexplored.

This study addresses these gaps by examining three key dimensions of socioeconomic status—income, occupational prestige, and subjective class identification—among first-generation and continuing-generation college graduates. By utilizing data spanning multiple decades, the analysis can assess whether disparities have increased, decreased, or remained stable over time. Additionally, by incorporating in-



formation on college major, the study examines whether field of study helps explain or mitigate disparities between these groups.

Such an analysis contributes to theoretical debates about education and social mobility by testing whether higher education serves as an equalizer for students from different family backgrounds. It also provides practical insights for institutions and policymakers seeking to promote more equitable outcomes for first-generation college graduates. Rather than assuming that degree completion alone will ensure equal opportunities, understanding persistent disparities can inform targeted interventions to support first-generation graduates as they transition to and navigate professional environments.

This study's approach is fundamentally informed by Bourdieu's theory of capital, which provides a multidimensional framework for understanding socioeconomic disparities. Unlike human capital theory, which posits that educational attainment directly leads to economic benefits through skill acquisition and credentialing, Bourdieu's perspective emphasizes how different forms of capital—economic, cultural, and social—interact to reproduce social hierarchies. By examining three dimensions of socioeconomic status, this study explores how first-generation graduates may face disadvantages in converting their educational credentials (institutionalized cultural capital) into economic and social advantages due to deficits in other forms of capital. Cultural capital, encompassing embodied dispositions and knowledge valued in professional environments, and social capital, consisting of networks that provide access to opportunities, may explain persistent gaps between first-generation and continuing-generation graduates despite similar formal qualifications. This theoretical framework guides the investigation of whether higher education serves as an equalizer or whether family background continues to shape life trajectories through the complex interplay of different capital forms that extend beyond formal education.

### 3. Theoretical Framework

Bourdieu's theory of capital provides an ideal theoretical framework for understanding the persistent socioeconomic disparities between first-generation and continuing-generation college graduates observed in this study. While human capital theory might suggest that educational credentials alone should equalize outcomes, Bourdieu's multidimensional approach to capital, encompassing economic, cultural, and social forms, offers a more comprehensive explanation for the enduring disadvantages faced by first-generation graduates.

Bourdieu [7] conceptualizes capital as accumulated labor that enables individuals to appropriate social energy in the form of living labor. Unlike traditional economic theories that focus solely on financial resources, Bourdieu identifies three fundamental forms of capital: economic (material resources and money), cultural (knowledge, skills, education,

and advantages that confer higher status), and social (networks and relationships that provide access to opportunities).

Recent empirical work by Chetty et al. [8] has quantified the relationship between social capital and economic mobility, finding that connections between high and low socioeconomic status individuals significantly predict upward mobility. These findings provide contemporary validation of Bourdieu's theoretical assertions about the crucial role of social connections in determining life outcomes. Similarly, research by Cortoni and Perovic [12] has extended Bourdieu's framework to encompass digital cultural capital, showing how technology access and competence have become new dimensions of stratification in modern educational contexts.

The finding that first-generation college graduates earn significantly less income than continuing-generation graduates with similar credentials suggests that educational attainment alone (institutionalized cultural capital) is insufficient to achieve equal economic outcomes. This disparity can be understood through Bourdieu's argument that different forms of capital are convertible but not equally accessible. Continuing-generation students inherit not only economic advantages but also embodied cultural capital—dispositions, preferences, and behaviors aligned with higher-status groups—and social capital in the form of networks connected to professional opportunities [1, 16, 34].

The concept of habitus, which is internalized dispositions and ways of acting shaped by one's social position, helps explain why first-generation graduates may struggle to translate their educational credentials into occupational prestige. Crede et al. [13] have developed a new index of occupational prestige that reveals the persistent association between status and characteristics aligned with higher socioeconomic backgrounds. The significant disadvantage in occupational prestige observed when controlling for college major suggests that first-generation graduates may face challenges navigating what Bourdieu calls “field”, social spaces with their own logic and power relations.

Professional fields often operate according to unwritten rules that privilege those with class-based dispositions acquired through family socialization. First-generation students, even after obtaining degrees, may lack the habitus required to successfully navigate workplace politics, negotiate salaries, or recognize advancement opportunities. This “fish out of water” experience can lead to suboptimal career trajectories despite formal qualifications. Murphy et al. [29] detail how this phenomenon occurs specifically among first-generation doctoral students, highlighting the ways in which professional socialization remains challenging even at the highest levels of education.

Perhaps most revealing is the finding that first-generation graduates are significantly less likely to identify with higher social classes, even after controlling for objective economic measures. This aligns with Bourdieu's concept of symbolic violence, the internalization of dominant classifications that lead disadvantaged groups to accept their lower status as

legitimate or natural. Kim et al. [26] refer to this as "the myth of social mobility," noting that subjective perceptions of one's class position often lag behind objective indicators of socioeconomic advancement.

Despite having attained the same educational credentials as their continuing-generation peers, first-generation graduates may perceive themselves as imposters in middle or upper-class environments. Their class habitus, formed in pre-college environments, may continue to influence self-perception even after achieving upward mobility through education. The subjective experience of class position thus reflects not only material resources but also embodied dispositions that signal belonging or distinction. Empirical work by Rubin et al. [34] validates this perspective, demonstrating that subjective class identity reflects a complex amalgamation of objective conditions and psychological factors.

The stability of disadvantages over time cohorts, as shown in the interaction analysis, supports Bourdieu's argument about the reproductive nature of educational systems. Despite expansions in higher education access, the mechanisms through which privilege is maintained simply adapt rather than disappear. When formal educational credentials become more widely distributed, subtle forms of distinction, such as attending prestigious institutions, accumulating extracurricular experiences, or demonstrating cultural sophistication, gain importance in maintaining class boundaries [18].

The finding that college major differences do not explain the socioeconomic gap between first-generation and continuing-generation graduates aligns with this perspective. Even when first-generation students pursue high-paying majors like STEM, they continue to experience disadvantages, suggesting that the conversion of educational capital into economic and social advantage depends on additional resources beyond formal credentials [18, 3].

Extending Bourdieu's framework, the concept of "institutional habitus" helps explain why different college majors may not close the gap between first-generation and continuing-generation graduates. Different academic fields (e.g., STEM, Business, Humanities) constitute distinct social spaces with their own implicit rules and valued forms of capital. First-generation students may select majors based on perceived economic returns without fully understanding the field-specific forms of capital needed for success within those professional domains [17, 23].

For example, success in business careers often requires not only technical knowledge but also social ease in client interactions, cultural references that build rapport with superiors, and displays of confidence that signal leadership potential. These field-specific requirements may privilege continuing-generation students whose family backgrounds provided early exposure to professional norms and practices. Klein [27] provides empirical evidence of these processes, showing how graduates from elite institutions convert prestige into career advantages through mechanisms that go beyond formal learning outcomes.

Bourdieu's theory of capital provides a nuanced framework for understanding why first-generation college graduates continue to experience socioeconomic disadvantages despite attaining the same educational credentials as their continuing-generation peers. By recognizing that social mobility involves the complex interplay of economic, cultural, and social resources, not merely formal education, this theoretical approach illuminates both the mechanisms of persistent inequality and potential pathways for intervention. The empirical findings of this study, showing disadvantages across income, occupational prestige, and subjective class identification, strongly align with Bourdieu's multidimensional understanding of social stratification and reproduction, as further validated by contemporary research [39, 37].

Recent scholarship has expanded Bourdieu's framework to address emerging forms of stratification in the contemporary economy. Nguyen [30] examines how first-generation students develop resilience and navigation strategies within environments that were not designed for them, suggesting that agency and resistance can coexist with structural disadvantage. Similarly, Corredor et al. [11] explore how social class shapes integration patterns among diverse college student populations, offering important insights into the lived experiences of socioeconomic difference in higher education settings.

These theoretical developments underscore the enduring relevance of Bourdieu's approach to understanding educational inequality, while also pointing to potential areas for intervention. By acknowledging the multifaceted nature of capital, we can better understand why formal educational credentials alone may be insufficient to disrupt patterns of socioeconomic reproduction and develop more comprehensive approaches to supporting first-generation students throughout their educational and professional trajectories.

## 4. Research Methodology

### 4.1. Research Question

This study examines the socioeconomic outcomes of first-generation college graduates compared to continuing-generation college graduates. Specifically, the investigation focuses on whether first-generation college graduates, individuals who have earned a bachelor's degree or higher but whose parents did not, achieve similar socioeconomic outcomes as their peers whose parents also attained college degrees. The primary research question driving this investigation is: To what extent does first-generation college graduate status predict differences in income, occupational prestige, and social class identification compared to graduates with college-educated parents? Additionally, the study explores whether these differences have changed over time and how they might be influenced by college major field of study.

Previous research has documented the challenges that first-generation college students face during their educational

journeys, including limited social capital, financial constraints, and cultural adjustment difficulties. However, less attention has been paid to whether these disadvantages persist after degree completion and translate into long-term socioeconomic disparities. Understanding these potential persistent gaps is crucial for higher education policy, as it addresses whether college education truly serves as an equalizing force in society or whether intergenerational advantage continues to influence outcomes even after educational credentials are obtained.

## 4.2. Data and Sample

This study utilizes data from the General Social Survey (GSS), a nationally representative survey of American adults conducted by the National Opinion Research Center (NORC) at the University of Chicago. The GSS is one of the most comprehensive and long-running surveys of American society, having been conducted regularly since 1972. The survey collects data on a wide range of social, political, and economic variables, making it an ideal source for examining trends in social mobility and educational outcomes.

For this analysis, the cumulative cross-sectional file was used, which combines data from multiple survey years, allowing for examination of trends over time. The GSS includes information on respondents' educational attainment, their parents' educational backgrounds, income, occupational prestige, subjective class identification, and various demographic characteristics. To focus specifically on college graduates, the sample was restricted to respondents who reported having attained a bachelor's degree or higher ( $DEGREE \geq 3$ ).

After restricting the sample to college graduates with valid data on key variables, the primary analytical sample included 12,526 respondents. A subset of 4,351 respondents had complete data on college major field of study, which was used for the secondary analyses. The difference in sample sizes reflects the fact that the college major variable ( $MAJOR1$ ) was not collected in all survey years or for all respondents. The use of multiple analytical samples allows for comparison of results and assessment of whether relationships hold across different model specifications and sample restrictions.

## 4.3. Variables

This study employs three dependent variables to capture different dimensions of socioeconomic status. The first dependent variable is the logarithm of respondents' family income in constant dollars ( $LOGREALINC$ ), derived from the GSS variable  $REALINC$ , which adjusts for inflation and standardizes income across survey years. The logarithmic transformation addresses the right-skewed distribution of income and facilitates interpretation of results in terms of percentage differences. The second dependent variable is occupational prestige ( $PRESTG10$ ), a measure included in the

GSS based on ratings of occupational status. This variable ranges from 16 to 80, with higher scores indicating greater prestige, capturing the social status associated with different occupations and providing a measure of career advancement that complements financial outcomes. The third dependent variable is the respondent's self-reported social class ( $CLASS$ ), measured on a 4-point ordinal scale: (1) lower class, (2) working class, (3) middle class, and (4) upper class. These variable captures individuals' perceptions of their social position, reflecting both objective socioeconomic conditions and cultural factors.

The primary independent variable of interest is first-generation college graduate status ( $FIRSTGEN$ ), constructed based on the respondent's and parents' educational attainment. This binary variable is coded as 1 for respondents who had attained a bachelor's degree or higher ( $DEGREE \geq 3$ ) but whose parents had not ( $PADEG < 3$  &  $MADEG < 3$ ), and 0 for continuing-generation college graduates (those with at least one parent who had also completed a bachelor's degree or higher). Several control variables account for demographic and contextual factors that might influence socioeconomic outcomes. Age group ( $AGEGRP$ ) is a categorical variable with five levels: under 30, 30-39, 40-49, 50-59, and 60 or older. Sex ( $SEX$ ) is a binary variable indicating the respondent's sex (male or female). Race ( $RACE$ ) is a categorical variable with three levels: white, black, and other. Marital status ( $MARITAL$ ) is a categorical variable with five levels: married, widowed, divorced, separated, and never married. Region ( $REGION$ ) is a categorical variable representing nine U.S. Census regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Atlantic, West South Central, Mountain, and Pacific. Graduation cohort ( $COHORT$ ) is a categorical variable representing the approximate time period when respondents likely completed their education: before 1980, 1980-1989, 1990-1999, 2000-2009, and 2010 or later, constructed based on survey year. Major field category ( $MAJOR\_CAT$ ) is a categorical variable classifying college majors into five broad categories: (1) Business, (2) STEM (Science, Technology, Engineering, and Mathematics), (3) Social Sciences, (4) Humanities, and (5) Other, derived from the GSS variable  $MAJOR1$ . Additionally, GSS year ( $YEAR$ ) is included as a continuous variable in some models to address potential multicollinearity between cohort and major field.

The selection of control variables was guided by established research on factors influencing socioeconomic outcomes. Age group was included to account for life-cycle variations in income and career advancement, as earnings typically increase with work experience before plateauing later in life. Sex was controlled given persistent gender disparities in earnings and occupational segregation. Race was incorporated to address well-documented racial inequalities in labor market outcomes and occupational access. Marital status was included because it influences household income composition and potentially reflects selection effects related

to socioeconomic status. Region accounts for geographic variations in labor markets, cost of living, and economic opportunities across the United States. Graduation cohort was crucial for examining temporal trends, capturing changes in the economic landscape, degree valuation, and the composition of college graduates over time. These variables represent key demographic and contextual factors that previous research has shown to be associated with socioeconomic outcomes, thus allowing for a more precise estimation of the relationship between first-generation status and the dependent variables of interest.

#### 4.4. Analytical Approach

The analytical strategy employed in this study examines the relationship between first-generation status and socioeconomic outcomes while addressing data limitations and potential confounding factors. Consistent analytical samples were created to ensure comparability across models. Two primary analytical samples were generated: Sample 1, which included respondents with complete data on all variables except college major, and Sample 2, which further restricted the sample to those with valid data on college major. This approach maximizes sample size while ensuring consistent results. For continuous outcomes (income and occupational prestige), ordinary least squares (OLS) regression with robust standard errors accounts for heteroskedasticity. For the ordinal social class outcome, ordered logistic regression accounts for the ranked nature of the variable without assuming equal distances between categories.

Three analytical approaches address potential multicollinearity between cohort and college major variables. The first approach uses models without controlling for college major (using Sample 1), including first-generation status and all demographic controls, including graduation cohort. The second approach employs models with college major but without cohort (using Sample 2), including first-generation status, college major, and all other demographic controls. The third approach uses models with both college major and survey year as a continuous variable (using Sample 2), addressing the multicollinearity issue by replacing the categorical cohort variable with a continuous measure of time. For each approach, three models were estimated corresponding to the three outcome variables: logarithm of income, occupational prestige, and subjective social class, yielding a total of nine main regression models. Additionally, interaction models examine whether the effect of first-generation status on income has changed over time. All analyses were conducted using Stata software with a significance level of  $\alpha = 0.05$  for hypothesis testing, while also reporting results at the 0.01 and 0.001 levels to indicate the strength of evidence. All data cleaning, variable construction, and analytical procedures are documented in the Stata code to ensure transparency and reproducibility.

## 5. Results

### 5.1. Descriptive Statistics

Table 1 presents descriptive statistics for the analytical sample. Of the 12,526 college graduates in the sample, 56% were first-generation college graduates, while 44% were continuing-generation graduates. This distribution highlights the substantial proportion of college graduates who are the first in their families to attain higher education. The mean age of first-generation graduates (48.7 years) was significantly higher than that of continuing-generation graduates (42.9 years), suggesting that first-generation status has become more common in recent cohorts.

The distribution of first-generation status across graduation cohorts confirms this trend. Among college graduates who completed their education before 1980, 70.2% were first-generation graduates. This percentage has steadily decreased over time, with only 50.6% of graduates in the 2010 or later cohort being first-generation. This trend likely reflects the expansion of higher education access over the past several decades, with more parents of recent college graduates having college degrees themselves.

Regarding demographic characteristics, the sample was nearly evenly split between males (49.2%) and females (50.9%). The majority of respondents identified as white (86.8%), with smaller proportions identifying as black (6.6%) or other racial categories (6.7%). Most respondents were married (58.5%), while 22.6% had never been married, and the remainder were widowed, divorced, or separated. The regional distribution reflected the U.S. population distribution, with the largest proportions in the South Atlantic (18.5%), East North Central (16.8%), and Pacific (15.8%) regions.

For the subset of respondents with valid college major data ( $n = 4,351$ ), Business was the most common major field (51.5%), followed by Social Sciences (20.2%), STEM (18.8%), and Humanities (7.8%), with a small percentage (1.7%) in other fields. The distribution of majors varied somewhat by first-generation status, with continuing-generation graduates slightly more likely to major in STEM fields (53.0% vs. 47.0%), while first-generation graduates were slightly more represented in Humanities (54.3% vs. 45.8%) and Business (51.1% vs. 48.9%), though these differences were not statistically significant ( $\chi^2 = 6.87$ ,  $p = 0.143$ ).

As shown in Table 2, the mean family income in the sample was \$52,089 (in constant dollars), with a standard deviation of \$38,215. The mean occupational prestige score was 54.3 (on a scale of 16-80), with a standard deviation of 12.7. For subjective class identification, the majority of respondents (69.2%) identified as middle class, followed by working class (21.8%), upper class (7.7%), and lower class (1.3%).



**Table 1.** Descriptive Statistics of Analytic Sample.

Variable	Frequency	Percentage
First-generation status		
Continuing-generation	5,511	44.00
First-generation	7,015	56.00
Age group		
Under 30	1,863	14.87
30-39	3,151	25.16
40-49	2,680	21.40
50-59	2,089	16.68
60 or older	2,743	21.90
Sex		
Male	6,157	49.15
Female	6,369	50.85
Race		
White	10,867	86.76
Black	824	6.58
Other	835	6.67
Marital status		
Married	7,330	58.52
Widowed	592	4.73
Divorced	1,555	12.41
Separated	223	1.78
Never married	2,826	22.56
Graduation cohort		
Before 1980	963	7.69
1980-1989	1,822	14.55
1990-1999	2,319	18.51
2000-2009	2,581	20.61
2010 or later	4,841	38.65
Social class		
Lower class	164	1.31
Working class	2,731	21.80
Middle class	8,664	69.17
Upper class	967	7.72
Major field category	<i>n = 4,351</i>	
Business	2,239	51.46
STEM	817	18.78
Social Sciences	880	20.23

Variable	Frequency	Percentage
Humanities	341	7.84
Other	74	1.70

Note: Total sample N = 12,526. Major field data available for 4,351 respondents.

**Table 2.** Means and Standard Deviations of Key Continuous Variables.

Variable	Mean	Standard Deviation	Minimum	Maximum
Income (REALINC)	\$52,089.15	\$38,215.20	\$204.50	\$162,607.00
Occupational Prestige (PRESTG10)	54.29	12.73	16	80
Social Class (CLASS)	2.83	0.57	1	4
Age	46.14	15.43	19	89

## 5.2. Multivariate Results

### 5.2.1. Income

Table 3 presents the complete results from regression models predicting the logarithm of family income. In the main model without controlling for college major (Model 1), first-generation college graduates had significantly lower incomes than continuing-generation graduates ( $b = -0.092$ ,  $p < 0.001$ ). This coefficient indicates that, on average, first-generation graduates' incomes were approximately 9.2% lower than those of continuing-generation graduates, controlling for age, sex, race, marital status, region, and graduation cohort.

When college major was included in the model (Model 2), the negative effect of first-generation status increased in magnitude ( $b = -0.144$ ,  $p < 0.001$ ), suggesting that first-generation graduates' incomes were about 14.4% lower than those of continuing-generation graduates with similar majors and demographic characteristics. This finding indicates that differences in college major do not explain the income gap; in fact, controlling for

major reveals an even larger disparity.

In Model 3, which included both college major and survey year as a continuous variable, the results remained consistent ( $b = -0.143$ ,  $p < 0.001$ ), confirming the robustness of the finding that first-generation graduates experience a significant income disadvantage compared to their continuing-generation peers.

Other factors significantly associated with higher income included being in older age groups (particularly 40-59 years), being male, being white, and being married. As shown in Table 3, marital status had a strong effect on income, with all non-married categories showing significantly lower incomes compared to married individuals. Regional differences were also observed, with respondents in the West North Central, East South Atlantic, West South Central, and Mountain regions having significantly lower incomes than those in New England. Among college majors, STEM fields were associated with significantly higher incomes compared to Business majors ( $b = 0.122$ ,  $p < 0.001$ ), while Social Sciences ( $b = -0.101$ ,  $p < 0.01$ ) and Humanities ( $b = -0.111$ ,  $p < 0.05$ ) were associated with lower incomes.

**Table 3.** OLS Regression Results Predicting Log Income.

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
First-generation status			
Continuing-generation (ref)	-	-	-
First-generation	-0.092*** (0.014)	-0.144*** (0.026)	-0.143*** (0.026)
Age group			
Under 30 (ref)	-	-	-

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
30-39	0.285*** (0.024)	0.260*** (0.060)	0.260*** (0.060)
40-49	0.461*** (0.025)	0.424*** (0.061)	0.424*** (0.061)
50-59	0.502*** (0.027)	0.475*** (0.062)	0.474*** (0.062)
60 or older	0.154*** (0.028)	0.135* (0.062)	0.132* (0.062)
Sex			
Male (ref)	-	-	-
Female	-0.095*** (0.014)	-0.104*** (0.026)	-0.104*** (0.026)
Race			
White (ref)	-	-	-
Black	-0.111*** (0.029)	-0.124* (0.050)	-0.123* (0.050)
Other	-0.099** (0.033)	-0.121* (0.049)	-0.121* (0.049)
Marital status			
Married (ref)	-	-	-
Widowed	-0.575*** (0.037)	-0.577*** (0.059)	-0.576*** (0.059)
Divorced	-0.618*** (0.023)	-0.621*** (0.040)	-0.621*** (0.040)
Separated	-0.577*** (0.061)	-0.576*** (0.087)	-0.575*** (0.087)
Never married	-0.668*** (0.020)	-0.710*** (0.039)	-0.711*** (0.039)
Region			
New England (ref)	-	-	-
Middle Atlantic	0.019 (0.034)	-0.046 (0.057)	-0.045 (0.057)
East North Central	-0.044 (0.031)	-0.082 (0.050)	-0.082 (0.050)
West North Central	-0.162*** (0.035)	-0.176** (0.059)	-0.177** (0.059)
South Atlantic	-0.060 (0.032)	-0.069 (0.052)	-0.070 (0.052)
East South Atlantic	-0.175***	-0.170*	-0.170*

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
	(0.041)	(0.069)	(0.069)
West South Central	-0.110**	-0.093	-0.095
	(0.035)	(0.059)	(0.059)
Mountain	-0.244***	-0.234***	-0.234***
	(0.038)	(0.063)	(0.063)
Pacific	-0.030	-0.010	-0.010
	(0.034)	(0.057)	(0.057)
Graduation cohort			
Before 1980 (ref)	-	-	-
1980-1989	0.013	-	-
	(0.026)		
1990-1999	0.014	-	-
	(0.025)		
2000-2009	0.114***	-	-
	(0.027)		
2010 or later	0.102***	-	-
	(0.025)		
Major field category			
Business (ref)	-	-	-
STEM	-	0.123***	0.122***
		(0.033)	(0.033)
Social Sciences	-	-0.102**	-0.101**
		(0.033)	(0.033)
Humanities	-	-0.110*	-0.111*
		(0.046)	(0.046)
Other	-	0.009	0.004
		(0.074)	(0.074)
GSS year	-	-	0.003
			(0.004)
Constant	10.655***	10.850***	4.700
	(0.039)	(0.070)	(7.493)
Observations	12,526	4,351	4,351
R <sup>2</sup>	0.219	0.207	0.208

Note: Standard errors in parentheses. \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

### 5.2.2. Occupational Prestige

Table 4 presents the complete results for occupational prestige. In Model 1, without controlling for college major,

first-generation status was negatively associated with occupational prestige, but the effect was not statistically significant ( $b = -0.343$ ,  $p > 0.05$ ). However, when college major was included in Models 2 and 3, the negative effect of



first-generation status became larger and statistically significant (Model 2:  $b = -0.859$ ,  $p < 0.05$ ; Model 3:  $b = -0.852$ ,  $p < 0.05$ ). This suggests that first-generation graduates tend to work in less prestigious occupations than continuing-generation graduates with similar majors and demographic backgrounds.

Significant predictors of higher occupational prestige included being older (particularly 60 or older), being male, and being white. Marital status also played a role, with divorced, separated, and never married individuals having significantly lower occupational prestige compared to married individuals. Regional patterns showed that respondents in the Pacific region had significantly lower prestige scores compared to

those in New England (Model 1). Among college majors, STEM fields were associated with significantly higher prestige scores compared to Business majors ( $b = 2.272$ ,  $p < 0.001$ ), while Social Sciences ( $b = -1.608$ ,  $p < 0.01$ ) and Humanities ( $b = -2.685$ ,  $p < 0.001$ ) were associated with lower prestige.

Interestingly, graduation cohort had a significant effect in Model 1, with all later cohorts having lower occupational prestige compared to the pre-1980 cohort, even after controlling for age. This might reflect changes in the occupational structure over time or differences in career trajectories across cohorts.

**Table 4.** OLS Regression Results Predicting Occupational Prestige.

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
First-generation status			
Continuing-generation (ref)	-	-	-
First-generation	-0.343 (0.236)	-0.859* (0.395)	-0.852* (0.396)
Age group			
Under 30 (ref)	-	-	-
30-39	1.451*** (0.392)	1.222 (0.802)	1.223 (0.802)
40-49	2.118*** (0.416)	1.199 (0.833)	1.198 (0.833)
50-59	2.340*** (0.440)	1.304 (0.845)	1.300 (0.845)
60 or older	3.461*** (0.444)	2.447** (0.798)	2.424** (0.800)
Sex			
Male (ref)	-	-	-
Female	-0.935*** (0.228)	-0.524 (0.389)	-0.525 (0.389)
Race			
White (ref)	-	-	-
Black	-1.358** (0.465)	-1.530* (0.734)	-1.524* (0.734)
Other	1.841*** (0.485)	1.493* (0.706)	1.489* (0.706)
Marital status			
Married (ref)	-	-	-
Widowed	-0.016	-0.621	-0.613

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
	(0.545)	(0.838)	(0.837)
Divorced	-1.772***	-2.096***	-2.095***
	(0.355)	(0.587)	(0.587)
Separated	-2.791**	-4.337**	-4.328**
	(0.926)	(1.638)	(1.641)
Never married	-2.131***	-2.626***	-2.635***
	(0.310)	(0.542)	(0.542)
Region			
New England (ref)	-	-	-
Middle Atlantic	-0.001	-0.107	-0.099
	(0.536)	(0.912)	(0.912)
East North Central	0.339	0.272	0.269
	(0.518)	(0.851)	(0.851)
West North Central	-0.349	-1.044	-1.054
	(0.612)	(1.065)	(1.066)
South Atlantic	-0.172	0.281	0.274
	(0.513)	(0.842)	(0.842)
East South Atlantic	0.016	0.234	0.236
	(0.676)	(1.132)	(1.132)
West South Central	0.191	0.160	0.148
	(0.576)	(0.963)	(0.963)
Mountain	-1.090	0.270	0.270
	(0.601)	(0.973)	(0.973)
Pacific	-1.166*	-0.207	-0.207
	(0.532)	(0.880)	(0.880)
Graduation cohort			
Before 1980 (ref)	-	-	-
1980-1989	-1.343**	-	-
	(0.484)		
1990-1999	-3.127***	-	-
	(0.469)		
2000-2009	-2.808***	-	-
	(0.460)		
2010 or later	-2.988***	-	-
	(0.440)		
Major field category			
Business (ref)	-	-	-
STEM	-	2.279***	2.272***
		(0.538)	(0.538)

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
Social Sciences	-	-1.611** (0.514)	-1.608** (0.514)
Humanities	-	-2.678*** (0.698)	-2.685*** (0.697)
Other	-	-1.165 (1.267)	-1.203 (1.271)
GSS year	-	-	0.024 (0.056)
Constant	56.471*** (0.654)	54.463*** (1.033)	6.640 (112.590)
Observations	12,526	4,351	4,351
R <sup>2</sup>	0.025	0.035	0.035

Note: Standard errors in parentheses. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

### 5.2.3. Subjective Social Class

Table 5 presents the complete results from ordered logistic regression models predicting subjective social class. In all three models, first-generation status was significantly negatively associated with self-reported social class. In Model 1, without controlling for college major, the odds of first-generation graduates reporting a higher social class were about 52% lower than for continuing-generation graduates ( $b = -0.734$ ,  $OR = e^{-0.734} = 0.48$ ,  $p < 0.001$ ). When college major was included in Models 2 and 3, the negative effect of first-generation status remained strong and significant (Model 2:  $b = -0.839$ ,  $p < 0.001$ ; Model 3:  $b = -0.833$ ,  $p < 0.001$ ).

These findings suggest that first-generation college graduates not only face objective disadvantages in terms of income and occupational prestige but also subjectively perceive themselves as occupying lower social positions compared to continuing-generation graduates with similar characteristics. This subjective dimension of social ine-

quality may reflect both the material conditions of first-generation graduates and cultural or psychological factors related to class identification.

Other significant predictors of higher social class identification included being older, being male, being white, and being married. As shown in Table 5, all non-married categories had significantly lower odds of identifying with higher social classes compared to married individuals. Regional patterns were also evident, with respondents in the West North Central, East South Atlantic, West South Central, and Mountain regions having significantly lower odds of identifying with higher social classes compared to those in New England. Among college majors, STEM fields were associated with higher social class identification compared to Business majors ( $b = 0.228$ ,  $p < 0.05$ ), while Social Sciences ( $b = -0.236$ ,  $p < 0.01$ ) and Humanities ( $b = -0.356$ ,  $p < 0.01$ ) were associated with lower class identification.

Table 5. Ordered Logistic Regression Results Predicting Social Class Identification.

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
First-generation status			
Continuing-generation (ref)	-	-	-
First-generation	-0.734*** (0.042)	-0.839*** (0.069)	-0.833*** (0.069)
Age group			
Under 30 (ref)	-	-	-

Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
30-39	0.353*** (0.064)	0.130 (0.128)	0.131 (0.128)
40-49	0.653*** (0.069)	0.503*** (0.136)	0.502*** (0.136)
50-59	0.845*** (0.075)	0.698*** (0.139)	0.694*** (0.139)
60 or older	1.198*** (0.076)	0.963*** (0.132)	0.936*** (0.132)
Sex			
Male (ref)	-	-	-
Female	-0.275*** (0.040)	-0.256*** (0.066)	-0.257*** (0.066)
Race			
White (ref)	-	-	-
Black	-1.048*** (0.075)	-0.790*** (0.118)	-0.785*** (0.118)
Other	-0.789*** (0.077)	-0.755*** (0.111)	-0.762*** (0.112)
Marital status			
Married (ref)	-	-	-
Widowed	-0.285** (0.101)	-0.562*** (0.150)	-0.555*** (0.150)
Divorced	-0.613*** (0.062)	-0.857*** (0.100)	-0.857*** (0.100)
Separated	-0.790*** (0.143)	-1.140*** (0.241)	-1.136*** (0.240)
Never married	-0.530*** (0.052)	-0.732*** (0.090)	-0.745*** (0.090)
Region			
New England (ref)	-	-	-
Middle Atlantic	-0.097 (0.093)	-0.060 (0.154)	-0.055 (0.154)
East North Central	-0.138 (0.091)	-0.043 (0.146)	-0.049 (0.146)
West North Central	-0.457*** (0.104)	-0.509** (0.176)	-0.523** (0.176)
South Atlantic	-0.001 (0.090)	0.166 (0.144)	0.157 (0.144)
East South Atlantic	-0.262*	-0.092	-0.091



Variable	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and GSS year)
	(0.117)	(0.189)	(0.189)
West South Central	-0.248*	-0.086	-0.101
	(0.103)	(0.166)	(0.167)
Mountain	-0.493***	-0.206	-0.209
	(0.103)	(0.165)	(0.165)
Pacific	-0.005	0.284	0.281
	(0.092)	(0.151)	(0.151)
Graduation cohort			
Before 1980 (ref)	-	-	-
1980-1989	-0.051	-	-
	(0.087)		
1990-1999	-0.172*	-	-
	(0.085)		
2000-2009	-0.252**	-	-
	(0.084)		
2010 or later	-0.437***	-	-
	(0.080)		
Major field category			
Business (ref)	-	-	-
STEM	-	0.235**	0.228*
		(0.089)	(0.090)
Social Sciences	-	-0.237**	-0.236**
		(0.085)	(0.085)
Humanities	-	-0.347**	-0.356**
		(0.123)	(0.123)
Other	-	-0.547*	-0.592*
		(0.241)	(0.242)
GSS year	-	-	0.026**
			(0.009)
Cut 1	-5.250***	-4.674***	47.821*
	(0.140)	(0.206)	(19.069)
Cut 2	-1.996***	-1.753***	50.745**
	(0.117)	(0.177)	(19.070)
Cut 3	2.007***	2.162***	54.666**
	(0.117)	(0.179)	(19.074)
Observations	12,526	4,351	4,351
Pseudo R <sup>2</sup>	0.061	0.074	0.074

Note: Standard errors in parentheses. \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

### 5.2.4. Changes over Time

To examine whether the disadvantage faced by first-generation graduates has changed over time, a model with an interaction between first-generation status and graduation cohort was estimated. The results, presented in Table 6, showed a statistically significant negative main effect of first-generation status on income ( $b = -0.102$ ,  $p < 0.05$ ), indicating a disadvantage for those who graduated before 1980 (the reference category). The interaction terms between first-generation status and later cohorts were positive but not statistically significant, suggesting that the income gap has not changed substantially over time. These findings indicate that despite the expansion of higher education and increased attention to educational equity in recent decades, first-generation college graduates continue to face socioeconomic disadvantages relative to their peers from more educated families.

**Table 6.** OLS Regression Results for Interaction Between First-Generation Status and Cohort on Log Income.

Variable	Coefficient	Variable	Coefficient
First-generation status		1990-1999	(0.050)
Continuing-generation (ref)	-		-0.020
First-generation	-0.102*	2000-2009	(0.046)
	(0.047)		0.087
Graduation cohort		2010 or later	(0.047)
Before 1980 (ref)	-		0.120**
1980-1989	-0.011		(0.044)
		First-generation × Cohort interactions	
		First-generation × 1980-1989	0.038
			(0.058)
		First-generation × 1990-1999	0.057
			(0.055)
		First-generation × 2000-2009	0.047
			(0.057)
		First-generation × 2010 or later	-0.041
			(0.053)
		Constant	10.66***
			(0.050)
		Observations	12,526
		R <sup>2</sup>	0.220

*Note:* Model also controls for age group, sex, race, marital status, and region, not shown for brevity. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 7.** First-Generation Effect Comparison Across Model Specifications.

Outcome	Model 1 (without major)	Model 2 (with major)	Model 3 (with major and year)
Log Income	-0.092*** (0.014)	-0.144*** (0.026)	-0.143*** (0.026)
Occupational Prestige	-0.343 (0.236)	-0.859* (0.395)	-0.852* (0.396)
Social Class	-0.734*** (0.042)	-0.839*** (0.069)	-0.833*** (0.069)
N	12,526	4,351	4,351

*Note:* Table shows coefficients for first-generation status (continuing-generation as reference) across different outcomes and model specifications. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

### 5.2.5. Summary of Key Findings

The analysis revealed several important findings regarding the socioeconomic outcomes of first-generation college graduates. As summarized in Table 7, first-generation college graduates earn significantly lower incomes than continuing-generation graduates, even after controlling for demographic factors and college major. The income gap ranges from 9.2% to 14.4%, depending on the model specification. First-generation graduates tend to work in less prestigious occupations than continuing-generation graduates with similar majors and demographic backgrounds, with a disadvantage of approximately 0.85 points on the prestige scale. Furthermore, first-generation graduates are significantly less likely to identify with higher social classes compared to continuing-generation graduates, suggesting that the disadvantage extends beyond objective economic measures to subjective perceptions of social position.

The socioeconomic disadvantage faced by first-generation graduates has remained relatively stable over time, with no evidence of a decreasing gap in more recent cohorts. Differences in college major do not explain the socioeconomic disparities between first-generation and continuing-generation graduates. In fact, controlling for major reveals larger gaps, suggesting that first-generation graduates may face additional barriers to translating their educational credentials into economic success. These findings have important implications for understanding the role of higher education in social mobility and for developing policies to address persistent inequalities in post-graduation outcomes. While a college degree provides significant advantages for all graduates, the results suggest that family educational background continues to influence socioeconomic outcomes even after individuals have attained the same level of educational credentials.

## 6. Discussion

This study examined socioeconomic disparities between first-generation and continuing-generation college graduates across three dimensions: income, occupational prestige, and subjective social class identification. The findings reveal persistent disadvantages for first-generation graduates across all three measures, even after controlling for demographic characteristics and college major. These results provide important insights into the limits of higher education as an equalizing force and highlight the multidimensional nature of social inequality that extends beyond formal educational credentials.

### 6.1. Persistent Socioeconomic Disparities and Bourdieu's Theory of Capital

The finding that first-generation college graduates earn 9.2-14.4% less income than continuing-generation graduates

aligns with Bourdieu's argument that different forms of capital work in concert to reproduce social inequalities. While both groups possess similar levels of institutionalized cultural capital in the form of bachelor's degrees, continuing-generation graduates appear better able to convert this credential into economic advantage. This conversion likely depends on additional resources—forms of embodied cultural capital and social capital—that are unequally distributed based on family background.

Embodied cultural capital includes dispositions, mannerisms, and cultural knowledge that signal class status and facilitate navigation of professional environments. First-generation graduates, despite their educational achievements, may lack certain forms of embodied cultural capital valued in high-status workplaces. These might include communication styles, cultural references, or comfort with authority figures that are typically acquired through family socialization rather than formal education. Such subtle cultural markers can influence hiring decisions, performance evaluations, and promotion opportunities, potentially explaining part of the income disparity observed in this study.

Social capital, comprising networks and relationships that provide access to opportunities, represents another mechanism through which family background may influence post-graduate outcomes. Continuing-generation students often benefit from family connections to professional networks, providing access to job opportunities, insider information about career advancement, and influential mentors. These social resources can facilitate entry into lucrative career paths and accelerate professional development in ways that are less available to first-generation graduates, who typically must build professional networks from scratch after college.

The occupational prestige findings further support Bourdieu's framework. When controlling for college major, first-generation graduates work in less prestigious occupations than their continuing-generation peers, suggesting that they face barriers in accessing high-status professional positions. This disadvantage in occupational prestige may reflect difficulties navigating what Bourdieu calls "fields", which are social spaces governed by implicit rules and power relations that privilege those already familiar with the field's logic. Professional fields often operate according to unwritten norms that advantage those with class-appropriate habitus, or internalized dispositions. First-generation graduates may find themselves as "fish out of water" in elite professional contexts, lacking the tacit knowledge needed to advance in these environments.

Perhaps most striking is the finding that first-generation graduates are significantly less likely to identify with higher social classes, even after controlling for objective economic measures. This subjective dimension of inequality aligns with Bourdieu's concept of symbolic violence—the internalization of dominant classifications that lead disadvantaged groups to accept their lower status as legitimate. Despite having attained the same educational credentials as their continu-

ing-generation peers, first-generation graduates appear to perceive themselves as occupying lower social positions, reflecting the durable nature of class habitus formed in pre-college environments. This finding highlights how class identity extends beyond objective economic circumstances to include subjective perceptions of belonging and legitimacy in different social spaces.

## 6.2. Field-Specific Capital and Major Differences

The relationships between college major, first-generation status, and socioeconomic outcomes warrant particular attention. Controlling for major actually increased the negative effect of first-generation status on income and revealed previously non-significant effects on occupational prestige. This pattern suggests that major choice alone does not explain, and may even mask, disadvantages faced by first-generation graduates.

Different academic disciplines constitute distinct fields with their own implicit rules and valued forms of capital. For example, success in business careers often requires not only technical knowledge but also cultural competencies such as networking skills, presentation styles, and comfort with corporate hierarchies. These competencies may be easier to acquire for continuing-generation students whose family backgrounds provided early exposure to professional norms and practices. Even in STEM fields, which showed the highest returns for all graduates, first-generation students continued to experience socioeconomic disadvantages compared to their continuing-generation peers, suggesting that technical skills alone do not equalize outcomes.

These findings challenge human capital explanations that focus solely on skill development and suggest that field-specific forms of cultural and social capital critically influence how educational credentials translate into economic advantages. First-generation students may select majors based on perceived economic returns without fully understanding the field-specific forms of capital needed for success within those professional domains. Additionally, they may have less information about how to leverage their educational credentials in the labor market, potentially accepting lower starting salaries or positions with limited advancement opportunities.

## 6.3. Stability of Disparities over Time

The stability of socioeconomic disparities across graduation cohorts indicates that the expansion of higher education access has not necessarily led to equalization of outcomes for graduates from different family backgrounds. Despite increasing representation of first-generation students in higher education over the past several decades, the socioeconomic advantages associated with having college-educated parents have remained remarkably persistent.

This pattern aligns with Bourdieu's argument about the re-

productive nature of educational systems and the adaptability of elite distinction strategies. As formal educational credentials become more widely distributed, subtle forms of distinction—institutional prestige, extracurricular experiences, study abroad, internships, and graduate degrees—gain importance in maintaining class boundaries. Continuing-generation students may be better positioned to acquire these additional forms of distinction, allowing them to maintain advantages even as higher education becomes more accessible.

The findings thus support what Lucas [28] has termed "effectively maintained inequality", the idea that as one level of education becomes more universally accessed, socioeconomic inequalities shift to qualitative differences within that level. This perspective helps explain why the expansion of access to bachelor's degrees has not eliminated disparities between graduates from different family backgrounds. Instead, new forms of stratification emerge that allow privileged families to secure advantages for their children even within the context of expanded educational opportunity.

## 7. Implications for Higher Education Policy and Practice

These findings have important implications for educational policy and practice. First, they suggest that initiatives focused solely on increasing college access and completion for first-generation students, while necessary, are insufficient to ensure equal post-graduate outcomes. Educational institutions and policymakers should consider how to support first-generation students not only through degree completion but also in the transition to professional environments and early career development.

Programs that explicitly address cultural and social capital development might help first-generation students better translate their educational credentials into economic and social advantages. These could include professional mentoring initiatives, networking opportunities with alumni, guidance on salary negotiation, and explicit instruction in the unwritten rules of professional environments. Additionally, career services offices might develop specialized approaches for first-generation graduates that acknowledge their unique challenges in navigating post-graduate transitions.

From a broader policy perspective, the findings highlight the need to address structural inequalities that extend beyond educational attainment. While higher education provides significant advantages for all graduates, it appears insufficient to fully counteract the intergenerational transmission of advantage. Complementary policies addressing wealth inequality, labor market discrimination, and access to elite professional networks may be necessary to create more equitable outcomes for graduates from all family backgrounds.



## 8. Limitations and Future Research

Several limitations of this study suggest directions for future research. First, while the GSS provides valuable data on socioeconomic outcomes, it lacks detailed information on specific mechanisms through which family background might influence post-graduate trajectories. Future studies could incorporate measures of cultural knowledge, social networks, and post-graduate experiences to better understand the processes that generate disparities between first-generation and continuing-generation graduates.

Second, the analysis does not account for institutional selectivity or quality, which may mediate the relationship between first-generation status and post-graduate outcomes. First-generation students are more likely to attend less selective institutions, which might partially explain observed disparities. Future research should examine how institutional characteristics interact with first-generation status to influence socioeconomic outcomes.

Third, this study's cross-sectional design limits causal inference. Longitudinal studies tracking first-generation and continuing-generation students from college entry through mid-career would provide stronger evidence about the trajectories of these groups and the timing of divergence in their outcomes. Finally, the study examines broad categories of college majors rather than specific fields. More granular analysis of majors might reveal particular fields where first-generation students face larger or smaller disadvantages, providing insights for targeted interventions.

## 9. Conclusion

This study demonstrates that the promise of higher education as a pathway to social mobility is partially fulfilled but also constrained by persistent intergenerational advantages. First-generation college graduates achieve significant benefits through their educational attainment but continue to face socioeconomic disadvantages compared to their continuing-generation peers across multiple dimensions of status.

Bourdieu's theory of capital provides a nuanced framework for understanding these persistent disparities, highlighting how economic, cultural, and social resources work in concert to shape life trajectories. While formal education represents an important form of institutionalized cultural capital, its value depends in part on its conversion into other forms of capital, a process influenced by family background and class position.

These findings challenge simplistic narratives about education as an automatic equalizer and highlight the need for more comprehensive approaches to promoting social mobility. By acknowledging the multidimensional nature of inequality and the various forms of capital that shape socioeconomic outcomes, institutions and policymakers can develop more effective strategies for supporting first-generation students not only through degree completion but also in translating

their educational achievements into long-term socioeconomic success.

The findings from this study have significant implications for higher education policy and practice. First, institutions should develop targeted programs that explicitly address the cultural and social capital needs of first-generation students, not only during their academic careers but also through the transition to professional environments. These might include structured mentoring programs pairing first-generation students with alumni from similar backgrounds who have achieved professional success, networking events designed to facilitate connections with potential employers, and workshops addressing the unwritten rules of professional environments. Furthermore, career services offices could develop specialized approaches for first-generation graduates that acknowledge their unique challenges, including guidance on salary negotiation, professional etiquette, and strategic career planning.

At a broader policy level, addressing the persistent disadvantages faced by first-generation graduates requires interventions beyond higher education itself. Workplace policies that promote transparency in hiring and promotion processes could help mitigate the advantages that continuing-generation graduates receive through inherited cultural and social capital. Additionally, governmental programs providing financial support for internships and early career opportunities would allow first-generation graduates to access valuable professional experiences without the safety net that family wealth often provides for their continuing-generation peers. Future research should explore these interventions through randomized controlled trials to determine their effectiveness in reducing socioeconomic disparities among college graduates from different family backgrounds. Furthermore, longitudinal studies tracking first-generation students from college entry through mid-career would provide valuable insights into the timing and mechanisms through which these disparities emerge, informing more targeted and effective policies to promote genuine educational mobility.

## Abbreviations

GSS	General Social Survey
NORC	National Opinion Research Center
OLS	Ordinary Least Squares

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## Author Contributions

Osasohan Agbonlahor is the sole author. The author read and approved the final manuscript.

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## Data Availability Statement

The data that support the findings of this study are openly available from NORC at the University of Chicago at <https://gss.norc.org>

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Allan, B. A., & Kim, T. (2021). Examining classism and critical consciousness within psychology of working theory. *Journal of Career Assessment*, 29(4), 644-660. <https://doi.org/10.1177/1069072721998418>
- [2] Allan, B. A., Garriott, P. O., & Keene, C. N. (2020). Outcomes of social class and classism in first- and continuing-generation college students. *Journal of Counseling Psychology*, 67(4), 487-496. <https://doi.org/10.1037/cou0000160>
- [3] Antonoplis, S. (2022). Studying Socioeconomic Status: Conceptual Problems and an Alternative Path Forward. *Perspectives on Psychological Science*, 18(2), 275-292. <https://doi.org/10.1177/17456916221093615>
- [4] Armstrong, E. A., & Hamilton, L. T. (2013). Paying for the party: How college maintains inequality. Harvard University Press. <https://doi.org/10.4159/harvard.9780674073517>
- [5] Autor, D. H. (2014). Skills, education, and the rise of earnings inequality among the "other 99 percent." *Science*, 344(6186), 843-851.
- [6] Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press. <https://doi.org/10.7208/chicago/9780226041223.001.0001>
- [7] Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). Greenwood Press.
- [8] Chetty, R., Jackson, M. O., Kuchler, T., Stroebe, J., Hendren, N., Fluegge, R. B., Gong, S., Gonzalez, F., Grondin, A., Jacob, M., Johnston, D., Koenen, M., Laguna-Muggenburg, E., Munyege, F., Smythe, A., Steinbaum, D., Wong, W., & Bailey, M. (2022). Social capital I: Measurement and associations with economic mobility. *Nature*, 608(7921), 108-121. <https://doi.org/10.1038/s41586-022-04996-4>
- [9] Chetty, R., Friedman, J. N., Saez, E., Turner, N., & Yagan, D. (2023). Income segregation and intergenerational mobility across colleges in the United States. *The Quarterly Journal of Economics*, 138(3), 1575-1636. <https://doi.org/10.1093/qje/qjaa005>
- [10] Collins, R. (1979). *The credential society: An historical sociology of education and stratification*. Academic Press. <https://doi.org/10.7312/coll19234>
- [11] Corredor, J., Álvarez-Rivadulla, M. J., & Maldonado-Carreño, C. (2020). Good will hunting: Social integration of students from diverse social backgrounds at elite universities. *Higher Education*, 82(1), 33-50. <https://doi.org/10.1080/03075079.2019.1629410>
- [12] Cortoni, I., & Perovic, J. (2020). Sociological analysis of Montenegrin teachers' digital capital. *Societies*, 10(3), 75. <https://journals.openedition.org/cs/2761>
- [13] Crede, M., Ingalls, G., & Hughes, B. T. (2024). Occupational prestige: The status component of socioeconomic status. *Colabra: Psychology*, 10(1), 92882. <https://doi.org/10.1525/colabra.92882>
- [14] Davern, M., Bautista, R., Freese, J., Herd, P., & Morgan, S. L. (2022). General Social Survey, 1972-2022 (Release 4) [Data file and codebook]. NORC at the University of Chicago. <https://gss.norc.org>
- [15] Davies, S., & Rizk, J. (2018). The three generations of cultural capital research: A narrative review. *Review of Educational Research*, 88(3), 331-365. <https://doi.org/10.3102/0034654317748423>
- [16] Davis-Kean, P. E., Tighe, L. A., Waters, N. E. (2021). The Role of Parent Educational Attainment in Parenting and Children's Development. *Current Directions in Psychological Science*, 30(2), 186-192. <https://doi.org/10.1177/0963721421993116>
- [17] De Schepper, A., Clycq, N., & Kyndt, E. (2022). Socioeconomic Differences in the Transition From Higher Education to the Labour Market: A Systematic Review. *Journal of Career Development*, 50(1), 234-250. <https://doi.org/10.1177/08948453221077674>
- [18] Fry, R., (2021). How Millennials compare with prior generations. Pew Research Center. <https://www.pewresearch.org/social-trends/2021/05/18/first-generation-college-graduates-lag-behind-their-peers-on-key-economic-outcomes/>
- [19] Gerber, T. P., & Cheung, S. Y. (2008). Horizontal stratification in postsecondary education: Forms, explanations, and implications. *Annual Review of Sociology*, 34(1), 299-318. <https://doi.org/10.1146/annurev.soc.34.040507.134604>
- [20] Goldrick-Rab, S. (2016). Paying the price: College costs, financial aid, and the betrayal of the American dream. University of Chicago Press. <https://doi.org/10.7208/chicago/9780226404486.001.0001>
- [21] Houle, J. N. (2014). Disparities in debt: Parents' socioeconomic resources and young adult student loan debt. *Sociology of Education*, 87(1), 53-69. <https://doi.org/10.1177/0038040713512213>
- [22] Hout, M. (2008). How class works: Objective and subjective aspects of class since the 1970s. In A. Lareau & D. Conley (Eds.), *Social class: How does it work?* (pp. 25-64). Russell Sage Foundation. [https://www.russellsage.org/sites/all/files/u4/Hout\\_How%20Class%20Works.pdf](https://www.russellsage.org/sites/all/files/u4/Hout_How%20Class%20Works.pdf)

- [23] Hu, S., Hood, M., Creed, P. A., & Shen, X. (2020). The Relationship Between Family Socioeconomic Status and Career Outcomes: A Life History Perspective. *Journal of Career Development*, 49(3), 600-615. <https://doi.org/10.1177/0894845320958076>
- [24] Huang, Y., Perales, F., & Western, M. (2021). The long arm of parental advantage: Socio-economic background and parental financial transfers over adult children's life courses. *Research in Social Stratification and Mobility*, 71, 100582. <https://doi.org/10.1016/j.rssm.2021.100582>
- [25] Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education*, 77(5), 861-885. <https://doi.org/10.1080/00221546.2006.11778947>
- [26] Kim, T., Shein, B., Joy, E. E., Murphy, P. K., & Allan, B. A. (2023). The myth of social mobility: Subjective social mobility and mental health. *Journal of Counseling Psychology*, 70(5), 613-624. <https://doi.org/10.1177/00110000221148671>
- [27] Klein, M. (2021). Who benefits from attending elite universities? Family background and graduates' career trajectories. *Research in Social Stratification and Mobility*, 72, 100582. <https://doi.org/10.1016/j.rssm.2021.100585>
- [28] Lucas, S. R. (2001). Effectively maintained inequality: Education transitions, track mobility, and social background effects. *American Journal of Sociology*, 106(6), 1642-1690. <https://doi.org/10.1086/321300>
- [29] Murphy, P. K., Kim, T., Joy, E. E., Shein, B., & Allan, B. A. (2025). Social mobility through doctoral education: Exploring identity, classism, and belongingness. *Journal of Diversity in Higher Education*. Advance online publication. <https://doi.org/10.1037/dhe0000477>
- [30] Nguyen, D. J. (2023). Low-income students thriving in post-secondary educational environments. *Journal of Diversity in Higher Education*, 16(4), 497-508. <https://doi.org/10.1037/dhe0000360>
- [31] Pew Research Center. (2021). First-generation college graduates lag behind their peers on key economic outcomes. <https://www.pewresearch.org/social-trends/2021/05/18/first-generation-college-graduates-lag-behind-their-peers-on-key-economic-outcomes/>
- [32] RTI International. (2023). First-generation college students' experiences during the early COVID-19 pandemic: 2020. Washington, DC: FirstGen Forward. [https://firstgen.naspa.org/files/dmfile/15405\\_NASPA\\_FactSheet-02.pdf](https://firstgen.naspa.org/files/dmfile/15405_NASPA_FactSheet-02.pdf)
- [33] RTI International. (2024). First-generation college graduates after four years: Employment, finances, and additional education. Washington, DC: FirstGen Forward. [https://firstgen.naspa.org/files/dmfile/15405\\_NASPA\\_FactSheet-03.pdf](https://firstgen.naspa.org/files/dmfile/15405_NASPA_FactSheet-03.pdf)
- [34] Rubin, M., Denson, N., Kilpatrick, S., Matthews, K. E., Stehlik, T., & Zyngier, D. (2022). A first class measure: Evidence for a comprehensive social class scale in higher education populations. *Research in Higher Education*, 63(8), 1204-1232. <https://doi.org/10.1007/s11162-022-09693-9>
- [35] Sennett, R., & Cobb, J. (1972). *The hidden injuries of class*. W. W. Norton & Company. <https://wnorton.com/books/The-Hidden-Injuries-of-Class/>
- [36] Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology*, 102(6), 1178-1197. <https://doi.org/10.1037/a0027143>
- [37] Tompsett, J., & Knoester, C. (2023). Family socioeconomic status and college attendance: A consideration of individual-level and school-level pathways. *PLOS ONE*, 18(4), e0284188. <https://doi.org/10.1371/journal.pone.0284188>
- [38] Torche, F. (2011). Is a college degree still the great equalizer? Intergenerational mobility across levels of schooling in the United States. *American Journal of Sociology*, 117(3), 763-807. <https://doi.org/10.1086/661904>
- [39] Zhu, B. (2020). Cultural reproduction or cultural mobility? Unequal education achievement among Chinese college students. *The Journal of Chinese Sociology*, 10(1), 1-24. <https://doi.org/10.1186/s40711-020-00119-6>