



Navigating Risky Higher Education Investments: Implications for Practitioners and Consumers

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This exploratory study examines academic and labor market risks associated with investments in higher education by synthesizing the literature regarding risky higher education choices and extending the research using the 2014 National Student Financial Wellness Study, a national sample of college students. Three phenomena are analyzed to support the notion that individuals may be making suboptimal human capital investment decisions: (a) cost–benefit errors; (b) unclear educational goals; and (c) increasing time-to-degree. The study examines which students are more likely to report that the cost of college did not influence their choice, that tuition is not a good investment, or that they expect to take additional time to complete their degree. Opportunities for practitioners to help clients navigate higher education investment decisions and opportunities for future research are discussed.

Keywords: higher education, human capital, risk, student loans

Higher education investments represent a significant financial commitment for U.S. households. In the 2017–2018 academic year, average annual tuition and fees varied between \$9,970 for 4-year public institutions and \$34,740 for private institutions (College Board, 2017). Considering that U.S. households had a median net worth of \$97,300 in 2016 (Bricker et al., 2017), the financial resources needed to pay for a 4-year degree are substantial. Although the financial impact of investing in higher education is obvious, education planning often receives relatively little attention in personal finance education and subsequently, in professional practice. Education planning typically focuses on paying for college. While there are resources to help consumers understand student financial aid and student loan repayment options (e.g., Federal Student Aid, n.d.; Johnston & Roten, 2015), other aspects of higher education decisions receive little attention. Insufficient consideration of this important area can lead to advice that may not be in the best interest of the client and may have a lasting negative impact on their financial well-being.

In particular, the risky nature of higher education investments is a critical, but overlooked characteristic of higher education decisions (Benson et al., 2015; Heckman & Montalto, 2018). Research has clearly demonstrated that people struggle to make optimal decisions when faced with risk and uncertainty (for a review, see Ariely, 2008; Kahneman, 2011). However, little attention has been paid to understanding the risks and the ways consumers may be making errors in higher education investment decisions. The purpose of this article is to introduce professional practitioners (e.g., financial planners, counselors, coaches, extension specialists) to the risky human capital literature and to discuss the implications for the practice of financial counseling and planning.

This article begins with a review of human capital theory and a summary of the risky aspects of human capital investments, with specific reference to higher education decisions. The primary contributions of this article are to (a) clearly summarize the most relevant risks associated with investments in higher education; (b) synthesize and contribute to the research literature evidence that consumers may be

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making suboptimal decisions by analyzing a national college student dataset; and (c) present ways in which financial practitioners can improve client choices in higher education investment decisions.

Literature Review

Risky Human Capital Investments

Human capital theory (Becker, 1962, 1964) has been a dominant theoretical framework in economic studies of higher education choices. Human capital represents an individual's productivity capacity (e.g., talent, abilities, health) that determines wages in the labor market. Individuals can choose to invest in their productivity in a variety of ways, including spending time in formal education. The theory posits that individuals should invest in their human capital until the marginal costs (e.g., tuition and fees, foregone earnings) equal the marginal benefits (e.g., the marginal increase in lifetime earnings). Risk is present in “. . . any situation where some events are not known with certainty” (Chavas, 2004, p. 5) and is clearly present in optimal education choices because these decisions necessarily involve estimates of costs and benefits. Although it has been widely understood in economics that human capital choices involve risk (e.g., Levhari & Weiss, 1974), the topic has received little discussion in financial planning. Based on human capital theory and the literature on the topic of higher education choices, we have organized the most relevant risks into two categories—academic risks and labor market risks. We focus especially on risks that influence either the costs or the benefits of higher education as human capital theory suggests these considerations are central to the decision to invest in higher education.

Academic Risks. In terms of academics, there are several event outcomes that are unknown at the time students choose whether to begin pursuing a college degree. Completion risk is the possibility that a student may fail to persist to graduation. Nationally, approximately 41% of full-time students who began seeking a bachelor degree in a 4-year school in 2009, had not completed the degree within 6 years (National Center for Education Statistics, 2017). There is significant variability in graduation rates based on the type of institution. Graduation rates are highest at the most selective institutions, with a 6-year graduation rate of 88% at institutions with acceptance rates less than 25%. The rate at 4-year institutions with open admissions is significantly

lower at 32%. Socioeconomic status is also important. Only 15% of students in the lowest quartile of socioeconomic status completed a degree, compared to 60% in the top quartile (U.S. Department of Education, 2015b). Researchers have suggested that individuals consider the likelihood of completion when considering whether college is worth the cost (Oreopoulos & Petronijevic, 2013).

When choosing to invest in higher education, students do not know with certainty the length of time that will be required to finish the degree. This can be referred to as time-to-degree risk and may come with a substantial price tag (Complete College America, 2011). Not only does prolonged time in college increase the direct costs of education but it also increases the opportunity costs of college (e.g., lost labor market wages). Students enrolled continuously full-time (Jones, 2015), and those enrolled at more selective universities (Bound et al., 2012), have the shortest time-to-degree. Students less prepared for university who need remedial educational programs are more likely to take longer to graduate. Other factors include rising college costs, the need for employment, and reduced institutional resources available for students (Bound et al., 2012). Finally, many students change majors during their college career, which could have a significant effect on postgraduation earnings since earnings vary greatly between academic majors (Carnevale et al., 2013). Therefore, academic major risk can refer to the risk of graduating with a different degree than initially expected. Switching majors or waiting too long to choose a major can also increase time-to-degree (Yue & Fu, 2017). In sum, graduation risk, time-to-degree risk, and academic major risk can have a substantial influence on higher education outcomes.

Labor Market Risks. The pecuniary return on the investment in higher education is dependent upon the macroeconomic conditions at graduation. Labor market supply and demand can greatly influence postgraduation earnings (Kahn, 2010; Kodde, 1986). In fact, Kahn (2010) found that graduating during relatively worse economic conditions leads to large, negative wage effects. Note that while the timing of graduation can be influenced to some extent, macroeconomic conditions are completely beyond the control of the individual decision maker. Although entry wages can be estimated by field and experience based on average wages,

individuals do not know with certainty their future earnings (Hartog & Diaz-Serrano, 2007). There is also unemployment risk (Fossen & Glocker, 2011)—the likelihood of being unemployed following graduation varies not only with the macroeconomic environment but also with choice of major (Carnevale et al., 2013). The past decade has been tumultuous for young college graduates with the unemployment rate peaking at 7.1% in 2011 before declining to 3.7% in 2018 (New York Federal Reserve, 2018).

Evidence of Suboptimal Higher Education Decisions

Given the variety of risks involved in higher education choices and the robust research literature that shows that decision makers struggle with risk, it is likely that individuals are making suboptimal higher education choices. In this section, we summarize several key themes that indicate that consumers struggle to make optimal educational choices.

Financial Stress. Financial stress is ubiquitous on college campuses (Heckman et al., 2014; Montalto et al., 2016; Trombitas, 2012). About 71% of respondents in the National Student Financial Wellness Study (NSFWS) agreed or strongly agreed that he or she felt stressed about personal finances in general (Montalto et al., 2016; Office of Student Life, n.d.). Furthermore, about 50% of students report worrying about being able to pay monthly expenses and about 60% worry about being able to pay for college expenses (Office of Student Life, n.d.). Students in the NSFWS were also asked to indicate agreement or disagreement with the following statement: “After graduation, I will be able to pay off any debt acquired while I was a student.” About 22% of those who planned to have student loan debt reported that they disagreed or strongly disagreed, indicating that there are significant concerns among college students regarding their ability to repay student loans (Office of Student Life, n.d.). In a qualitative study, Johnson et al. (2016) find that among student loan borrowers, there is a lot of concern about ability to repay and the impact that repayment will have on future choices. The widespread occurrence of financial stress among college students and the inability to repay loans may be the result of decision-making problems.

Cost–Benefit Errors. According to human capital theory, the key reason individuals invest in human capital is to earn

a higher wage in the labor market. In the typical model, individuals maximize utility by investing in human capital until the marginal benefits and marginal costs are equal. Therefore, the costs and benefits of higher education are very important determinants of higher education choices; yet several studies show that there is systematic over- and underestimation regarding costs and future earnings (Avery & Kane, 2004; Grodsky & Jones, 2007; Hira et al., 2000) and a lot of uncertainty about student loan repayment (Johnson et al., 2016). Inaccurate estimations about either the costs or the benefits would lead to systemic under- or overinvesting in the population. Furthermore, a lack of consideration of the costs and benefits would be an error from the perspective of human capital theory.

Unclear Educational Goals. What is the purpose of higher education? The answer to this important question may not be as straightforward as some might assume. The primary justification for public subsidies of higher education (through loans, grants, tax breaks, etc.) is that the public benefits from a more educated and productive workforce (Damon & Glewwe, 2011). An immense body of literature on the returns to education suggests that students experience between a 7% and 15% earnings premium for each year of higher education (see Abel & Deitz, 2014; Oreopoulos & Petronijevic, 2013) and that there are a variety of nonpecuniary benefits to education as well (see Oreopoulos & Salvanes, 2011). Gainful employment legislation clearly posits that higher education should lead to employment (at least in the case of for-profit education institutions) (U.S. Department of Education, 2015a). However, several recent studies show that the consumption value of higher education is an important consideration (i.e., consumers are willing and able to pay for the “college experience”) (Huntington-Klein, 2015; Jacob et al., 2013). Discrepancies in the purpose of higher education between students, parents, educators, and policymakers have important public and private implications.

Increasing Time-to-Degree. The literature also reveals that students are taking longer to graduate and earning more credits than necessary (Complete College America, 2011). Nationally, among students beginning 4-year degrees in 2009, only 39.8% finished within 4 years; 59.4% finished within 6 years (National Center for Education Statistics,

2016). Bachelor degree recipients on average are earning about 16.5 credit hours more than what is required for their degree (Complete College America, 2011). Aside from paying more in total tuition for a degree, the opportunity cost of staying in school longer can be substantial in terms of foregone earnings.

Although this review of literature is not exhaustive on the topic of consumer higher education choices, it is a representative summary of the most relevant themes from a decision-making standpoint. Besides clearly summarizing the key risks in higher education choices, this review focused on four areas of literature (i.e., financial stress, cost-benefit errors, unclear education goals, and increasing time-to-degree) that we posit may be interpreted as evidence of suboptimal decision-making. We extend the literature by exploring novel data to understand cost-benefit errors, unclear education goals, and increasing time-to-degree among college students.

Method

Based on the summary of current research that identified four phenomena that are indicative of suboptimal higher education decision, three were explored with the use of multivariate probit regression analyses: (a) cost-benefit errors, (b) unclear educational goals, and (c) increasing time-to-degree and excess credits. These three phenomena were analyzed because there was an opportunity to further the literature's understanding of the student characteristics associated with these phenomena. We chose not to analyze financial stress because this topic has sufficient evidence in the literature (e.g., see Heckman et al., 2014; Montalto et al., 2016).

Data

The 2014 NSFWS is a national dataset of 51 4-year public, 4-year private, and 2-year public institutions in the United States. Surveys were sent to random samples of undergraduate students from each of the participating institutions. The project received Institutional Review Board approval at The Ohio State University. The 11.5% response rate resulted in a sample of 18,795 students. From the NSFWS, we selected complete cases only based on respondents who have valid responses to the independent variables, which resulted in an initial sample size of 12,502. The subsequent regression analyses also eliminated cases where the dependent variable was missing, resulting in slightly different sample sizes between regressions. The sample was not weighted.

The descriptive statistics of the NSFWS are presented in Table 1. The majority of the students in the sample are female (68%) and White (74%) and attend 4-year public institutions (81%). About 64% of the sample has student loans and about 44% are first-generation students. Approximately 30% said that cost did not influence their college choice, 21% thought tuition was not a good investment, and 28% said they had experienced an undesirable delay. While 64% of the sample has loans, the percentage jumps to 71% of those who say tuition is not a good investment. Fewer students paying private school tuition or out-of-state tuition report experiencing an undesirable delay. For other sample characteristics, please refer to Table 1.

Variables

Dependent Variables. The three key dependent variables are *cost did not influence choice (COST)*, *tuition is not a good investment (INVESTMENT)*, and *undesirable delay (DELAY)*. *COST* was measured using the following question "Did the cost of college/ university influence your decision to attend your current institution for your current degree?" Response options were yes or no and students who responded "yes" were coded as 1. *INVESTMENT* was measured with the following statement "I think that the cost of college or university is a good investment for my financial future." Students selecting "strongly agree" or "agree" were coded as 1. Students selected "disagree" or "strongly disagree" were coded as 0. The variable *DELAY* was constructed using two questions: "Please rate how important each of the following are to you during the completion of your current degree: Graduate on time, or as soon as possible." Students who responded "not at all important" or "somewhat important" were coded as 0; students who responded "moderately important," or "very important" were coded as 1. Next, a calculated variable was used that coded students as 1 if the time-to-complete degree exceeds the type of degree they are pursuing; 0 if otherwise. *DELAY* was coded as 1 if students were coded 1 for preferring to graduate on time and 1 for taking extra time (indicating it is important to them to finish on time, but that they are taking longer).

Independent Variables. Several independent variables were included in the models as control variables. Demographic variables include gender, race/ethnicity (White, Black, Hispanic, Asian, other race/ethnicity) and whether or

TABLE 1. National Student Financial Wellness Study Descriptive Statistics

	Complete Case Sample (<i>n</i> = 12,502) Proportion ^a (%)	Cost Did Not Influence	Tuition Not a Good Investment	Undesirable Delay
Dependent variables				
Cost did not influence college choice	29.54	100.00	28.36	30.69
Tuition is not good investment	20.85	20.01	100.00	24.62
Undesirable delay	28.24	29.36	33.42	100.00
Independent variables				
Female	68.19	65.09	69.06	66.01
Nontraditional age	28.73	36.29	26.20	39.33
White	74.42	75.53	72.10	76.16
Black	4.54	4.66	5.66	4.77
Hispanic	5.14	5.37	4.93	5.37
Asian	5.14	4.61	5.05	3.30
Other race/ethnicity	10.76	9.84	12.25	10.40
Four-year public, in-state	71.29	71.57	71.71	73.43
Four-year public, out-of-state	10.77	11.46	12.37	8.13
Four-year private	9.14	11.57	8.05	4.04
Two year	8.21	4.44	7.48	13.95
First generation	44.10	47.29	46.71	51.18
Financial dependents	20.09	24.34	16.80	27.22
Tuition paid by parents	18.57	18.24	16.38	13.55
Has student loans	64.47	67.99	71.45	70.93
High GPA	76.48	72.20	67.75	67.75
Job market emphasis ^b				
Very important	75.96	72.41	69.87	77.38
Moderately important	17.64	19.46	20.31	17.25
Somewhat important	4.58	5.75	7.09	3.78
Not important	1.35	1.92	2.2	1.34

Source: Sample restricted to complete cases in the 2014 National Student Financial Wellness Study (NSFWS).

^aThe sample size fluctuates slightly (by less than 20 individuals) due to missing outcome variables. The exact sample sizes are given in the respective multivariate models.

^bThe job market emphasis variable is described in the method to provide context but is not included in the regression models.

not the student was nontraditional age (coded as 1 if older than 23). Variables to control for type of institution are 4-year public (in-state), 4-year public (out-of-state), 4-year private, or 2-year institution. Given that about 10% of the sample was classified as 4-year public (out-of-state), the two 4-year public categories were collapsed so the institution categories were 4-year public, 4-year private, and 2-year. A variable identifying the student as a first-generation student was coded as 1 if neither parent completed a bachelor's degree or higher. The variable for financial dependents was

coded as one if the student reported being financial responsible for a child, spouse, or family member. The variable to indicate whether tuition was paid for by parents was coded using the following question ". . . please list the PRIMARY source of funding for each expense during the current academic term: tuition." If students selected "parents" the variable was coded as 1. Students were asked "Do you now have or have you ever had a student loan to pay for your college?" The variable was coded as 1 if they responded yes. Lastly, students self-reported grade point average (GPA). Based on

the distribution of responses, the response categories were collapsed into a binary indicator which is coded 1 for GPAs 3.0 and higher.

Results and Discussion

Cost–Benefit Errors

Human capital theory highlights the importance of considering the expected costs and benefits. The dependent variable in this analysis is whether the cost of college influenced their choice (*COST*). About 30% of students in the NSFWS report that the cost of college did not influence their decision. This may suggest that some students may not make the college decision based on pecuniary costs and benefits, or perhaps that the student is not responsible for paying and is therefore not overly concerned with the costs.

A binary probit regression model was used to examine which students were most likely to report that the cost of college did not influence their decision to attend their current college for their current degree (referred to as college choice hereafter). Results are considered statistically significant if $p < .05$ unless otherwise noted. As shown in Table 2, results from the probit indicate that women are about 3% points less likely than men to report that the cost of college did not influence their college choice. Nontraditional students, defined as older than 23 years old, are about 11% points more likely to report that the cost did not influence their college choice. There were not significant differences between racial/ethnic groups when comparing White students to Black, Hispanic, or Asian students; however, students who report some other race/ethnicity are about 3% points less likely than White students to report that the cost of college did not influence their college choice.

Compared to students at 4-year public institutions, students attending 2-year institutions are about 22% points less likely to report that the cost of college did not influence their decision. Students attending 4-year private institutions are about 7% points more likely than students attending 4-year public institutions to report that the cost of college did not influence their decision. Being a first-generation student, having financial dependents, having parents pay tuition costs, and having student loans are all positively associated with the likelihood of reporting that the cost of college did influence college choice compared to otherwise similar students. Lastly, students with high GPAs are about 7% points less

likely than students with low GPAs to say that the cost did not influence their college choice.

The marginal effect of being a nontraditional student is somewhat surprising at first glance—these students are generally expected to be more cost-conscious than traditional-age college students given their life stage. However, nontraditional students may have other, more important constraints—for example, if they are working full-time they may be unable to relocate, which makes location more important than costs when deciding which school to attend. The differences between institution types show that the cost of college is much more important for students attending 2-year institutions compared to those attending 4-year public institutions. Students attending 4-year private institutions are more likely to report that the cost did not influence their choice compared to students attending 4-year public institutions. Students who are more cost-conscious seem to seek out lower cost education choices, while students attending more expensive institutions are more likely to disregard the cost as they make college choices.

Unclear Educational Goals

According to human capital theory, the primary justification for higher education is that individuals receive increased wages due to their increased productivity (i.e., human capital). Although opinions on whether college is worth the cost could be expected to vary widely among the general population, opinions should be more homogenous among college students. If students are making college choices in a way that is consistent with human capital theory, college students could be expected to agree that college is worth the cost—if an individual’s opinion was otherwise, it would be rational to drop out (i.e., the marginal costs outweigh the marginal benefits and investment should cease). The NSFWS asks students directly about their perception of whether college is worth the cost. A binary probit regression model was used to examine which students think that “tuition is a good investment for their financial future” (*INVESTMENT*).

Additionally, the NSFWS asks students to rate the importance of being prepared for the job market while completing their current degree. Respondents are asked to rate the importance of being prepared for the job market. Students who responded “Not at all important” were coded as 0, students who responded “somewhat important,” “moderately important,” or “very important” were coded as 1. Although

TABLE 2. Probit Regression Results: Cost Did Not Influence College Choice

<i>(n = 12,492)</i>	Estimate	Standard Error	<i>p</i> -value	Average Marginal Effect
Constant	-0.517	0.040	<.001	-
Sex (male)				
Female	-0.084	0.026	.001	-0.028
Nontraditional age	0.335	0.033	<.001	0.112
Race/ethnicity (White)				
Black	-0.030	0.059	.611	-0.010
Hispanic	-0.017	0.055	.752	-0.006
Asian	-0.075	0.056	.179	-0.025
Other race/ethnicity	-0.097	0.040	.014	-0.033
Institution type (4-year public)				
Two year	-0.654	0.051	<.001	-0.219
Four-year private	0.214	0.041	<.001	0.071
First generation	0.093	0.026	<.001	0.031
Financial dependents	0.079	0.036	.028	0.026
Tuition paid by parents	0.125	0.035	<.001	0.042
Has student loans	0.069	0.028	.014	0.023
High GPA	-0.197	0.028	<.001	-0.066

Source: Sample restricted to complete cases in the 2014 National Student Financial Wellness Study (NSFWS). Reference groups in parentheses.

we do not use this question in our multivariate models, we think these questions yield useful insights into how students think about college investments and thus provide helpful context.

Although most of the students in the NSFWS felt that being prepared for the job market was very important (76%) or moderately important (17%), not all of them are convinced that college is worth the cost (see Table 1). About 21% of the college students in the NSFWS indicated that they do not think the cost of tuition is worth the investment. In fact, about 90% of the students who indicated that the cost of college is not worth the investment, affirm that being prepared for the job market is important or very important. This may suggest that most students seem to think that higher education is primarily about job preparation, but many feel that they are not getting their money's worth. If individuals made these decisions purely based on human capital theory, students who place a high priority on being prepared for the job market, but think that cost is not worth the investment, should not be in college. Discrepancies in the purpose

of higher education may partially explain these findings—not all college majors are strictly vocational preparation but most students seem to expect that. Students may also remain in college despite thinking it is a bad investment if they are attending to enjoy the experience or for some other purpose (e.g., to satisfy their parents).

As shown in Table 3, results from the probit yield insights about which students are most likely to feel that tuition is not a good investment. Nontraditional students are about 2% points less likely to say tuition is not a good investment. There are also significant differences between races/ethnicities—compared to White students, Black students ($p = .057$) and other racial/ethnic identities are about 3% points, more likely to report that tuition is not a good investment. Compared to students attending 4-year public institutions, students attending 4-year private institutions are about 3% points less likely to report that tuition is not worth the cost. First-generation students are about 2% points ($p = .052$) more likely to report that tuition is not worth the investment compared to otherwise similar students. Those with financial dependents are about 5% points less likely

than those without financial dependents to report that tuition is not a good investment. Students with student loans are about 7% points more likely to report that tuition is not a good investment compared to otherwise similar students without student loans. Lastly, students with high GPAs are about 9% points less likely to report that tuition is not a good investment compared to those with low GPAs.

These results regarding the racial/ethnic differences are unsurprising given that the benefits of higher education may not be understood or fully extended to these communities. Information from the Center on Education and the Workforce suggests the latter. A key finding from their report was that Blacks and Latinos earn almost a million dollars less than their White and Asian counterparts over their lifetime (Carnevale et al., 2011). Students may perceive this earnings gap and feel that college does little to bridge this gap.

Increasing Time-to-Degree

Human capital theory also highlights the importance of the amount of time spent earning a degree. The length of time spent in college has a direct bearing on the direct and indirect costs of college and, should therefore be considered when making college choices. The NSFWS asks students how important they felt it was to graduate as soon as possible or on-time and whether they plan to take extra time to complete their current degree. Although nearly 85% of respondents felt that graduating early or on time was very or moderately important, approximately 39% of respondents in the NSFWS indicated that they plan to take extra time to complete their degree. This may indicate that the extra time in college is unintentional or undesirable.

Two types of analyses were conducted to investigate this further. First, the reasons students provided for taking extra time to complete their degree were compiled from the NSFWS and summarized in Table 4. Second, the variable *DELAY* was used to indicate a discrepancy between desiring to finish on time (i.e., reporting graduating on time to be important or very important), yet expecting to take extra time to earn their degree. Using this as the dependent variable, a binary probit regression model was used to analyze the characteristics associated with a discrepancy between wanting and expecting to finish on time. Approximately 28% of the sample is categorized as having an undesirable delay (i.e., inconsistent desires and expectations regarding on-time graduation).

Results from the descriptive analysis indicates that many of the reasons students cite for taking more than 4 years are likely unexpected at the time students decided to pursue higher education. For example, 21% are going to take longer because they changed their major while another 20% reduce their intended class load to work more. The next highest response was that they changed institutions. See Table 4 for more detail.

The results from the probit on undesirable delays are presented in Table 5. Females are about 2% points less likely than males to report undesirable delays. Nontraditional students are about 7% points more likely than traditional age students to report undesirable delays. Compared to White students, Black students and Asian students are about 6% points and about 8% points, respectively, less likely to report undesirable delays. Compared to students attending 4-year public institutions, students attending 2-year institutions are about 12% points more likely to report undesirable delays and students attending 4-year private institutions are about 19% points less likely to report undesirable delays. First-generation students and students with financial dependents are more likely to report undesirable delays (by a magnitude of about 3% points) compared to otherwise similar students. Students whose parents pay tuition are about 2% points less likely to report undesirable delays compared to students whose parents do not pay tuition. Students with student loans are about 4% points more likely to report undesirable delays compared to otherwise similar students. Lastly, students with high GPA are about 11% points less likely to report undesirable delays.

The large differences between students attending different institution types is noteworthy. These populations are different in many aspects so further investigation is needed. Older students and those with dependents likely have many other responsibilities that may interfere with their goal of completing a degree in a timely fashion. If students are paying tuition through student loans, they are more likely to delay; however, if parents are paying, they are less likely to delay. This might be because students with loans are focusing on the accumulation of debt and possibly working more hours so they can minimize their borrowing. Students with financial support from their parents may have more time to focus on their studies. Lastly, as indicated in Table 4 and the effect of GPA in the probit regression, there are academic reasons that may prevent a student from timely progress.

TABLE 3. Probit Regression Results: Tuition Is Not a Good Investment

<i>(n = 12,447)</i>	Estimate	Standard Error	<i>p</i> -value	Average Marginal Effect
Constant	-0.709	0.043	<.001	-
Sex (male)				
Female	0.023	0.028	.403	0.007
Nontraditional age	-0.077	0.035	.028	-0.022
Race/ethnicity (White)				
Black	0.115	0.060	.057	0.032
Hispanic	-0.077	0.060	.198	-0.022
Asian	0.053	0.059	.374	0.015
Other race/ethnicity	0.103	0.041	.011	0.029
Institution type (4-year public)				
Two year	-0.063	0.050	.206	-0.018
Four-year private	-0.099	0.046	.031	-0.028
First generation	0.053	0.027	.052	0.015
Financial dependents	-0.153	0.039	<.001	-0.043
Tuition paid by parents	-0.032	0.037	.399	-0.009
Has student loans	0.205	0.030	<.001	0.058
High GPA	-0.302	0.029	<.001	-0.085

Source: Sample restricted to complete cases in the 2014 National Student Financial Wellness Study (NSFWS).

Summary of Results

The findings provide evidence that consumers face challenges when making higher education choices, especially in these areas: cost–benefit errors, unclear educational goals, and time-to-degree. There are a few parallels between students who are cost-conscious and those who experienced undesirable delays. Students choosing a 2-year institution are more likely to say that cost influenced their choice and also more likely to experience an undesirable delay. Women are more concerned about the cost of college and less likely to experience an undesirable delay. Nontraditional students are less concerned about costs and also more likely to experience an undesirable delay.

Students with student loans are less likely to say that cost was a concern when deciding where to attend, but also more likely to say tuition was not worth the investment and more likely to experience an unintended delay. This could be an indicator that student loans allow students to attend college without the immediate worry of affordability, but then question whether such a hefty investment was worthwhile. Black students and other racial/ethnic identities are more likely to report that tuition is not a good investment.

Limitations and Future Research

Readers should note several limitations to the current study. The research literature regarding higher education choices spans several disciplines. We have highlighted the phenomena that we think are most prevalent and important but there may be other aspects about these decisions that practitioners need to know. Regarding the NSFWS data, there may be selection effects due to the sampling design which would affect the generalizability of results. Institutions voluntarily participated in the NSFWS which may induce a selection effect if these institutions were systematically different than the population of U.S. higher education institutions. Additionally, students were randomly sampled but voluntarily completed the surveys so respondents may be systematically different than students who either did not begin the survey or did not complete the survey. Despite these limitations, this analysis provides a starting point for practitioners and researchers to continue to work to improve consumer higher education decision-making. We suggest two avenues for future research: (a) consumer perceptions and decision processes and (b) decision-making aids and their effects. There is little guidance available regarding how consumers perceive and process the risk involved in higher education

TABLE 4. Reasons for Expecting Extra Time to Complete Degree

Primary Reason for Expecting Extra Time to Complete Degree	Students Who Expect Extra Time (<i>n</i> = 4,957)	Important to Finish on Time? NO (<i>n</i> = 1,283)	Important to Finish on Time? YES (<i>n</i> = 674)
	Sample Proportion (%)	Row Percentage (%)	
Changed my major/declared a major late	21.00	24.21	75.79
Had to take fewer classes in order to work more	19.91	30.60	69.40
Changed institutions	10.19	22.97	77.03
Wanted to earn multiple majors, a minor, or a certificate	9.97	29.15	70.85
My program requires more than the average completion time	9.44	19.02	80.98
Had to drop or retake courses because of academic trouble	6.96	23.48	76.52
Could not afford to pay tuition	4.03	26.50	73.50
Family responsibilities	3.29	31.90	68.10
Could not get into the courses I needed	2.62	19.23	80.77
Was delayed getting accepted to my college/major	2.60	16.28	83.72
Participated in an internship, co-op, or other work experience	2.10	24.04	75.96
Illness	1.88	32.26	67.74
Nonuniversity sponsored activities or travel (e.g., mission trip)	1.73	22.09	77.91
Wanted to take advantage of cocurricular opportunities (e.g., study abroad, student organizations)	1.67	38.55	61.45
Dropped out or took a break from school	0.40	35.00	65.00
University, cocurricular, or military activities (e.g., athletics, ROTC)	0.36	22.22	77.78
Other	1.84	34.07	65.93

Note. Restricted to respondents in the 2014 National Student Financial Wellness Study who indicated that they expected to take extra time to complete their current degree and had valid responses on the importance of finishing on time (*n* = 4,957).

choices. Qualitative or mixed method studies are recommended to more fully explore this decision process with the goal of understanding of the information that is utilized in education choices, the extent to which the risk involved is perceived and understood, and the timing of these decisions. The development and testing of decision-making aids is also recommended. There may be more and less effective ways to assist consumers through higher education decisions, so developing and testing best practices is very important.

Implications for Practitioners

The findings from this study suggest many opportunities for improvement in the higher education decision-making process for both practitioners. This discussion focuses on opportunities for financial practitioners to help

improve consumer education decisions by providing guidance beyond funding strategies. The following suggestions for decision aids can be helpful for students, parents, and the financial practitioner assisting them. Although we discuss the implications for the general financial practitioner, it is worth emphasizing that our suggestions may need to be modified depending on the specific type of financial practitioner under consideration. For example, extension agents, financial planners, and financial counselors all work with different audiences for different purposes—adjustments should be made accordingly.

Financial Stress and Student Loans

Finances can be a stressful part of the college experience. Working with parents and their students to develop a financial plan that outlines how college will be paid for and who

TABLE 5. Probit Regression Results: Undesirable Delay

<i>(n = 12,460)</i>	Estimate	Standard Error	<i>p</i> -value	Average Marginal Effect
Constant	-0.454	0.041	<.001	-
Sex (male)				
Female	-0.075	0.026	.004	-0.024
Nontraditional age (age > 23)	0.232	0.033	.000	0.074
Race/ethnicity (White)				
Black	-0.188	0.060	.002	-0.060
Hispanic	-0.038	0.056	.498	-0.012
Asian	-0.260	0.061	<.001	-0.083
Other race/ethnicity	-0.069	0.040	.088	-0.022
Institution type (4-year public)				
Two year	0.370	0.044	<.001	0.118
Four-year private	-0.580	0.051	<.001	-0.185
First generation	0.106	0.026	<.001	0.034
Financial dependents	0.111	0.036	.002	0.035
Tuition paid by parents	-0.075	0.037	.042	-0.024
Has student loans	0.133	0.029	<.001	0.042
High GPA	-0.338	0.028	<.001	-0.108

Source: Sample restricted to complete cases in the 2014 National Student Financial Wellness Study (NSFWS).

is responsible for which expenses, can eliminate some of the stress. Strategies should be developed to manage cash flow on a limited income as well as to limit the amount of loans taken while in school. While practitioners can help students and families understand financial aid and loan repayment, there are important qualifications to keep in mind. Our findings indicate that those with student loans are less concerned with cost, more likely to think college wasn't worth the cost, and more likely to experience an undesirable delay. This may be a classic example of discounting the future: students and families are less sensitive to cost when they do not immediately need to pay, but then regret their choices later. It is a risk students and parents should be aware of when deciding to use loans to finance higher education. Findings from this study also indicate that work can cause a delay, so it is important to understand this risk upfront. Is the student planning to work while in college? If so, is the purpose to help pay for school or to earn extra living money? Parents and students should discuss and decide how work and school should be prioritized in advance.

Cost–Benefit Errors

Practitioners can utilize multiple resources to help students and parents consider the expected costs and benefits in a realistic way. There are several publicly available resources that practitioners can utilize when discussing higher education decisions with their clients.

When assessing costs, a useful tool for practitioners and their clients is the College Scorecard sponsored by the U.S. Department of Education (<https://collegescorecard.ed.gov/>). This tool enables practitioners to find information on specific universities and to compare characteristics across universities. The information available includes size of the institution, graduation rate, salary after attending, average annual cost, percentage of students receiving federal loans, typical total debt for graduates and monthly payment, retention rates, average test scores, and student body statistics. Research shows that by comparing options, people are better able to make choices that are in their best interest long term (Milkman et al., 2008). Another helpful resource for practitioners is the

FAFSA (Free Application for Student Financial Aid) website (<https://fafsa.ed.gov/>). This provides information and filing deadlines and qualifications for federal student loans.

The Bureau of Labor Statistics publishes the Occupation Outlook Handbook (<https://www.bls.gov/ooh/>) to help consumers find information on an array of occupation aspects such as typical job responsibilities, education and training required, salary, and career outlook. The Center on Education and the Workforce published “The College Payoff” in 2011 that provides estimated lifetime earnings across careers and education levels. Providing this information, or encouraging clients to conduct the research, can bring forth important information that can help overcome some of the pitfalls associated with confirmation bias (ignoring information that runs contrary to what we want to believe) that so many exhibit when making complex decisions. Lastly, the finding that Black students and students who are non-Asian and non-Hispanic minorities think that the investment was not worth the cost should be part of the discussion. When working with families from these backgrounds, financial practitioners can be upfront about earning disparities and help these families make well-informed decisions.

Unclear Educational Goals

A simple application for practitioners is to help students and parents discuss this important question: *Why is higher education important to you?* In facilitating this discussion, the practitioner can ask a variety of questions that will help their clients and their clients’ children gain more clarity about why they want to pursue higher education. Having a clear understanding can lead them down the path of making appropriate choices. Approximately 90% of the students who indicated that the cost of college is not worth the investment affirm that being prepared for the job market is important or very important. If this is a high priority for clients and their child, then this finding should be of interest. Students and parents who put a higher weight on job preparation may need to be more discriminating in terms of costs and type of institution.

Some questions to ask include: What are the outcomes you hope to achieve? What values are important to your family? Do you consider this an investment and if so, what are you expecting from this investment? Higher wages? Better opportunities? Personal growth? What worries you about higher education? Do you have special circumstances that

should be considered? Facilitating these discussions with clients can provide insight and help the client identify their priorities.

Once parents and children are clear about their higher education goals, practitioners can walk them through some of the more complex aspects that they likely have not considered. For example, if getting the “college experience” is the primary goal, families may focus on minimizing costs while evaluating what aspects of college life are most important (e.g., athletics, living on campus, moving away). If career preparation is the primary goal, understanding the labor market demand for the career path becomes more important.

Increasing Time-to-Degree

Literature from the judgment and decision-making field highlight overconfidence and illusion of control as biases that can impede the decision-making process. These biases can lead students to overestimate their ability to graduate from college on schedule and to ignore factors they cannot foresee or control. Planners can encourage the development of an academic plan and stress that it can limit both excess credits and time-to-degree, which in turn can reduce the cost of higher education. The information provided in Table 4 above can be used when explaining this risk to parents and students. While many students believe none of those will apply to them, it brings up important factors to consider—like choosing the appropriate school and major, and taking courses that can either be transferred for credit or can be used toward multiple degree programs if the student should switch.

The traditional college student is defined as someone beginning college immediately following the completion of high school, generally starting college between ages 17 and 19. This could be viewed as the most common path, particularly for students with parents who have postsecondary degrees and those attending college-prep high schools. However, just because this is common does not necessarily mean that each student is ready for postsecondary education immediately after high school. In the first step, understanding objectives and priorities was emphasized. If these are unclear, perhaps waiting to attend college should be explored. The student can take time to explore different career interests before making such an expensive investment. There is also an issue of maturity to consider. Is the student mature

enough to handle the demands and rigor of a college environment? Some caution is warranted here. Findings from this study indicate that nontraditional students are more likely to experience undesirable delays. Students who wait too long to pursue their degree may have work and family obligations that make it difficult to complete a degree. This is a risk that should be weighted carefully if deciding to put off college until a later time.

In some cases, it might be a good idea to consider a 2-year program. Findings from this study indicate that students in 2-year programs are more likely to experience an undesired delay, so this choice is not without some risk. Although 2-year schools can save on tuition, students need to have clear understanding of how credits will transfer into their desired 4-year program or university. Choosing a 2-year program can give students some experience with higher education before enrolling in 4-year institutions where the demands will be much greater. Changing institutions can also result in an undesirable delay, so planning which 2-year schools and universities and determining transfer credits up-front is important.

Conclusion

Higher education choices have important implications for the U.S. economy and for individual families and consumers. The preceding discussion has highlighted theoretical and empirical evidence that consumers may be prone to errors in making human capital investments in formal education. For example, this study shows that students financing higher education with loans are less sensitive to cost, but more likely to think tuition was not a good investment and more likely to experience an undesirable delay. Students in 2-year programs are more sensitive to costs, but also more likely to experience an undesirable delay in finishing their degree. Female students are more sensitive to the cost of college and Black students and other non-Asian and non-Hispanic minority students are more likely to think higher education is not worth the investment. These findings highlight that higher education is not the same for everyone, nor are the financial rewards.

This study proposed various ways for practitioners to help improve the decision-making process. The risky features of higher education decisions are often overlooked, but having a clear understanding of the risk involved, highlights a number of opportunities for practitioners to promote informed

decision-making. Moving the education planning conversation beyond topics such as time, value of money, calculations, and 529 plans, should help practitioners improve the quality of the services they provide.

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Disclosure. The authors have no relevant financial interest or affiliations with any commercial interests related to the subjects discussed within this article.

Funding. The author(s) received no specific grant or financial support for the research, authorship, and/or publication of this article.