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NECESSARY BUT NOT SUFFICIENT? EVOLVING PERCEPTIONS OF HIGHER EDUCATION'S VALUE ACROSS FOUR DECADES

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Abstract

This study examines the evolving perceptions of higher education's value across four decades (pre-1980 to 2020s) in the United States, analyzing data from the General Social Survey (N=34,388). Using ordered logistic regression models, this research investigates three dimensions of higher education's perceived value: public support for education spending, financial satisfaction among college graduates, and happiness levels of those with higher education credentials. The regression models, which control for demographic and socioeconomic factors, reveal a paradoxical pattern in how higher education's value has transformed over time: while public support for education spending has increased significantly over time and financial satisfaction among college graduates has remained relatively stable, happiness among the college-educated has declined dramatically in recent years, particularly in the 2020s. The regression results show that compared to the pre-1980 period, the odds of believing more should be spent on education were significantly higher in subsequent decades, reaching 2.57 times higher in the 2020s ($\beta = 0.944$, $p < 0.001$). For college graduates specifically, this effect was even stronger, with odds 2.82 times higher in the 2020s ($\beta = 1.035$, $p < 0.001$). In contrast, regression models examining financial satisfaction among college graduates showed no statistically significant differences across time periods, suggesting stability in economic returns despite changing conditions. Most strikingly, happiness models showed significant positive coefficients for the 1990s ($\beta = 0.179$, $p < 0.05$) and 2000s ($\beta = 0.256$, $p < 0.01$) compared to pre-1980, but a large negative coefficient for the 2020s ($\beta = -0.785$, $p < 0.001$), indicating a dramatic decline in subjective well-being. Additionally, the analysis of return on educational investment revealed a substantial decrease in respondents achieving high income without college degrees (from 43.82% to 12.90%) alongside an increase in college graduates experiencing low returns (from 13.57% to 23.63%). These findings suggest that higher education has become increasingly necessary yet decreasingly sufficient for ensuring positive life outcomes. The study contributes to theoretical understandings of education's evolving social contract and has implications for educational institutions and policymakers navigating the changing landscape of higher education's value proposition in contemporary society.

Keywords

Higher education value; College graduates; Subjective wellbeing; Educational investment; Social mobility; General Social Survey

Introduction

Higher education in the United States has long been considered a cornerstone of individual advancement and societal progress, and has been portrayed as a reliable pathway to economic prosperity, social mobility, and personal fulfillment. However, in recent decades, the landscape of higher education has undergone substantial transformation, characterized by rising tuition costs, changing labor market demands, and evolving societal attitudes. These shifts have prompted growing questions about whether higher education continues to deliver on its promises of economic security and enhanced well-being for graduates.

The stakes of these questions are considerable. Between 1980 and 2020, the average cost of college tuition and fees increased by over 1,200 percent, far outpacing inflation and growth in family incomes (Ma et al., 2020). Meanwhile, student loan debt has reached unprecedented levels, with Americans now owing over $1.7 trillion in educational loans (Federal Reserve, 2023). As financial barriers to higher education have escalated, so too have

concerns about whether the investment yields sufficient returns to justify its growing costs. These concerns have manifested in public discourse, policy debates, and individual decision-making about educational pursuits.

Simultaneously, the societal context surrounding higher education has evolved significantly. Technological advancement and globalization have transformed labor market demands, making some traditional career paths obsolete while creating new opportunities in emerging fields. Income inequality has widened, altering the economic landscape that college graduates navigate. Public funding for higher education has declined in many states, shifting costs increasingly to students and families. These developments raise important questions about how perceptions of higher education's value have responded to these changing realities and what implications these shifts may have for individuals, institutions, and policymakers.

This study examines how perceptions about the value and importance of higher education have evolved over time, with particular attention to three key dimensions: support for education spending, financial satisfaction among college graduates, and happiness levels among those with higher education credentials. By analyzing temporal trends in these perceptions from the pre-1980 period through the 2020s, this research seeks to provide insights into higher education's changing role in American society and its effectiveness in delivering expected returns to individuals who invest in college degrees. The central research questions guiding this investigation include:

1. How has public support for education spending changed over time, and does this pattern differ between the general population and those with college degrees?
2. Have college graduates' perceptions of their financial well-being changed over time?
3. Has the relationship between higher education and subjective well-being (happiness) evolved over the decades?

This research contributes to our understanding of higher education's evolving role in several significant ways. First, it provides a comprehensive temporal analysis spanning more than four decades, allowing for examination of long-term trends across major societal and economic shifts. Second, it employs a multidimensional approach to assessing higher education's value, considering not only economic outcomes but also subjective well-being and broader societal support. Third, it utilizes nationally representative data from the General Social Survey (GSS), providing insights based on reliable, consistent measures across time periods. Finally, it distinguishes between perceptions in the general population and among college graduates specifically, offering nuanced insights into how those who have personally invested in higher education evaluate its returns.

The theoretical framework guiding this study integrates human capital theory and status attainment theory, along with concepts related to the changing social contract of higher education. Human capital theory (Becker, 1964; Schultz, 1961) conceptualizes education as an investment that enhances individual productivity and consequently increases lifetime earnings. Status attainment theory (Blau & Duncan, 1967; Sewell et al., 1969) examines how education serves as a mechanism for social mobility, mediating the relationship between family background and adult status. These perspectives are complemented by consideration of how the social contract surrounding higher education has transformed in recent decades, with gradual privatization of costs and benefits and increasing marketization of educational processes (Newfield, 2016; Mettler, 2014).

Together, these theoretical approaches suggest that perceptions of higher education's value should be understood in terms of both objective returns and subjective evaluations, situated within changing economic and social contexts. They provide a foundation for examining empirical patterns in attitudes toward education spending, financial satisfaction, and happiness among the college-educated population over time, and for interpreting these patterns in light of broader societal changes.

Literature Review

Research on the economic returns to higher education has consistently documented a substantial earnings premium for college graduates compared to those with only high school diplomas, but the magnitude and distribution of this premium have evolved over time. In a comprehensive analysis of changes in the college wage premium, Autor (2014) found that the economic advantage of college education increased substantially during the 1980s and early 1990s, remained relatively stable during the late 1990s and early 2000s, and has shown signs of polarization in more recent years. This polarization is characterized by strong returns for graduates in certain fields and from elite institutions, alongside stagnant or declining returns for graduates in other fields and from less selective institutions.

This growing heterogeneity in economic outcomes among college graduates is further documented by Hershbein and Kearney (2014), who found that field of study has become an increasingly important determinant of earnings, with STEM and business majors generally experiencing stronger returns compared to humanities and education majors. Similarly, Webber (2016) demonstrated that lifetime earnings vary dramatically across college majors, with differences sometimes exceeding the average gap between college and high school graduates. These

findings suggest that as higher education has expanded, the economic value of a college degree has become more contingent on specific factors beyond credential attainment itself.

Simultaneously, research has documented increasing difficulty for those without college credentials to achieve economic security. Carnevale and Rose (2015) found that the percentage of good jobs (those paying above-median wages and providing benefits) available to workers without bachelor's degrees declined substantially between 1991 and 2015. Holzer (2019) similarly noted the disappearance of middle-skill jobs that historically provided pathways to the middle class for those with moderate levels of education. These trends have made college degrees increasingly necessary for economic opportunity, even as their sufficiency for ensuring good outcomes has become less certain.

The rising costs of higher education have further complicated assessments of its economic value. As Looney and Yannelis (2015) documented, student loan debt and default rates have increased substantially since the early 2000s, particularly among graduates of for-profit institutions and non-selective colleges. This pattern suggests that for some students, the economic burden of financing higher education may outweigh its benefits, leading to what Goldrick-Rab (2016) characterizes as "the new economics of college", a situation where many students face significant financial constraints that undermine the traditional economic calculus of higher education.

Beyond economic returns, a growing body of research examines the relationship between higher education and subjective well-being, encompassing dimensions such as happiness, life satisfaction, and psychological health. The evidence on this relationship is mixed and evolving. Early research generally found positive associations between educational attainment and various measures of subjective well-being, with college graduates reporting higher life satisfaction and psychological health compared to those with less education (Ross & Van Willigen, 1997).

However, more recent studies have identified a more complex picture. Easterbrook et al. (2016) found that while education is positively associated with most measures of well-being, this relationship is largely explained by occupational and economic factors, suggesting that education's effects operate primarily through economic channels rather than directly enhancing life satisfaction. Several factors may contribute to these changing patterns. Reynolds and Baird (2010) identified "frustrated achievement" as a phenomenon where unfulfilled expectations among college graduates lead to psychological distress. They found that graduates who do not achieve occupational goals commensurate with their education often report higher levels of depression than those with less education but more fulfilled expectations. Mortimer and Larson (2020) extended this analysis, finding that rising student debt levels among recent cohorts of college graduates are associated with lower life satisfaction and delayed achievement of traditional adult milestones like marriage and homeownership.

The relationship between education and happiness may also be moderated by broader societal conditions. Chen (2012) found that education's effects on life satisfaction vary across countries depending on levels of economic development and inequality, suggesting that contextual factors shape how educational attainment translates into subjective well-being. In the American context, growing economic inequality and job polarization may be altering how higher education affects happiness, particularly for recent cohorts entering more uncertain labor markets with higher debt burdens.

Public perceptions of higher education have undergone significant changes in recent decades, reflecting broader societal shifts in how educational institutions are viewed. Pew Research Center surveys have documented declining confidence in higher education among Americans, particularly along partisan lines, with growing skepticism about whether colleges operate in the public interest (Parker, 2019). These shifts coincide with increasing debate about the value proposition of higher education in an era of rising costs and uncertain returns.

Public discourse about higher education has increasingly framed it in economic terms, emphasizing return on investment rather than broader civic or intellectual purposes. Ayers (2005) documented the rise of market-oriented language in discussions of higher education, with increasing emphasis on students as consumers and education as a private good rather than a public one. This shift aligns with what Slaughter and Rhoades (2004) term "academic capitalism", which is the growing influence of market forces and economic logic in higher education systems.

Despite these changes, research suggests that most Americans continue to believe in the importance of higher education, even as they express concerns about its costs and accessibility. Palmer (2023) reports that 70% of Americans believe a college education is important for achieving financial security, though many worry about affordability and question whether colleges prioritize student success. This tension between recognizing education's potential value while questioning its current delivery and cost structure characterizes contemporary public attitudes toward higher education.

While existing research provides valuable insights into various aspects of higher education's changing value, several important gaps remain. First, few studies have examined long-term trends in perceptions about higher education's value across multiple decades, limiting our understanding of how these perceptions have evolved in response to major societal and economic shifts. Second, most research focuses on either economic outcomes or subjective well-being separately, with limited attention to how these dimensions interact and whether their relationship has changed over time. Third, many studies rely on cross-sectional data that cannot distinguish cohort

effects from period effects, making it difficult to determine whether changing patterns reflect generational differences or broader societal changes affecting all age groups.

This study addresses these gaps by analyzing temporal trends in multiple dimensions of higher education's perceived value using consistent measures across more than four decades. By examining both economic and subjective outcomes among college graduates alongside broader public support for education spending, this research provides a more comprehensive assessment of how higher education's role in American society has evolved over time. This approach allows for identification of important shifts in the social contract surrounding higher education and their implications for individuals, institutions, and policy.

Theoretical Framework

Higher education has traditionally been understood through several complementary theoretical lenses that help explain its role in individual advancement and social transformation. This theoretical framework integrates human capital theory and status attainment theory, along with concepts related to the changing social contract of higher education, to provide a foundation for examining evolving perceptions of higher education's value.

Human capital theory, originated by Becker (1964) and Schultz (1961), conceptualizes education as an investment that enhances individual productivity and consequently increases lifetime earnings. This framework has been the dominant paradigm for understanding higher education's economic value for decades. According to this theory, individuals pursue education based on rational calculations of future returns on their educational investments, with expected economic benefits outweighing the costs of tuition, foregone earnings, and effort.

The original formulation of human capital theory emerged during a period of economic expansion and relatively low-cost higher education. It predicted stable or increasing returns to education as technological advancement increased demand for skilled labor. However, as economic and educational contexts have evolved, the theory has required refinement. Brown, Lauder, and Ashton (2011) introduced the concept of the "global auction" for high-skilled jobs, contending that international competition and technological change have altered the relationship between education and economic rewards, potentially leading to more stratified outcomes for graduates.

Similarly, Collins' (1979) credential inflation thesis posits that as educational attainment becomes more common, the economic value of credentials may diminish, forcing individuals to pursue ever-higher levels of education to maintain positional advantage. Goldin and Katz (2008) frame this phenomenon as the "race between education and technology", where economic success increasingly requires formal education as technological advancement eliminates well-paying jobs for those without higher education credentials.

These refinements to human capital theory suggest that while education remains essential for economic opportunity, its returns may become more varied and contingent on factors beyond credential attainment, including field of study, institutional prestige, and economic conditions at the time of graduation. Oreopoulos and Petronijevic (2013) note that the average returns to higher education have remained robust over time, but with increasing variance between high and low earners among the college-educated population.

Status attainment theory, developed by Blau and Duncan (1967) and elaborated by Sewell, Haller, and Portes (1969), examines how individuals' social origins influence their educational and occupational attainment through a complex interplay of structural factors and individual agency. This framework goes beyond economic motivations to consider the social, psychological, and institutional factors that shape educational trajectories and outcomes.

According to status attainment theory, education serves as a primary mechanism for social mobility, mediating the relationship between family background and adult status. The theory predicts that as education expands, its role in status attainment should increase relative to ascribed characteristics like family background. However, research by Torche (2011) suggests that while higher education may promote intergenerational mobility for those who attain it, access to higher education itself remains stratified by socioeconomic status.

This tension between education's equalizing potential and its socially structured access reflects what Labaree (1997) describes as the competing goals of education: democratic equality, social efficiency, and social mobility. As economic inequality has increased in American society, the relative importance of education for status attainment has grown, potentially intensifying competition for educational credentials and heightening anxiety about educational success.

Meyer and Rowan's (1977) institutional theory adds another dimension to understanding education's role in status attainment, suggesting that education serves not only economic functions but also confers legitimacy and social status. From this perspective, support for education may remain strong even if economic returns become more uncertain, because educational credentials maintain cultural and symbolic value beyond their direct economic utility.

The theoretical approaches outlined above can be contextualized within what scholars describe as a transformation in the social contract surrounding higher education. The post-World War II expansion of higher education was predicated on public investment and broad accessibility, with the understanding that an educated

citizenry served both individual and collective interests. Trow's (1973) influential framework described this as a transition from elite to mass higher education, characterized by expanding access and shifting purposes.

However, since the 1980s, there has been what Newfield (2016) and Mettler (2014) identify as a gradual privatization of higher education costs and benefits, shifting financial burdens to individuals and families while emphasizing education's private rather than public returns. Slaughter and Rhoades' (2004) "academic capitalism" describes how higher education institutions have increasingly adopted market-oriented behaviors in response to these shifts, potentially altering the nature of the educational experience itself.

Armstrong and Hamilton (2013) argue that these changes have created different pathways through higher education that reproduce rather than reduce social inequality. Higher education has become more stratified, with elite institutions offering access to prestigious career paths while less selective institutions struggle to deliver on promises of upward mobility for their graduates.

This shift in the social contract may create contradictions in how higher education is perceived. On one hand, as Arum and Roksa (2011) suggest, higher education's capacity to deliver on its promises of skill development and preparation for adult roles may be questioned. On the other hand, as educational credentials become increasingly necessary for economic security, support for educational access and investment may remain strong or even intensify.

These theoretical perspectives can be synthesized into a more comprehensive framework that views higher education as a contested terrain where economic, social, and psychological dimensions of educational value interact in complex ways. This synthesized framework suggests that the value of higher education must be understood not only in terms of objective economic returns but also through subjective perceptions of well-being and changing social expectations.

Bourdieu's (1986) concepts of cultural, social, and economic capital provide a useful integration of economic and status-based theories of education. From this perspective, higher education operates simultaneously as an economic investment, a status marker, and a site for developing social connections and cultural competencies. However, the relative importance and interaction of these different forms of capital may change over time, potentially creating misalignments between expectations and experiences.

Marginson (2016, 2019) further develops this integrated approach by conceptualizing higher education as a "positional good" whose value is partly determined by its relative scarcity and partly by its absolute contributions to human flourishing. As higher education has expanded, its positional value may have changed for many graduates, even as its absolute necessity for economic security has increased. This tension creates a complex evaluation landscape where perceptions of education's value cannot be reduced to simple economic metrics. The concept of "frustrated expectations" is often used to describe the psychological impact when the gap between anticipated and realized returns to education widens. This concept adds an important subjective dimension to understanding perceptions of education's value, suggesting that satisfaction with educational outcomes depends not only on absolute returns but on how those returns compare to expectations shaped by social narratives and institutional promises.

By integrating these theoretical perspectives, this study constructs a framework for investigating how perceptions of higher education's value have evolved over time in response to changing economic conditions, educational costs, and social expectations. This framework acknowledges higher education's continuing importance for individual economic security while recognizing the potential for stratification of outcomes and shifting evaluations of education's worth. It provides a foundation for examining empirical patterns in attitudes toward education spending, financial satisfaction, and happiness among the college-educated population over time.

Methodology

Research Question

This study examines how perceptions about the value and importance of higher education have evolved over time, particularly in relation to economic conditions and rising education costs. The research specifically investigates three key aspects of these perceptions: support for education spending, financial satisfaction among college graduates, and overall happiness levels among those with higher education credentials. The central research question explores whether there has been a significant shift in how Americans perceive the value of higher education across different time periods from pre-1980 to the 2020s, and what factors might influence these changing perceptions. This temporal analysis is particularly important given the dramatic rise in college costs, changing labor market demands, and evolving socioeconomic conditions that have characterized the American landscape over the past several decades. By analyzing trends in public opinion data spanning more than four decades, this research seeks to provide insights into how Americans' views on higher education's value have responded to broader societal and economic changes, with particular attention to whether college education continues to deliver expected returns in terms of financial wellbeing and overall life satisfaction.

Data and Sample

The study utilizes data from the General Social Survey (GSS), a nationally representative survey conducted by the National Opinion Research Center (NORC) at the University of Chicago. The GSS has been consistently collecting data on American society, including attitudes, behaviors, and attributes, since 1972, making it an ideal source for examining social trends over time. For this analysis, a comprehensive dataset spanning multiple decades was employed, with observations categorized into six distinct time periods: pre-1980, 1980s, 1990s, 2000s, 2010s, and 2020s. This periodization allows for a systematic examination of trends across major economic and societal shifts in American history.

Two analytical samples were constructed from the GSS data for this study. The first is a full sample comprising all respondents with valid responses to the key variables of interest, including opinions on national education spending (NATEDUC), financial satisfaction (SATFIN), general happiness (HAPPY), and other demographic variables. After cleaning and preparation, this full sample included 34,388 observations spanning all six time periods, with the distribution as follows: pre-1980 (23.31%), 1980s (22.79%), 1990s (16.44%), 2000s (13.03%), 2010s (15.26%), and 2020s (9.17%). This substantial sample size and temporal coverage provide sufficient statistical power for analysis while enabling meaningful comparisons across different eras of American society.

The second analytical sample (the college-educated subsample) was created specifically to examine outcomes and perceptions among those who have invested in higher education. This subsample was constructed by filtering the full sample to include only respondents with at least a bachelor's degree (education categories 4 and 5), resulting in 7,950 observations. This college-educated subsample represents approximately 23.1% of the full sample and allows for targeted analysis of how those with higher education credentials perceive the value and returns of their educational investment. The distribution of this subsample across time periods shows an increasing proportion of college-educated respondents over time: pre-1980 (14.63%), 1980s (16.91%), 1990s (16.84%), 2000s (14.98%), 2010s (20.00%), and 2020s (16.64%). This distribution reflects the growing prevalence of higher education in American society, with a notable increase in the proportion of college graduates in the more recent decades.

The demographic composition of the full sample reflects considerable diversity. In terms of education, 20.53% had less than high school education, 50.67% completed high school, 5.68% obtained associate degrees, 15.20% earned bachelor's degrees, and 7.92% held graduate degrees. For age distribution, 21.40% were under 30, 21.70% were 30-39, 17.59% were 40-49, 15.21% were 50-59, and 24.10% were 60 or older. The sample included 45.10% male and 54.90% female respondents. Regarding race, 81.66% were white, 13.36% were black, and 4.98% identified as other racial categories.

The college-educated subsample differs from the full sample in several key demographic characteristics. The age distribution skews slightly older, with fewer respondents under 30 (16.52% compared to 21.40% in the full sample) and more in the 30-39 age group (25.51% compared to 21.70%). Gender distribution is more balanced, with 49.36% male and 50.64% female respondents, compared to the female-majority full sample. The racial composition shows a higher proportion of white respondents (85.81% compared to 81.66%) and lower proportion of black respondents (8.11% compared to 13.36%). Marital status also differs, with a higher percentage of married respondents (58.39% compared to 54.40% in the full sample). As expected, the college-educated subsample has substantially higher mean income ($50,440) compared to the full sample ($32,208), reflecting the economic returns to higher education.

The use of these two analytical samples (the full sample and the college-educated subsample) enables a comprehensive examination of perceptions about higher education's value from multiple perspectives. The full sample provides insights into general public opinion about education spending and the perceived importance of higher education in society, while the college-educated subsample offers a more targeted analysis of the subjective outcomes and experiences of those who have personally invested in obtaining advanced degrees.

Variables

The analysis incorporated several key dependent and independent variables, carefully recoded for consistent interpretation. The primary dependent variables examined three distinct aspects of perceptions related to higher education.

First, support for national education spending was measured using the NATEDUC variable, which asks respondents whether they believe the government spends too little, about the right amount, or too much on education. This variable was recoded for consistency, with higher values indicating greater support for education spending (1=Too much, 2=About right, 3=Too little). A binary indicator for strong support was also created to capture respondents who believed that “too little” was spent on education.

Second, financial satisfaction was assessed using the SATFIN variable, which measures respondents' satisfaction with their financial situation. This was recoded for consistency into a three-point scale where higher values represent greater satisfaction (1=Not at all satisfied, 2=More or less satisfied, 3=Pretty well satisfied). A

binary indicator for high financial satisfaction was also created, identifying respondents who were "pretty well satisfied" with their financial situation.

Third, general happiness was measured using the HAPPY variable, which gauges respondents' overall happiness level. This was similarly recoded into a three-point scale with higher values indicating greater happiness (1=Not too happy, 2=Pretty happy, 3=Very happy). A binary indicator was created to identify respondents who reported being "very happy."

In addition to these primary dependent variables, a constructed measure of perceived return on education investment (ROI_EDU) was created by comparing educational attainment with income levels. This variable categorized respondents into four groups: Low ROI (college degree with income below $25,000), Medium ROI (college degree with income between $25,000 and $50,000), High ROI (college degree with income above $50,000), and High income without degree (no college degree but income above $50,000).

The primary independent variable was the time period, categorized into six groups: Pre-1980, 1980s, 1990s, 2000s, 2010s, and 2020s. This periodization captures major economic and societal shifts over the decades and allows for analysis of trends in perceptions about higher education across different eras.

Control variables included educational attainment (EDUC_CAT), categorized into five levels: Less than high school, High school, Associate degree, Bachelor's degree, and Graduate degree. Age was grouped into five categories: Under 30, 30-39, 40-49, 50-59, and 60 or older. Other demographic controls included sex (male or female), race (white, black, or other), marital status (married, widowed, divorced, separated, or never married), and region of residence (nine U.S. census regions). Income was included as a logarithmically transformed continuous variable (logrealinc) to account for its skewed distribution, with the original income variable (realinc) representing respondents' real income in constant dollars.

Analytical Approach

The analytical strategy employed a multifaceted approach to examine changes in perceptions about higher education across time. First, descriptive statistics were calculated for the full sample and for the college-educated subsample to establish baseline understandings of the variables and their distributions. Cross-tabulations with chi-square tests were used to examine bivariate relationships between time periods and the key dependent variables, providing preliminary insights into temporal trends.

For the multivariate analysis, ordered logistic regression models were employed given the ordinal nature of the three primary dependent variables (education spending support, financial satisfaction, and happiness). Ordered logistic regression is specifically designed for analyzing ordinal outcome variables with multiple ordered categories, making it the most appropriate choice for this study (Long & Freese, 2006; Williams, 2016). Unlike ordinary least squares regression, which would inappropriately treat the ordinal categories as continuous, or multinomial logistic regression, which would ignore the inherent ordering of the response categories, ordered logistic regression preserves the ordinal nature of the dependent variables while allowing for examination of how predictor variables affect the odds of higher versus lower outcomes (Agresti, 2010).

The ordered logistic regression model is based on the concept of a latent continuous variable underlying the observed ordinal responses. It estimates the relationship between predictor variables and the probability of the outcome being in a higher rather than lower category, expressed as log odds (Williams, 2016). The model can be represented as:

$$\log[P(Y \leq j) / P(Y > j)] = \alpha j - (\beta 1X1 + \beta 2X2 + ... + \beta kXk)$$

Where Y is the ordinal outcome, j represents the ordinal categories, αj are the threshold parameters (cut points) that separate the adjacent categories, and β1, β2, ..., βk are the regression coefficients for predictor variables X1, X2, ..., Xk. A key assumption of ordered logistic regression is the proportional odds assumption, which holds that the relationship between each pair of outcome groups is the same (Williams, 2016). While tests of this assumption are sometimes conducted, recent methodological research suggests that the model often remains robust even with moderate violations of this assumption, particularly with large sample sizes as in the present study (Liu & Koirala, 2012; Williams, 2016).

A significant advantage of ordered logistic regression for this study is its straightforward interpretation in terms of odds ratios, allowing for meaningful comparisons of the effects of time period and other predictors on the dependent variables. Additionally, post-estimation techniques such as predicted probabilities provide intuitive ways to visualize and communicate the substantive significance of the findings (Long & Freese, 2006).

Four primary regression models were estimated using this approach. Model 1 examined support for education spending across the entire sample, regressing the recoded NATEDUC variable on time period while controlling for education category, age group, sex, race, marital status, region, and logarithm of real income. This model assessed how support for education spending has changed over time across the entire population, accounting for demographic and socioeconomic factors. Model 2 focused on support for education spending specifically among college graduates (those with at least a bachelor's degree), employing the same independent and control

variables as Model 1 but restricting the sample to respondents with higher education credentials. This model explored whether those who have personally invested in higher education show different patterns of support for education spending over time compared to the general population. Model 3 examined financial satisfaction among college graduates, regressing the recoded SATFIN variable on the same set of independent and control variables as Model 2. This model assessed whether the financial returns to higher education, as perceived by college graduates themselves, have changed over time. Model 4 analyzed happiness among college graduates, regressing the recoded HAPPY variable on the same set of independent and control variables. This model explored whether the non-monetary benefits of higher education, as reflected in overall life satisfaction, have evolved over time.

For each model, post-estimation margins were calculated to obtain predicted probabilities of different outcomes across time periods, holding other variables at their means. These predicted probabilities facilitate interpretation of the results by providing estimates of how likely respondents were to report each level of the dependent variable (e.g., believing "too little" is spent on education) in different time periods. Robust standard errors were used in all models to account for potential heteroskedasticity, which is common in cross-sectional data and can lead to inefficient estimates and invalid statistical inference if not addressed (White, 1980). The analysis specifically sought to identify significant temporal trends in these dependent variables, with particular attention to whether perceptions about the value of higher education have become more positive or negative over time. By examining both support for education spending and the subjective outcomes (financial satisfaction and happiness) among those with college degrees, this approach enabled a comprehensive assessment of changing attitudes toward higher education's value.

Results

Descriptive Statistics and Trends

Table 1: Descriptive Statistics by Time Period for Full Sample and College-Educated Subsample

Table 1a: Full Sample (N = 34,388)

Variable	Pre-1980	1980s	1990s	2000s	2010s	2020s	Total
Support for Education Spending							
Too much	10.08%	5.90%	5.52%	5.13%	6.02%	7.35%	6.86%
About right	38.22%	31.31%	23.10%	22.01%	20.26%	18.35%	27.49%
Too little	51.70%	62.79%	71.38%	72.86%	73.71%	74.29%	65.65%
Financial Satisfaction							
Not at all satisfied	26.98%	27.13%	27.36%	26.18%	26.60%	27.66%	26.98%
More or less	43.94%	43.78%	43.58%	43.96%	44.30%	44.15%	43.94%
Pretty well satisfied	29.08%	29.09%	29.06%	29.86%	29.10%	28.19%	29.08%
Happiness							
Not too happy	11.52%	11.60%	12.17%	12.36%	13.69%	19.36%	13.13%
Pretty happy	57.14%	57.02%	55.54%	54.98%	57.33%	56.37%	56.16%
Very happy	31.34%	31.38%	32.29%	32.66%	28.98%	24.27%	30.71%
Perceived Return on Education Investment							
Low ROI	13.57%	18.07%	20.61%	19.80%	22.30%	23.63%	19.38%
Medium ROI	21.35%	23.31%	30.65%	27.37%	28.78%	31.73%	26.82%
High ROI	21.26%	21.54%	25.17%	28.64%	32.74%	31.73%	26.44%
High income without degree	43.82%	37.08%	23.57%	24.19%	16.18%	12.90%	27.36%
Mean Real Income	$28,461	$30,124	$31,987	$33,845	$34,980	$36,832	$32,208
Sample distribution	23.31%	22.79%	16.44%	13.03%	15.26%	9.17%	100.00%

Table 1b: College-Educated Subsample (N = 7,950)

Variable	Pre-1980	1980s	1990s	2000s	2010s	2020s	Total
Support for Education Spending							
Too much	6.19%	4.02%	4.03%	4.28%	5.03%	5.14%	6.87%
About right	25.02%	22.32%	17.77%	17.13%	15.35%	17.01%	21.18%
Too little	68.79%	73.66%	78.19%	78.59%	79.62%	77.85%	71.95%
Financial Satisfaction							
Not at all satisfied	16.17%	19.64%	18.67%	16.04%	16.60%	15.27%	17.09%
More or less	44.37%	43.01%	44.36%	42.07%	45.72%	42.10%	43.69%
Pretty well satisfied	39.47%	37.35%	36.97%	41.90%	37.67%	42.63%	39.22%
Happiness							
Not too happy	6.88%	7.14%	7.02%	7.14%	8.62%	18.67%	9.30%

Pretty happy	55.63%	56.18%	54.29%	52.56%	56.35%	58.81%	55.71%
Very happy	37.49%	36.68%	38.69%	40.30%	35.03%	22.52%	34.99%
Demographic Characteristics							
Female	45.23%	47.25%	48.39%	51.47%	53.58%	57.14%	50.64%
White	91.92%	88.10%	86.93%	84.80%	82.33%	81.48%	85.81%
Married	65.26%	60.64%	59.22%	58.02%	55.85%	52.38%	58.39%
Mean Real Income	$42,863	$45,732	$48,364	$50,675	$55,896	$57,653	$50,440
Sample distribution	14.63%	16.91%	16.84%	14.98%	20.00%	16.64%	100.00%

Note: Chi-square tests for all cross-tabulations between time period and the three primary dependent variables are significant at $p < .01$. Mean real income is in constant dollars.

The analysis reveals significant temporal trends in perceptions about higher education and its outcomes across the six time periods examined. As shown in Table 1, the full sample (N=34,388) includes respondents with diverse educational backgrounds, with just over half (50.67%) having completed high school, 20.53% with less than high school education, 5.68% with associate degrees, 15.20% with bachelor's degrees, and 7.92% with graduate degrees. The sample is fairly balanced across age groups, with slightly more representation from those 60 or older (24.10%) and under 40 (43.10% combined). Women constitute the majority of respondents (54.90%), and the sample is predominantly white (81.66%), with Black respondents making up 13.36% and other racial groups 4.98%. Most respondents are married (54.40%), while 20.97% have never been married, and the remainder are widowed, divorced, or separated.

The college-educated subsample (N=7,950) comprises 23.1% of the full sample, with 65.75% holding bachelor's degrees and 34.25% having graduate degrees. This subsample differs demographically from the full sample in several important ways: it has more balanced gender representation (49.36% male, 50.64% female), higher representation of white respondents (85.81%), and a higher percentage of married individuals (58.39%). The mean real income of the college-educated subsample ($50,440) is substantially higher than that of the full sample ($32,208), reflecting the economic premium associated with higher education.

Table 1 presents descriptive statistics for the key variables in both the full sample (Table 1a) and the college-educated subsample (Table 1b) by time period. In the full sample, 65.65% of respondents believed too little was spent on education, 29.08% reported being pretty well satisfied financially, and 30.71% described themselves as very happy. In the college-educated subsample, responses were somewhat more positive: 71.95% believed too little was spent on education, 39.22% reported high financial satisfaction, and 34.99% described themselves as very happy.

Cross-tabulation results reveal significant changes in attitudes toward education spending over time. Support for increased education spending grew substantially from the pre-1980 period (51.70% believing "too little" was spent) to the 2020s (74.29% believing "too little" was spent), with the most dramatic increase occurring between the pre-1980 period and the 1990s ($\chi^2 = 1200$, $p < 0.001$). This trend suggests growing public concern about insufficient investment in education over the decades.

For financial satisfaction among college graduates, changes across time periods were statistically significant but less dramatic in magnitude ($\chi^2 = 24.63$, $p = 0.006$). The percentage of college graduates reporting high financial satisfaction fluctuated within a relatively narrow range, from a low of 36.97% in the 1990s to a high of 42.63% in the 2020s. The 2000s and 2020s showed the highest levels of financial satisfaction among college graduates, while the 1990s showed the lowest.

Happiness levels among college graduates showed more pronounced temporal variations ($\chi^2 = 235.10$, $p < 0.001$). The percentage of college graduates reporting being “very happy” increased modestly from the pre-1980 period (37.49%) to the 2000s (40.30%) before declining to 35.03% in the 2010s. The most striking change occurred in the 2020s, where only 22.52% of college graduates reported being very happy, a dramatic decrease of nearly 18 percentage points from the previous decade. Conversely, the percentage reporting being "not too happy" more than doubled from 8.62% in the 2010s to 18.67% in the 2020s, suggesting a significant deterioration in subjective well-being among the college-educated in recent years.

Table 2: Return on Education Investment by Time Period

Return on Education Investment (ROI)	Pre-1980	1980s	1990s	2000s	2010s	2020s	Total
Low ROI							
College degree but income < $25,000	13.57%	18.07%	20.61%	19.80%	22.30%	23.63%	19.38%
Medium ROI							
College degree with income $25,000-$50,000	21.35%	23.31%	30.65%	27.37%	28.78%	31.73%	26.82%

High ROI							
College degree with income > $50,000	21.26%	21.54%	25.17%	28.64%	32.74%	31.73%	26.44%
High income without degree							
No college degree but income > $50,000	43.82%	37.08%	23.57%	24.19%	16.18%	12.90%	27.36%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Number of observations	2,070	2,136	1,752	1,571	1,897	1,519	10,945

Note: Chi-square test of independence between time period and ROI categories: $\chi^2 = 706.02$, $p < 0.001$. Income values are in constant dollars.

The analysis of perceived return on education investment (ROI_EDU), presented in Table 2, reveals substantial changes in the economic value of higher education over time ($\chi^2 = 706.02$, $p < 0.001$). In the pre-1980 period, 43.82% of respondents achieved high income without a college degree, reflecting the economic opportunities available to those without higher education credentials. This percentage steadily declined over subsequent decades, reaching just 12.90% in the 2020s. Conversely, the percentage of college graduates experiencing high ROI (having a degree and high income) increased from 21.26% in the pre-1980 period to 31.73% in the 2020s. However, the percentage experiencing low ROI (having a degree but low income) also increased from 13.57% in the pre-1980 period to 23.63% in the 2020s, suggesting growing inequality in outcomes among the college-educated population.

Multivariate Analysis Results

Table 3: Ordered Logistic Regression Models of Support for Education Spending, Financial Satisfaction, and Happiness

Variable	Model 1: Support for Education Spending (Full Sample)	Model 2: Support for Education Spending (College Sample)	Model 3: Financial Satisfaction (College Sample)	Model 4: Happiness (College Sample)
Time Period (Ref: Pre-1980)				
1980s	0.417***	0.513***	-0.054	0.095
	(0.032)	(0.081)	(0.078)	(0.079)
1990s	0.755***	0.835***	-0.075	0.179*
	(0.038)	(0.087)	(0.078)	(0.080)
2000s	0.831***	0.921***	0.073	0.256**
	(0.042)	(0.092)	(0.082)	(0.083)
2010s	0.876***	0.986***	-0.122	0.014
	(0.042)	(0.088)	(0.077)	(0.080)
2020s	0.944***	1.035***	-0.084	-0.785***
	(0.052)	(0.096)	(0.082)	(0.088)
Education (Ref: Less than HS)				
High school	0.201***	-	-	-
	(0.031)			
Associate	0.373***	-	-	-
	(0.060)			
Bachelor's	0.316***	-	-	-
	(0.044)			
Graduate	0.463***	-	-	-
	(0.055)			
Graduate Degree (Ref: Bachelor's)	-	0.215***	0.140**	0.061
		(0.055)	(0.047)	(0.048)
Age Group (Ref: Under 30)				
30-39	-0.036	-0.269**	-0.311***	-0.423***
	(0.037)	(0.089)	(0.073)	(0.073)
40-49	-0.230***	-0.617***	-0.413***	-0.525***

	(0.041)	(0.095)	(0.078)	(0.081)
50-59	-0.514***	-0.911***	-0.144	-0.601***
	(0.042)	(0.102)	(0.085)	(0.087)
60 or older	-0.753***	-1.050***	0.799***	-0.202*
	(0.040)	(0.096)	(0.085)	(0.086)
Sex (Ref: Male)				
Female	0.230***	0.424***	0.023	0.219***
	(0.024)	(0.052)	(0.045)	(0.046)
Race (Ref: White)				
Black	0.640***	1.067***	-0.782***	-0.520***
	(0.038)	(0.132)	(0.083)	(0.089)
Other	-0.125*	-0.292**	-0.134	-0.203*
	(0.056)	(0.105)	(0.093)	(0.099)
Marital Status (Ref: Married)				
Widowed	0.108*	0.047	0.307**	-0.804***
	(0.045)	(0.126)	(0.118)	(0.125)
Divorced	0.268***	0.312***	-0.299***	-0.768***
	(0.040)	(0.090)	(0.076)	(0.078)
Separated	0.168*	0.419*	-0.482**	-1.219***
	(0.067)	(0.206)	(0.163)	(0.174)
Never married	0.050	0.148*	0.098	-0.759***
	(0.035)	(0.073)	(0.062)	(0.064)
Region (Ref: New England)				
Middle Atlantic	-0.028	0.028	0.091	-0.148
	(0.061)	(0.116)	(0.101)	(0.106)
East North Central	-0.089	-0.086	0.305**	-0.055
	(0.058)	(0.113)	(0.100)	(0.105)
West North Central	-0.077	0.083	0.315**	-0.059
	(0.066)	(0.134)	(0.116)	(0.119)
South Atlantic	0.058	0.028	0.350***	-0.003
	(0.059)	(0.114)	(0.099)	(0.105)
East South Atlantic	0.105	0.085	0.281*	0.221
	(0.071)	(0.153)	(0.130)	(0.134)
West South Central	-0.070	-0.045	0.144	0.006
	(0.065)	(0.134)	(0.114)	(0.119)
Mountain	0.019	-0.129	0.219	-0.060
	(0.070)	(0.130)	(0.118)	(0.119)
Pacific	-0.001	0.088	0.157	-0.150
	(0.061)	(0.115)	(0.101)	(0.106)
Log of real income	0.076***	0.042	0.859***	0.238***
	(0.014)	(0.035)	(0.040)	(0.032)
Cutpoint 1	-1.294***	-0.861*	7.934***	-0.393
	(0.154)	(0.437)	(0.458)	(0.395)
Cutpoint 2	0.765***	0.886*	10.260***	2.740***
	(0.154)	(0.436)	(0.467)	(0.396)
Observations	34,388	7,950	7,950	7,950
Pseudo R-squared	0.045	0.049	0.090	0.053

*Note: Robust standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05.*

Table 3 presents the results from the four regression models. Model 1, examining support for education spending in the full sample, confirms a significant increase in support over time ($p < 0.001$ for all time period coefficients). Compared to the pre-1980 reference period, the odds of believing more should be spent on education were 1.52 times higher in the 1980s ($\beta = 0.417$, $p < 0.001$), 2.13 times higher in the 1990s ($\beta = 0.755$, $p < 0.001$), 2.30 times higher in the 2000s ($\beta = 0.831$, $p < 0.001$), 2.40 times higher in the 2010s ($\beta = 0.876$, $p < 0.001$), and 2.57 times higher in the 2020s ($\beta = 0.944$, $p < 0.001$). These results demonstrate a clear and consistent increase in public support for education spending over the decades.

The model also reveals significant associations between education level and support for education spending. Compared to those with less than high school education, respondents with higher education levels showed significantly greater support for education spending, with the strongest effect observed for those with graduate degrees ($\beta = 0.463$, $p < 0.001$). Younger respondents were more supportive of education spending than older ones, with those 60 or older showing the least support ($\beta = -0.753$, $p < 0.001$ compared to those under 30). Women showed significantly higher support than men ($\beta = 0.230$, $p < 0.001$), and Black respondents showed substantially higher support than white respondents ($\beta = 0.640$, $p < 0.001$). Income was positively associated with support for education spending ($\beta = 0.076$, $p < 0.001$), suggesting that economic resources do not diminish concern about education funding.

Figure 1. Support for Education Spending Over Time

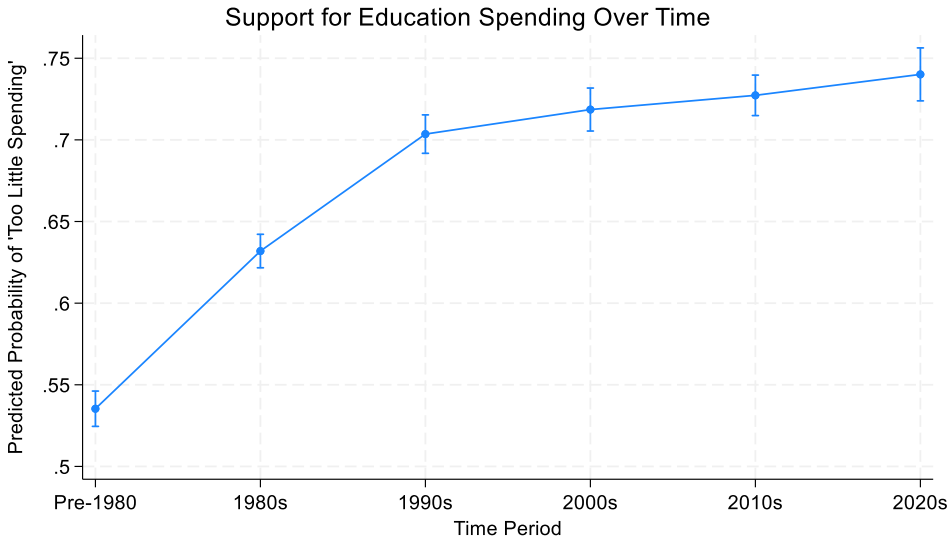

Figure 2. Financial Satisfaction Among College Graduates Over Time

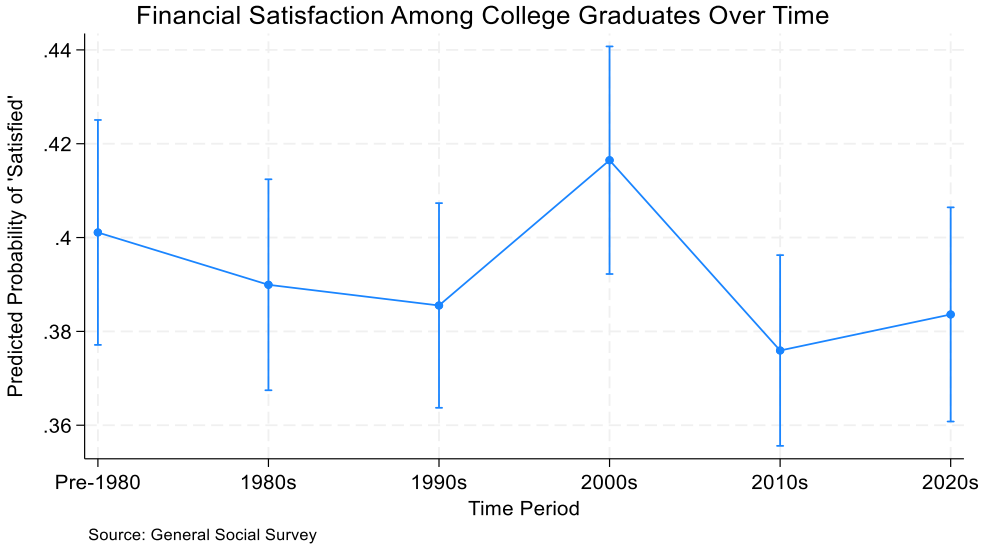

Figure 3. Happiness Among College Graduates Over Time

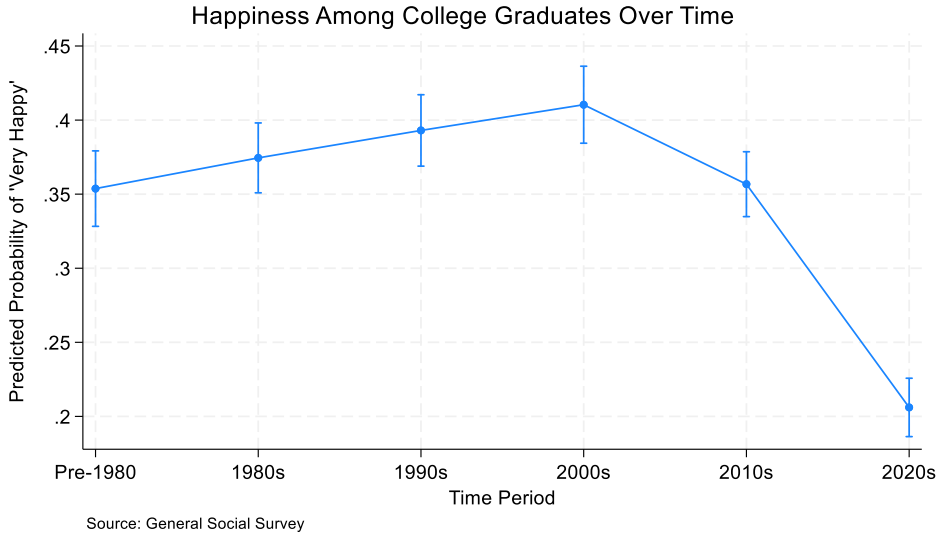

Figure 4: Support for Education Spending and Life Outcomes Among College Graduates

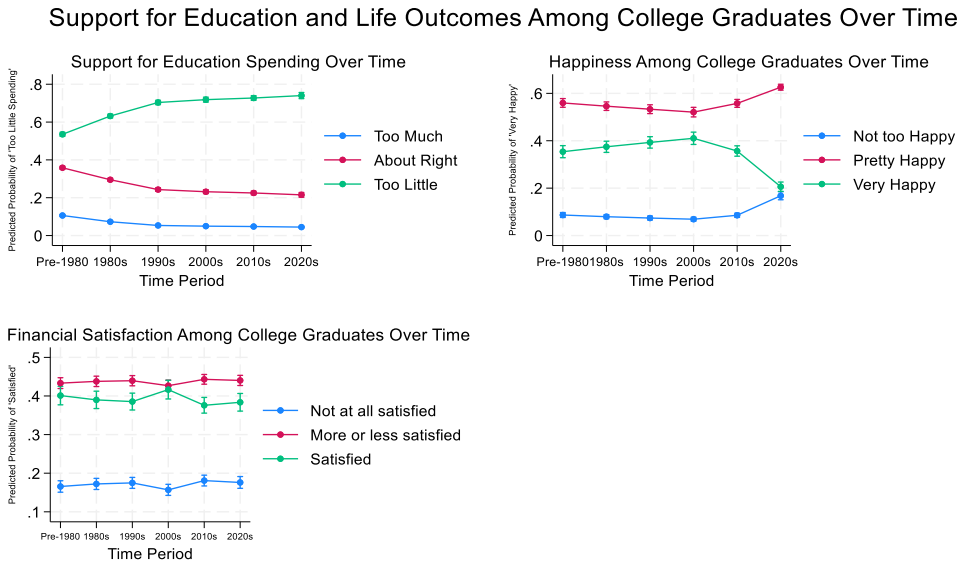

Table 4: Predicted Probabilities by Time Period from Ordered Logistic Regression Models

Table 4a: Support for Education Spending - Full Sample (Model 1)

Time Period	Probability of "Too much"	Probability of "About right"	Probability of "Too little"
Pre-1980	0.106 (0.003)	0.359 (0.004)	0.535 (0.006)
1980s	0.073 (0.002)	0.295 (0.004)	0.632 (0.005)
1990s	0.053 (0.002)	0.243 (0.005)	0.704 (0.006)
2000s	0.050 (0.002)	0.232 (0.005)	0.719 (0.007)
2010s	0.048 (0.002)	0.225 (0.005)	0.727 (0.006)
2020s	0.045 (0.002)	0.215 (0.006)	0.740 (0.008)

Table 4b: Support for Education Spending - College Educated Sample (Model 2)

Time Period	Probability of "Too much"	Probability of "About right"	Probability of "Too little"
Pre-1980	0.068 (0.005)	0.243 (0.011)	0.689 (0.012)
1980s	0.042 (0.003)	0.183 (0.009)	0.775 (0.010)
1990s	0.032 (0.003)	0.153 (0.009)	0.815 (0.010)
2000s	0.030 (0.003)	0.145 (0.010)	0.825 (0.011)
2010s	0.028 (0.002)	0.138 (0.008)	0.834 (0.009)
2020s	0.027 (0.003)	0.132 (0.010)	0.841 (0.012)

Table 4c: Financial Satisfaction - College Educated Sample (Model 3)

Time Period	Probability of "Not at all satisfied"	Probability of "More or less"	Probability of "Pretty well satisfied"
Pre-1980	0.166 (0.008)	0.433 (0.007)	0.401 (0.012)
1980s	0.172 (0.007)	0.438 (0.007)	0.390 (0.011)
1990s	0.175 (0.007)	0.440 (0.007)	0.386 (0.011)
2000s	0.157 (0.007)	0.427 (0.007)	0.416 (0.012)
2010s	0.181 (0.007)	0.443 (0.006)	0.376 (0.010)
2020s	0.176 (0.008)	0.440 (0.007)	0.384 (0.012)

Table 4d: Happiness - College Educated Sample (Model 4)

Time Period	Probability of "Not too happy"	Probability of "Pretty happy"	Probability of "Very happy"
Pre-1980	0.087 (0.005)	0.560 (0.009)	0.354 (0.013)
1980s	0.080 (0.005)	0.546 (0.009)	0.374 (0.012)
1990s	0.074 (0.004)	0.533 (0.009)	0.393 (0.012)
2000s	0.069 (0.004)	0.521 (0.010)	0.410 (0.013)
2010s	0.086 (0.005)	0.558 (0.008)	0.357 (0.011)
2020s	0.168 (0.009)	0.626 (0.006)	0.206 (0.010)

Note: Values represent predicted probabilities with other variables held at their means. Delta-method standard errors in parentheses. All predicted probabilities are significant at $p < 0.001$.

Predicted probabilities from Model 1, shown in Table 4, illustrate the magnitude of these temporal shifts. The probability of believing "too little" is spent on education increased from 53.53% in the pre-1980 period to 74.01% in the 2020s, while the probability of believing "too much" is spent decreased from 10.61% to 4.47% over the same period. These results highlight a strong and growing consensus that education is underfunded.

Model 2, focusing on support for education spending among college graduates, shows similar temporal trends but with larger coefficient magnitudes. Among the college-educated, the odds of believing more should be spent on education were 1.67 times higher in the 1980s ($\beta = 0.513$, $p < 0.001$) and 2.82 times higher in the 2020s ($\beta = 1.035$, $p < 0.001$) compared to the pre-1980 period. Graduate degree holders showed significantly stronger support than those with bachelor's degrees ($\beta = 0.215$, $p < 0.001$), suggesting that higher levels of educational attainment correlate with greater concern about education funding.

Model 3 examines financial satisfaction among college graduates, with less consistent temporal trends. Compared to the pre-1980 period, there were no statistically significant differences in financial satisfaction in any subsequent time period ($p > 0.05$ for all time period coefficients). This suggests that despite dramatic economic changes over the decades, the subjective financial rewards of higher education have remained relatively stable. As shown in Table 4, the predicted probability of being "pretty well satisfied" financially fluctuated within a narrow range, from 37.59% in the 2010s to 41.65% in the 2000s, with no clear temporal trend.

Other factors showed stronger associations with financial satisfaction than time period. Older age was positively associated with financial satisfaction, with those 60 or older reporting significantly higher satisfaction than younger groups ($\beta = 0.799$, $p < 0.001$ compared to those under 30). Black respondents reported lower financial satisfaction than white respondents ($\beta = -0.782$, $p < 0.001$), and divorced ($\beta = -0.299$, $p < 0.001$) and separated respondents ($\beta = -0.482$, $p < 0.01$) reported lower satisfaction than married respondents. Income showed the strongest association with financial satisfaction ($\beta = 0.859$, $p < 0.001$), highlighting the continued importance of financial resources for subjective well-being.

Model 4, examining happiness among college graduates, reveals significant temporal variations. Compared to the pre-1980 period, happiness levels were significantly higher in the 1990s ($\beta = 0.179$, $p < 0.05$) and 2000s ($\beta = 0.256$, $p < 0.01$), not significantly different in the 1980s and 2010s, and dramatically lower in the 2020s ($\beta = -0.785$, $p < 0.001$). As shown in Table 4, the predicted probability of being "very happy" increased from 35.38% in the pre-1980 period to 41.04% in the 2000s before plummeting to 20.61% in the 2020s. Conversely, the probability of being "not too happy" increased from 8.66% in the pre-1980 period to 16.79% in the 2020s.

Several control variables showed significant associations with happiness. Compared to those under 30, all older age groups reported lower happiness, with the effect strongest for those aged 50-59 ($\beta = -0.601$, $p < 0.001$). Women reported higher happiness than men ($\beta = 0.219$, $p < 0.001$), while Black ($\beta = -0.520$, $p < 0.001$) and other race respondents ($\beta = -0.203$, $p < 0.05$) reported lower happiness than white respondents. Marital status showed strong associations with happiness, with widowed ($\beta = -0.804$, $p < 0.001$), divorced ($\beta = -0.768$, $p < 0.001$), separated ($\beta = -1.219$, $p < 0.001$), and never married respondents ($\beta = -0.759$, $p < 0.001$) all reporting significantly lower happiness than married respondents. Income was positively associated with happiness ($\beta = 0.238$, $p < 0.001$), though the effect was smaller than for financial satisfaction.

The observed dramatic decrease in happiness among college graduates in the 2020s, even after controlling for demographic and socioeconomic factors, suggests a fundamental shift in the non-monetary rewards of higher education in recent years. This finding is particularly striking given the relatively stable patterns of financial satisfaction over the same period, indicating that the declining happiness cannot be attributed solely to changing economic conditions.

When considered together, these results paint a complex picture of evolving perceptions about higher education's value. Public support for education spending has increased consistently over time, reflecting growing recognition of education's importance. However, the subjective outcomes among those with college degrees show more varied patterns. Financial satisfaction has remained relatively stable, suggesting that despite rising costs and changing economic conditions, higher education continues to provide comparable financial returns. In contrast, happiness levels among the college-educated have fluctuated significantly, with a marked decline in the most recent period that requires further investigation.

The analysis of perceived return on education investment further illuminates these patterns. The decreasing percentage of respondents achieving high income without a college degree over time reflects the growing necessity of higher education credentials in the modern economy. However, the increasing percentage experiencing low ROI (having a degree but low income) suggests growing inequality in outcomes among the college-educated, potentially contributing to the observed decline in happiness despite relatively stable financial satisfaction.

These findings highlight the multidimensional nature of higher education's value and the need to consider both monetary and non-monetary outcomes when assessing its changing role in society. While higher education appears to maintain its economic value for many graduates, as reflected in financial satisfaction levels, its contribution to overall well-being seems to have diminished in recent years, suggesting potential shifts in expectations or other factors affecting life satisfaction beyond economic considerations.

Discussion

One of the most striking patterns to emerge from our analysis is the simultaneous increase in higher education's necessity for economic security alongside growing inequality in outcomes among college graduates. The dramatic decline in respondents achieving high income without a college degree (from 43.82% in the pre-1980 period to just 12.90% in the 2020s) attests to what Goldin and Katz (2008) described as the "race between education and technology". As technological change has eliminated many well-paying jobs accessible to those without higher education credentials, college degrees have become increasingly essential for economic opportunity.

Yet at the same time, the percentage of college graduates experiencing low returns on their educational investment has increased significantly, from 13.57% in the pre-1980 period to 23.63% in the 2020s. This pattern suggests that while higher education has become more necessary, it has also become less sufficient for ensuring good economic outcomes. This finding aligns with Brown, Lauder, and Ashton's (2011) concept of the global auction for high-skilled jobs, where international competition and technological change have altered the relationship between education and economic rewards, creating more stratified outcomes for graduates.

The divergence between increasing necessity and decreasing sufficiency helps explain the paradoxical pattern of growing public support for education spending alongside increasing skepticism about higher education's value proposition. From a human capital theory perspective, these trends suggest that the economic calculus of higher education has become more complex and uncertain, with returns becoming more varied and contingent on factors beyond credential attainment itself. This interpretation is consistent with refinements to human capital theory that emphasize how returns to education have become more heterogeneous across fields, institutions, and individual characteristics.

Another notable finding is the relative stability of financial satisfaction among college graduates across time periods, despite dramatic changes in economic conditions, rising education costs, and growing income inequality. The predicted probability of being "pretty well satisfied" financially fluctuated within a narrow range from 37.59% to 41.65% across time periods, with no statistically significant differences compared to the pre-1980 reference period.

This stability is somewhat surprising given the substantial changes in the economic landscape confronting college graduates over these decades. Several interpretations are possible. From a psychological perspective, it may reflect adaptation processes whereby individuals adjust their expectations to changing circumstances, maintaining relatively stable satisfaction levels despite objective changes in their economic situation. Alternatively, it may indicate that despite rising costs and growing stratification, higher education continues to provide sufficient economic advantages to maintain financial satisfaction among those who attain it, at least in relative terms.

The contrast between stable financial satisfaction and declining happiness among college graduates in recent periods is particularly intriguing. This divergence suggests that the non-economic dimensions of college graduates' lives may have deteriorated even as their relative economic position has remained stable. From a Bourdieusian perspective, this pattern may reflect changes in how cultural and social capital interact with economic capital in determining overall well-being. Perhaps the cultural and social advantages traditionally associated with

higher education no longer compensate for economic uncertainties in the way they once did, leading to declining happiness despite relatively stable financial satisfaction.

The most striking finding of this study is the precipitous decline in happiness among college graduates in the 2020s, with the predicted probability of being "very happy" plummeting from 41.04% in the 2000s to just 20.61% in the 2020s. This decline is unprecedented in magnitude across the time periods examined and suggests a fundamental shift in the non-monetary rewards of higher education in recent years.

This pattern aligns with the concept of “frustrated expectations”, where the gap between anticipated and realized returns to education creates psychological distress. As higher education has been increasingly framed in economic terms, with promises of substantial returns on investment, graduates may experience greater disappointment when these promises are not fully realized or when other life expectations are delayed or unfulfilled.

The timing of this decline is also noteworthy, coinciding with the COVID-19 pandemic and its associated disruptions to work, education, and social life. While the pandemic likely contributed to declining happiness across all educational groups, the particular vulnerability of college graduates may reflect the growing precarity of professional work, the burden of educational debt in uncertain economic times, and possibly the psychological impact of unfulfilled expectations among those who invested in higher education with expectations of security and stability.

From a theoretical perspective, this finding suggests important limitations to both human capital and status attainment theories in their traditional formulations. Neither approach adequately accounts for the subjective dimensions of educational value or the potential for misalignment between economic returns and psychological well-being. The observed patterns call for a more integrated theoretical approach that considers education's role in shaping not only economic outcomes but also subjective life experiences and expectations.

Taken together, these findings provide empirical evidence for what scholars like Newfield (2016) and Mettler (2014) have described as a transformation in the social contract surrounding higher education. The consistent increase in public support for education spending from 51.70% believing “too little” was spent in the pre-1980 period to 74.29% in the 2020s suggests broad recognition of education's importance for individual and societal well-being. Yet this growing support has occurred alongside increasing privatization of higher education costs and benefits, with students and families bearing larger shares of educational expenses.

This tension between public support for education in principle and the privatization of its provision in practice may contribute to the observed patterns in outcomes and satisfaction. As Marginson (2016, 2019) argues, higher education operates simultaneously as a positional good whose value is partly determined by its relative scarcity and as a public good with broader social benefits. The shifting balance between these dimensions, with increasing emphasis on higher education's private returns, may alter how its value is experienced and evaluated by graduates.

The growing inequality in returns among college graduates further suggests a stratification of higher education itself, with different pathways offering dramatically different prospects for economic security and well-being. This stratification aligns with Armstrong and Hamilton's (2013) description of divergent pathways through higher education that reproduce rather than reduce social inequality. Such stratification may explain why aggregate measures of financial satisfaction remain relatively stable while happiness declines—the averages mask growing divergence between those who navigate the new educational landscape successfully and those who do not.

Implications for Theory, Practice, and Policy

These findings have important implications for theoretical understandings of education's role in society. They suggest the need for more integrated theoretical approaches that address both the economic and non-economic dimensions of educational value, recognize the growing stratification within higher education systems, and account for the psychological impact of changing expectations and realities. Future theoretical work should also consider how education's value is shaped by broader societal contexts, including economic inequality, technological change, and shifting cultural norms about work and success.

For educational institutions, these findings highlight the importance of aligning educational offerings with both labor market realities and students' broader life aspirations. The growing gap between financial satisfaction and happiness suggests that preparing students for economic success alone may be insufficient for promoting overall well-being. Institutions may need to reconsider how they frame the value proposition of higher education, providing more realistic expectations about potential outcomes while also emphasizing non-economic dimensions of educational value.

For policymakers, these findings underscore the need for approaches that address both the accessibility and quality of higher education. The strong public support for increased education spending, coupled with growing inequality in outcomes, suggests potential for policies that expand access while also ensuring that educational credentials translate into meaningful economic and social opportunities. This might include greater public investment in higher education to reduce student debt burdens, stronger connections between education and

employment systems, and increased attention to the quality and relevance of educational experiences across institutional types.

Limitations and Future Research

Several limitations of this study should be acknowledged. First, while the GSS provides consistent measures across time periods, it offers limited detail on specific aspects of educational experiences and outcomes. Future research could complement these findings with more in-depth data on educational pathways, occupational trajectories, and life course transitions. Second, the cross-sectional nature of the data limits our ability to distinguish age, period, and cohort effects, making it difficult to determine whether observed changes reflect generational differences or broader societal shifts affecting all age groups. Longitudinal studies that follow individuals over time would provide valuable complementary insights.

Future research should also explore the mechanisms underlying the observed patterns, particularly the dramatic decline in happiness among recent college graduates. Qualitative studies examining how graduates make sense of their educational investments and experiences could provide deeper understanding of the subjective dimensions of higher education's value. Additionally, comparative research examining similar trends across different national contexts could help identify how institutional arrangements and policy contexts shape the relationship between education and well-being.

In conclusion, this study reveals important shifts in perceptions of higher education's value over the past four decades, suggesting a complex transformation in how educational credentials translate into economic security and subjective well-being. The findings highlight the multidimensional nature of education's value and the need to consider both monetary and non-monetary outcomes when assessing its changing role in society. As higher education continues to evolve in response to technological, economic, and social changes, understanding these dimensions of value will be essential for developing approaches that better serve the needs of students, institutions, and society as a whole.

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Appendix

Demographic Characteristics and Outcome Variables for Full Sample and College-Educated Subsample

Variable	Full Sample (N = 34,388)	College-Educated Subsample (N = 7,950)
Time Period		
Pre-1980	23.31%	14.63%
1980s	22.79%	16.91%
1990s	16.44%	16.84%
2000s	13.03%	14.98%
2010s	15.26%	20.00%
2020s	9.17%	16.64%
Educational Attainment		
Less than HS	20.53%	-
High school	50.67%	-
Associate	5.68%	-
Bachelor's	15.20%	65.75%
Graduate	7.92%	34.25%
Age Group		
Under 30	21.40%	16.52%
30-39	21.70%	25.51%
40-49	17.59%	20.67%
50-59	15.21%	15.62%
60 or older	24.10%	21.69%
Sex		
Male	45.10%	49.36%
Female	54.90%	50.64%
Race		
White	81.66%	85.81%
Black	13.36%	8.11%
Other	4.98%	6.08%
Marital Status		
Married	54.40%	58.39%
Widowed	8.56%	4.65%
Divorced	12.70%	11.84%
Separated	3.37%	2.08%
Never married	20.97%	23.04%
Region		
New England	4.77%	6.78%
Middle Atlantic	13.88%	15.06%
East North Central	18.99%	16.54%
West North Central	7.39%	7.28%
South Atlantic	19.25%	18.48%
East South Atlantic	6.47%	5.12%
West South Central	9.10%	7.75%
Mountain	6.50%	7.42%
Pacific	13.66%	15.57%
Support for Education Spending		
Too much	6.86%	6.87%
About right	27.49%	21.18%
Too little	65.65%	71.95%
Financial Satisfaction		
Not at all satisfied	26.98%	17.09%
More or less	43.94%	43.69%
Pretty well satisfied	29.08%	39.22%
Happiness		
Not too happy	13.13%	9.30%
Pretty happy	56.16%	55.71%
Very happy	30.71%	34.99%
Real Income		

Mean	$32,208	$50,440
Standard Deviation	$29,340	$37,135
Outcome Variables (Mean Scores)		
Education Spending Support (1-3)	2.59	2.65
Financial Satisfaction (1-3)	2.02	2.22
Happiness (1-3)	2.18	2.26

Note: Education Spending Support, Financial Satisfaction, and Happiness are coded on a 1-3 scale, with higher values indicating more support for education spending, greater financial satisfaction, and greater happiness, respectively.

Table: Continuous Variables for Full Sample and College-Educated Subsample

Variable	Full Sample (N = 34,388)	College-Educated Subsample (N = 7,950)
Real Income		
Mean	$32,208	$50,440
Standard Deviation	$29,340	$37,135
Minimum	$205	$205
Maximum	$162,607	$162,607
Log Real Income		
Mean	9.96	10.53
Standard Deviation	1.02	0.88
Minimum	5.33	5.33
Maximum	12.00	12.00
Outcome Variables (Mean Scores)		
Education Spending Support (1-3)	2.59	2.65
Financial Satisfaction (1-3)	2.02	2.22
Happiness (1-3)	2.18	2.26

Note: Education Spending Support, Financial Satisfaction, and Happiness are coded on a 1-3 scale, with higher values indicating more support for education spending, greater financial satisfaction, and greater happiness, respectively