ACCESS TO GRADUATE SCHOOL:

A QUANTITATIVE STUDY OF INTEREST IN SELECTIVE MBA PROGRAMS

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ABSTRACT

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Alumni of selective graduate programs, such as those from top business and law schools, have high lifetime earnings and are overrepresented in influential positions in society. Given limitations in nationally representative datasets, many existing studies of graduate school enrollment in the literature focus only on the United States and collapse programs of different types, fields, and selectivity in their analyses. These limitations may mask important differences in access to programs across the graduate school landscape. Though business is one of the most common fields of graduate study, relatively little is known about pathways and barriers to enrolling in a Master of Business Administration (MBA), including why women, some racial/ethnic groups, and individuals from low socioeconomic backgrounds are underrepresented in top-ranked programs. Little also is known about pathways and barriers to access for international students. This study addressed this knowledge need by analyzing data from a survey of 4,082 bachelor's degree holders in five countries who were screened as potentially qualified applicants for a top-ranked MBA program but who had, as yet, not applied. Descriptive findings from this analysis showed interest in graduate business programs—and barriers to applying to a full-time MBA program—vary by gender, race/ethnicity, parent education, home country, the intersection of these characteristics, and other variables. In multivariate analyses, I found women and those whose parents have earned less than a bachelor's

degree reported lower levels of interest in a top-ranked, full-time MBA after controlling for other variables. Although African Americans and Hispanics were underrepresented among bachelor's degree holders, those who had a bachelor's degree were more likely than Whites with a bachelor's degree to report interest in a top-ranked, full-time MBA, net of other variables. Home country was an important mediating characteristic to understanding access with those outside the United States reporting higher levels of interest in a selective MBA program after controlling for other variables. These findings have practical implications for graduate school leaders aiming to enroll a more diverse set of students and for scholars examining the increasing importance of access to graduate school in understanding social stratification patterns.

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CHAPTER 1

INTRODUCTION

College graduates enjoy a significant lifetime earnings premium over those with a high school degree, and those with a graduate or professional degree earn an even larger premium (Carnevale et al., 2011). Over the past 30 years, the graduate school premium has increased at a faster rate than the undergraduate college wage premium (Pyne & Grodsky, 2020). In addition to elevated earnings, those with graduate and professional degrees enjoy higher rates of employment (Baum & Steele, 2018b; Ma et al., 2019), are overrepresented among the wealthiest Americans (Gross, 2019; Wai, 2013; Wai & Lincoln, 2016), are more likely to be civically engaged (Ma et al., 2019), and hold many of the nation's most influential positions as CEOs, politicians, journalists, and board members (Brint & Yoshikawa, 2017).

This representation is especially true for alumni of the most selective graduate schools—especially top law schools and business schools—which despite their relatively small enrollment produce a remarkable share of the wealthy and influential in the United States. For example, out of 400 billionaires listed by *Forbes*, 78 hold a business degree and 39 have a law degree; the five most common degree-granting institutions are Harvard, Stanford, Columbia, University of Pennsylvania, and Northwestern (Gross, 2019). Among entrepreneurs who raised $1 million or more in 2020 for their startups, graduates of three business schools were highest represented: Harvard (254), the University of Pennsylvania (144), and Stanford (139; Glasner, 2021). In 2012, every member of the U.S. Supreme Court had graduated from either Yale or Harvard Law School (Kennedy, 2013). There is also evidence that the concentration of power and

wealth among graduates of top graduate schools has increased over time (Cappelli et al., 2014; Cappelli & Hamori, 2004). According to Kennedy (2013), "Selective institutions of higher education are training grounds for the power elite" (p. 14).

As a result, graduate school increasingly is seen as important to accessing high–paying and influential jobs, and many are expending more effort and resources to attain a graduate degree (Belasco et al., 2014; Pyne & Grodsky, 2020). The number of people in the United States who have earned a graduate degree has increased steadily over time, from roughly 8% of adults over age 25 in 1995 to 12% in 2015, or roughly 37% of those who have earned a bachelor's degree (Baum & Steele, 2017b).

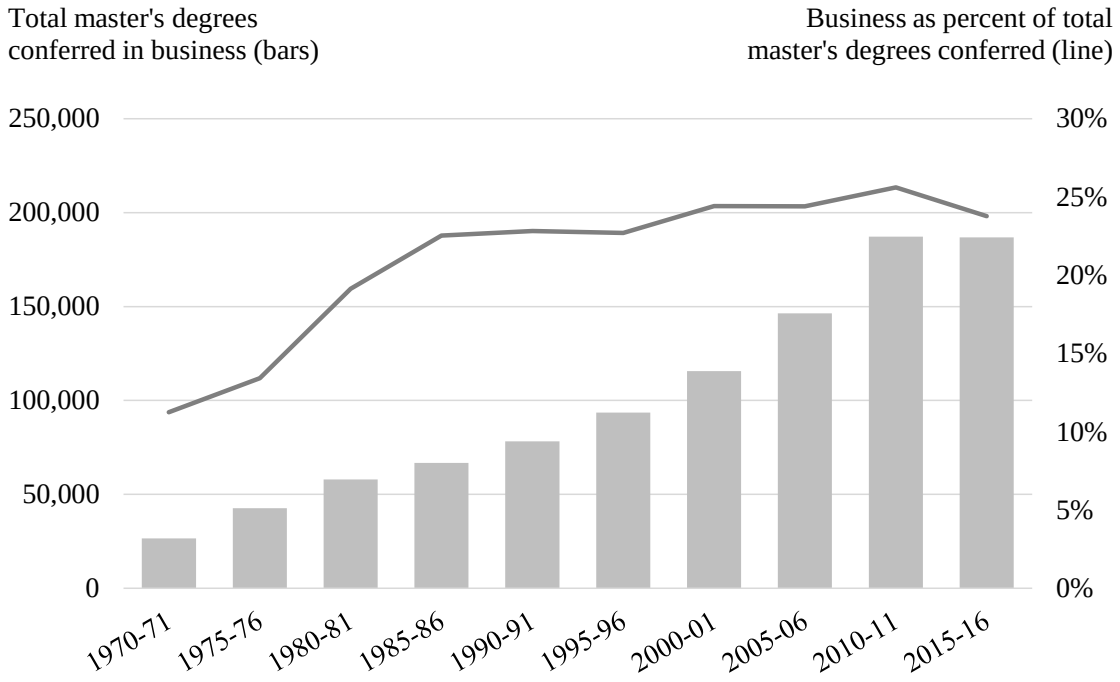
Business is the most popular field for graduate study with over 187,000 business master's—including a Master of Business Administration (MBA)—awarded in the 2015–2016 academic year, up from 78,000 in 1990–1991 and 26,000 in 1970–1971. Over the same time period, business master's degrees increased from representing 11% of all master's degrees conferred in the United States to 24% (see Figure 1).

With the increase in enrollment, the relative selectivity and prestige of business schools and MBA programs has become more important over time. Whereas those with any MBA are estimated to earn $800,000 more over their lifetimes than those with a bachelor's degree, graduates of a top 10 MBA programs are estimated to have a roughly $5,000,000 lifetime earnings premium (Byrne, 2021). Furthermore, out of a sample of 4,000 influential individuals in U.S. society, nearly 50% of those with a graduate business degree attended 1 of the 18 business schools ranked in the top 25 every year by *U.S. News & World Report* from 1990 to 2002, even though those schools only represented

10% of the enrollments in 2004 (Brint & Yoshikawa, 2017). Out of executives in Fortune 100 companies, 28% received an MBA from a top 10 school (Cappelli et al., 2014).

Figure 1

Business Master's Degrees Conferred in the United States



Note. Totals shown in grey bars, percentage of total master's degrees conferred in any field represented by dark line. Adapted from National Center for Education Statistics (2018b).

Despite increases in enrollment over the years, women remain underrepresented in MBA programs. Women earned 36% of degrees awarded in 2015–2016 while earning 57% of the bachelor's degrees awarded in the same year (Colby et al., 2017). Racial/ethnic minoritized populations in the United States are also underrepresented in MBA programs. Of individuals who take the Graduate Management Admissions Test (GMAT), the most common entrance exam for MBA programs, only 8% were Hispanic

and 8% were African American in 2017 despite these groups representing 21% and 14% of the millennial generation, respectively (Hazenbush, 2018). Individuals from low socioeconomic status backgrounds are also underrepresented in graduate business programs (AccessLex Institute, 2019).

International students are another important population for MBA programs, representing between 20%–40% of enrollment at many MBA programs (U.S. News & World Report, 2020). Given that many business schools aspire to prepare graduates for leading global careers, students from other countries bring not only tuition revenue but also an international perspective on how business works in different parts of the world; however, in recent years international enrollment has declined at many business schools (Ethier, 2019).

Women, underrepresented minorities, students from diverse socioeconomic backgrounds, and international students are all populations of interest to admissions officers at MBA programs. Yet, relatively little is known about enrollment patterns in MBA programs writ large and even less about barriers to access at the especially influential top-ranked MBA programs.

To address this knowledge need, this study used a data set generated by a survey conducted by a top-ranked global business school. The data set consisted of 4,082 bachelor's degree holders in five countries who were screened as well suited for an MBA from a top program but who, at the time of survey administration, had not applied. By employing descriptive and multivariate analyses of these data, this study aimed to uncover patterns of interest in an MBA program and other graduate business degrees and how those patterns varied by gender, race/ethnicity, parent education, and home country.

Research Questions

This study addresses the following research questions.

1. How do characteristics of individuals who report interest in a business master's, part-time MBA, executive MBA, and full-time MBA differ?
2. How do reported barriers to applying to a full-time MBA program vary by gender, race/ethnicity, parent education, and home country?
3. How does reported interest in a top-ranked, full-time MBA vary by gender, race/ethnicity, and parent education?
4. Are observed differences in reported interest in a top-ranked, full-time MBA by gender, race/ethnicity, and parent education explained by home country, other individual characteristics, and measures of undergraduate college context?

The research questions start broadly on graduate management education overall (RQ1), before focusing on full-time MBA programs (RQ2), and then top-ranked, full-time MBA programs (RQ3, RQ4). My aim in progressively narrowing was to situate findings about top-ranked, full-time MBA programs within the landscape of choice for all full-time MBA programs and graduate management education generally.

Results of this study offer insights for business schools seeking to address the underrepresentation of women, racial minorities, and individuals from low socioeconomic backgrounds at top MBA programs and inform schools' efforts to attract students from other countries. Given the outsized influence of graduates of top-ranked MBA programs in society, findings from this study also inform policymakers working to address social stratification patterns and income inequality. Finally, learnings from this

study highlight for other researchers the insights that can be generated about barriers to access by directly studying those who have not enrolled—in contrast to the larger body of research (e.g., Baum & Steele, 2017b; Mullen et al., 2003; Perna, 2004) that considers enrolled students and infers what kept others from enrolling.

CHAPTER 2

LITERATURE REVIEW

In 1908, Harvard University was the first institution to launch a program leading to an MBA degree (Cruikshank, 1987). Traditionally, an MBA degree requires 2 years of full-time residential study. More recently, graduate business schools have offered an increasing number and type of MBA and other graduate business master's degrees (Datar et al., 2010). These are traditionally grouped in four categories: full-time MBA (2-year and 1-year programs), part-time MBA (part-time, flexible, and online programs), executive MBA (part-time programs targeted at those with more work experience or in more senior roles), and "business master's" (e.g., master's of accounting, finance, marketing, data analytics; Daniel et al., 2019). Even though MBA programs grant a master's degree, they are typically not considered part of the "business master's" category.

What is known about access to MBA programs grows out of the broader graduate school access and choice literature. Many studies rely on data from the Baccalaureate and Beyond (B&B) longitudinal studies (e.g., English & Umbach, 2016; Millett, 2003; Mullen et al., 2003; Perna, 2004; Liang Zhang, 2005) or focus on factors at a single institution or two (e.g., Arbesman-Gold, 2016; Dela Cruz, 2012; McCallum, 2016; Schleef, 2000; Seibert et al., 2013). Quantitative studies relying on the B&B data set typically outline individual characteristics and undergraduate college characteristics as they relate to graduate school enrollment (Posselt & Grodsky, 2017), borrowing frameworks from the more deeply developed literature on undergraduate college access and choice. Throughout, I use the terms college, undergraduate, baccalaureate, and

bachelor's degree programs interchangeably. I also use the terms graduate and postbaccalaureate programs interchangeably.

Traditional economic models have suggested individuals make investments in human capital, such as formal education, to improve their work skills and productivity, which is then rewarded with higher earnings and other benefits (Becker, 1975). In other words, investments in human capital entail upfront costs (e.g., tuition, foregone earnings) with long-term benefits. Individuals who perceive the monetary and nonmonetary benefits to outweigh costs over the long run are expected to act rationally and invest in human capital (Becker, 1993).

In contrast, sociological approaches to understanding enrollment patterns in higher education emphasize the role of cultural and social capital. In this domain, cultural capital is defined as "the cultural beliefs, personal skills, knowledge, and dispositions that enable one to succeed" (Schleef, 2000, p. 156). Social capital refers to social networks, access to information, or groups that may confer advantage. Which forms of social and cultural capital are valued is defined by the dominant class (Bourdieu, 1986). Sometimes considered together, social and cultural capital help shape expectations and aspirations for pursuing education, which is conceived as one means for maintaining class and power from one generation to the next. These forms of capital also relate to the concept of habitus—an individual's internalized assumptions, beliefs, and perceptions—and its influence on educational aspirations and expectations (Bourdieu & Passeron, 1977).

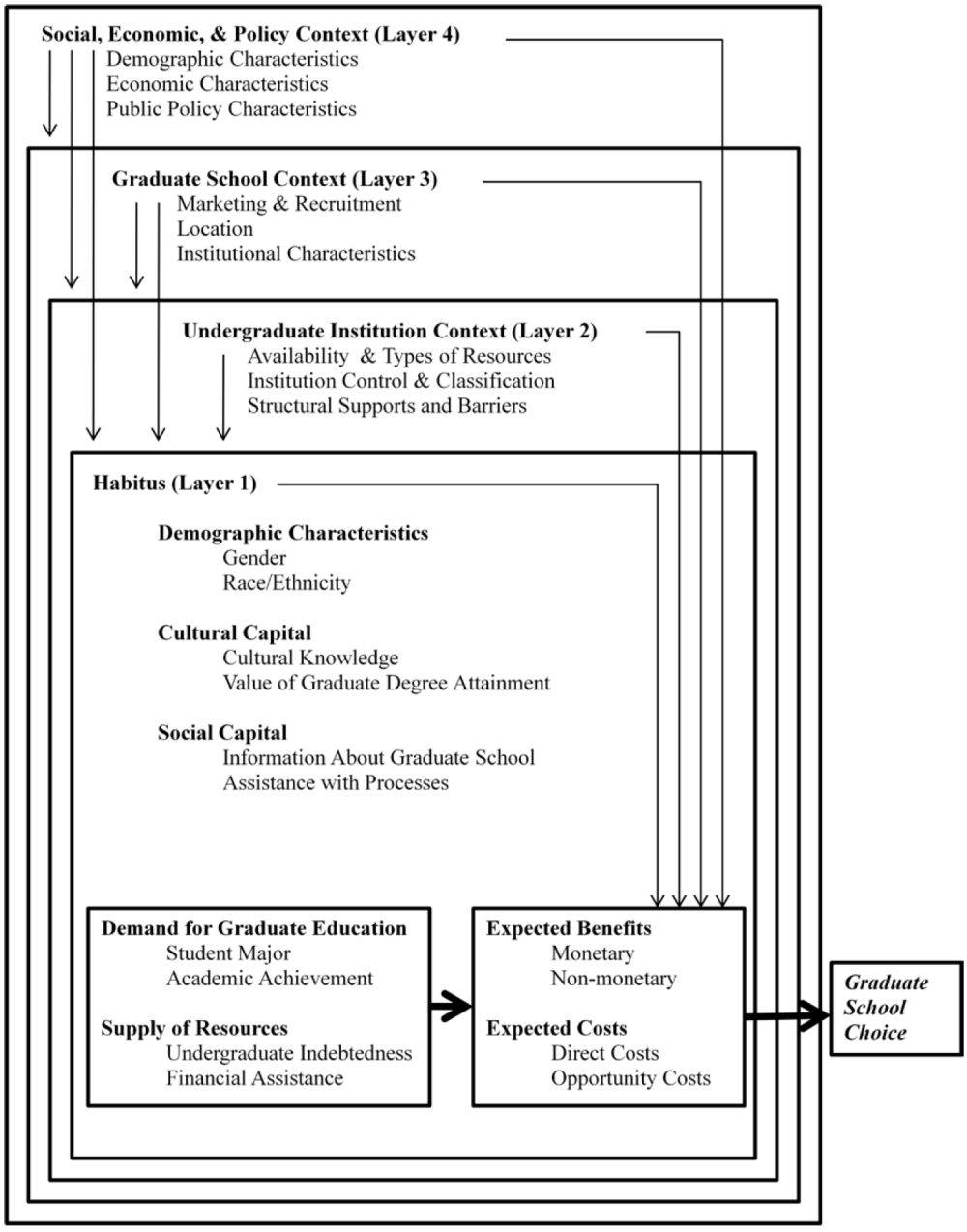
Perna (2006) wrote, "When considered separately, neither rational human capital investment models nor sociological approaches are sufficient for understanding differences across groups in student college choice" (p. 114). Perna (2016) proposed a

four-layer conceptual model of student college choice, combining theoretical insights from both approaches. A human capital cost-benefit analysis of college choice is at the heart of the model, but how benefits and costs are conceived and valued are informed by four layers of context. The first contextual layer, habitus, may be influenced by demographic characteristics and social/cultural capital. The second layer of context, school and community, recognizes the influence of one's secondary school's resources and structures of support on an individual's habitus and cost-benefit calculations. The third layer of the model, higher education context, relates to how colleges may influence student college choice by passively (e.g., by their location) or actively (e.g., by marketing) conveying information about higher education. Finally, the fourth layer of the model conceptualizes the influence of the macro social, economic, and policy environment on the prior layers of context and on student college choice directly (Perna, 2006).

English (2012) adapted Perna (2006) to the graduate school context by adapting Layers 2 and 3. Instead of focusing on the influence of secondary school in Layer 2, English focused on the influence of the undergraduate experience. In Layer 3, English adapted Perna to emphasize the role graduate schools play on graduate school choice (corollary to the influence of undergraduate institutions on undergraduate college choice; see Figure 2).

Figure 2

Conceptual Model of Graduate Student Choice



Note. (English, 2012). Adapted from Perna (2006) model of student college (undergraduate) choice. Reproduced with permission.

English and Umbach (2016) later followed up on this study, empirically focusing on Layers 1 (habitus) and 2 (undergraduate institution context) of the conceptual framework, disaggregating choice into three phases: (a) aspiring to, (b) applying to, and (c) enrolling in graduate school. They found measures of human capital, such as college major and GPA, and demographic characteristics, such as race (but not gender), to be related to graduate school aspiration, application, and enrollment. Although they found some relationship between parent education and graduate school choice, other indirect measures of social and cultural capital were not related to graduate school choice in their model. One important limitation of this study was that all graduate school degrees and types were collapsed, potentially masking differences in graduate school choice across programs.

Other studies of graduate school enrollment also have focused on measures of human capital, demographics, cultural and social capital, and undergraduate institutional context to explain graduate school access and choice (e.g., Allison & Ralston, 2018; Andrieu & St. John, 1993; Belasco et al., 2014; Li, 2018; Millett, 2003; Perna, 2004; Tienda & Zhao, 2017; Torche, 2018). The following sections explore prior research in each of these areas in more depth.

Human Capital

Economists conceptualize graduate school choice as a prospective student weighing the expected benefits of a program against the expected costs (Belasco et al., 2014; English & Umbach, 2016; Perna, 2004). In this human capital explanation, when the expected benefits exceed the costs, a student rationally aspires to the graduate

program, applies, and, if admitted, enrolls. Within this framework, scholars have considered both monetary and nonmonetary benefits and costs.

In the final years of college or upon graduation, students face a choice about what they will do next professionally or academically. They can choose to enter the workforce, attend graduate school, do both (e.g., through a part-time program), or remain unemployed and unenrolled in school. For those who do not enroll right after a bachelor's degree, they continue to face the choice about whether to attend graduate school as the years pass, as most graduate programs are open to adults at many stages of a career (Perna, 2004). In fact, some graduate programs, such as an MBA, require or privilege candidates in the admissions process who have a certain number of years of work experience after college (Financial Times, 2020). However, as age increases, the number of years to realize the benefits of more education declines, and the opportunity cost often increases, suggesting there may be an individual tipping point when the benefits of enrolling no longer outweigh the costs.

Benefits of Graduate School

Benefits of education are typically conceived as increased earnings and career opportunities, better health and longer life, enhanced social status, or education as a consumption good (Becker, 1975; Perna, 2004). As noted in Chapter 1, the wage premium for graduate degree holders has increased at a faster rate than the premium for those who hold a bachelor's degree (Pyne & Grodsky, 2020). Those who have earned a graduate degree are more likely to be employed, wealthy, civically engaged, and hold influential positions in society (Baum & Steele, 2018b; Brint & Yoshikawa, 2017; Ma et al., 2019; Wai & Lincoln, 2016). The benefits of graduate school may also be stratified by

the prestige of the program. For example, graduates from top 10 MBA programs earned about $140,000 in average starting salaries in 2020, graduates from schools ranked 40 to 50 earned about $100,000, and graduates from schools ranked 90 to 100 earned about $80,000 in average starting salaries (U.S. News & World Report, 2020). These earning differentials accrue over time, leading to large differences in lifetime earnings by selectivity of MBA program (Byrne, 2021).

Costs of Graduate School

Higher education costs include application fees, entrance exams, tuition, other elements of the "cost of attendance" (e.g., books and housing), and the opportunity cost of foregone income (Perna, 2006). The cost or gross price of graduate school to students has risen over the past 30 years. For example, the prices for in-state graduate students across many different disciplines at public universities increased 37% (in inflation-adjusted dollars) from 1989–1990 to 1994–1995, and 11%, 33%, 27%, and 15% in subsequent 5–year periods through 2014–2015 (Baum & Steele, 2017a). The net price (gross price less grant aid) of a master's degree increased by 79% (in inflation-adjusted dollars) from 1996–2016, and the average net price of a bachelor's degree increased by 47% over the same period (Blagg, 2018). Especially salient for full-time graduate students, the opportunity cost of foregone earnings from being out of the labor force can exceed all other costs depending on prior income levels and length of the program (Millett, 2003).

Students pay for these graduate school costs with a combination of institutional and outside grants, assistantships, earned income or savings, employer assistance, and loans (Baum & Steele, 2018a). Doctoral programs tend to provide relatively more

institutional grant aid, and master's and professional degrees provide less (Baum & Steele, 2017a; Belasco et al., 2014). Programs with the highest enrollment numbers, such as a master's in education or an MBA, have grown in cost and generally provide little in the way of financial support to students (Belasco et al., 2014). The amount of grant aid is also typically higher at public and private nonprofit institutions and generally lower at for-profit institutions (Baum & Steele, 2017a).

Graduate student debt has increased at a faster rate than undergraduate debt. Households with a master's or doctorate degree accounted for 35% of total outstanding student debt in 1992 ($41.5 billion) and 51% of outstanding student debt in 2016 ($1.3 trillion; Baum & Steele, 2018a; Miller, 2020; Pyne & Grodsky, 2020). In 2011–2012, a larger share of graduate students from professional programs took on debt (87%), followed by master's students (65%), and then research doctoral students (54%; Baum & Steele, 2018a). The different levels of debt between professional and doctoral students may reflect the amount of institutional aid offered to doctoral students and the willingness of professional students to incur higher debt now to attain higher earnings later.

Graduate borrowers of color, women, and those from low socioeconomic backgrounds have shouldered more graduate school debt but also tend to earn higher wage premia from graduate school than White men. For example, relative to holding a bachelor's degree, African Americans see a wage premium of 28% for a master's degree, 67% for an academic doctoral degree, and 144% for a professional degree, relative to 18%, 56%, and 119% for Whites. Part of the difference in the graduate school premium is explained by lower median wages for minorities and women with a bachelor's degree

relative to Whites and men (Pyne & Grodsky, 2020). Furthermore, smaller shares of Blacks and some other groups earn graduate degrees, so a smaller set of individuals earn the higher premium.

Despite the benefits of attaining a graduate degree, the high levels of debt required to attend some graduate programs may deter those who are averse to holding debt from enrolling (Pyne & Grodsky, 2020). The potential negative relationship between the expected level of graduate debt and choosing to enroll in a graduate program is growing in relevance as debt loads from master's, professional, and MBA degrees have increased (Belasco et al., 2014).

Elasticity of Demand

As the price of higher education has climbed over the past several decades, the influence of prices on enrollment, especially at the undergraduate level, has attracted the attention of scholars. Leslie and Brinkman (1987) published a widely cited review of the literature on the relationship between price and undergraduate enrollment (the elasticity of demand), summarizing 25 prior studies. The research they reviewed generally employed quantitative models to calculate the student price response coefficient (SPRC):

> The mean price response is about 0.7 percentage points. That is, for every $100 increase in tuition price—given 1982-1983 average weighted higher education prices of $3,420 for tuition and board—one would expect an 18- 24-year-old participation rate drop of about three-quarters of a percentage point. (Leslie & Brinkman, 1987, p. 188)

These SPRC findings have been remarkably consistent over time. Heller (1997) updated Leslie and Brinkman's (1987) work with a review of additional elasticity studies concluding for every $100 increase in price, undergraduate enrollment falls between 0.5

and 1 percentage points. Later studies similarly found the SPRC to be fairly stable over time, even as tuition prices have increased (Hemelt & Marcotte, 2011).

In addition to changes in gross prices, net prices after financial aid are also related to undergraduate enrollment (Heller, 1997; Hemelt & Marcotte, 2011), with larger effects for grant aid versus work study or loans (Heller, 1997; Kane, 2003). At the institutional level, Hemelt and Marcotte (2011) found undergraduate enrollment at Research I institutions and highly ranked institutions is more sensitive to price increases than Research II and lower ranked institutions. They posited students who enroll in Research I or top-ranked colleges are more likely to be from out of state, meaning they are likely considering a broader range of schools. This increased choice allows them to switch their enrollment decisions if one of the colleges increases its price. Research II and lower ranked schools enroll more local students who, having decided to stay local, have fewer choices for switching when prices increase (Hemelt & Marcotte, 2011).

Many studies of elasticity draw empirically on data sets of enrolled college students and thus consider where a student enrolls (choice) rather than whether a student enrolls in college (access). Savoca (1990) found the likelihood of application to college (related to access) is also negatively associated with price and suggests this negative coefficient should be combined with previously found SPRCs related to choice.

Students from low-income backgrounds are more affected by changes in price than those from high-income backgrounds, in studies of undergraduates (Heller, 1997; Jackson & Weathersby, 1975), though these studies are now dated and may be less relevant given changes in costs and college-going norms. African American students were also found to be more responsive to prices than White students; however, there were

mixed findings for Hispanic students (Heller, 1997). Thus, increasing prices has a general deterrent effect on enrollment and a larger effect on low-income and some racial/ethnic groups. Part of this larger negative effect may be unequal access, by race/ethnicity and socioeconomic background, to information about college and the price of college (Grodsky & Jones, 2007).

At the graduate level, the literature on the relationship between price and enrollment is limited. A set of studies from Andrieu and St. John (1993, 1995) focused not on first-time enrollment in graduate school but on persistence among students enrolled in 1987, finding an increase in tuition was associated with a decrease in persistence among graduate students. This relationship was stronger for doctoral students than for master's or professional degree students. Furthermore, they found graduate assistantships, such as paid teaching responsibilities, were negatively associated with persistence on their own, but when combined with loans and grants, this package of financial aid was positively related to persistence among graduate students (St. John & Andrieu, 1995). Prospective graduate students may observe prices and patterns of persistence among current graduate students and incorporate that information in their decision to enroll in graduate school or not.

In a more recent study of law school enrollment from 2006 to 2015, Li (2018) found no association between applications to law school and the published price of attendance. Segmenting law schools by five selectivity tiers, Li found a positive association between published prices and enrollments for mid-tier law schools (Tiers 3 and 4) and no association for top tier (Tiers 1 and 2) or lowest tier (Tier 5) law schools. Finding a positive relationship between price and enrollment is surprising given it

contradicts what has been found in the undergraduate literature. Li posited, because law students are older and more professionally established, they are more knowledgeable about options to finance legal education and thus not deterred by the cost. Furthermore, Tier 1 and 2 law schools have demand (applications) that easily outstrip supply (seats in the class), so, even as prices have risen, enrollment has not dropped. An important limitation to Li's study is that the data were institutional level and may have masked differences among students of different backgrounds. Women, people of color, or other student groups may have been differentially sensitive to rising prices, exacerbating challenges of enrolling a diverse class of students (Li, 2018).

Demographic Characteristics

In the growing literature on graduate school access and choice, demographic characteristics such as gender and race/ethnicity are a common and important area of focus given differences in interest, application, enrollment, and attainment.

Gender

Women enroll in postbaccalaureate education overall at higher rates than men. Within this grouping, however, men are more likely to enroll in professional and doctoral degree programs, and women are more likely than men to enroll in a master's degree or submaster's graduate course (Baum & Steele, 2017b; Perna, 2004). Two important factors associated with gender differences in graduate school attainment are marriage and parenthood. Women are more likely than men to be married and be a parent within 4 years of graduating from college (Allison & Ralston, 2018). Studies have found marriage is positively associated with graduate school for men but negatively associated with graduate school for women, a finding that has persisted over time (Allison & Ralston,

2018; Clune et al., 2001). The intersection of parenthood and gender is directionally similar. Clune et al. (2001) found among 1992–1993 bachelor's degree recipients, parenthood was negatively associated with graduate school enrollment for men and women, but the coefficients were larger for women.

The benefits of graduate school, particularly in terms of earnings, accrue over the remaining years spent in the workforce. On average, women expect to be full-time caregivers at some point in their careers at higher rates than men (Allison & Ralston, 2018) and thus have fewer years in the workforce to recoup the investment in graduate school. In a study of 25,000 Harvard Business School alumni, Ely et al. (2014) found 28% of Gen X female alumnae and 44% of Baby Boom alumnae had taken more than 6 months off work to care for children, but only 2% of male alumni had done so. Among heterosexual couples with children, 72% of men believe they share responsibilities equally with their partner, but only 44% of women agree (R. Thomas et al., 2020).

Furthermore, studies have shown lower wages on average for women than for men working in similar roles and levels (e.g., Carnevale et al., 2011; Ma et al., 2019). Gender pay gaps further vary by country (Leopold et al., 2017). Women also do not achieve the highest roles in business such as CEO or corporate boards at the same rates as men (Ely et al., 2014; R. Thomas et al., 2020). Though they face the same graduate school costs, women are faced with the prospect of a lower return on their investment given time spent out of the workforce and lower average pay. For women on the margin of enrolling in graduate school, the cost-benefit balance can tip into the negative precisely as a result.

The relationship between gender and graduate school enrollment is not always straightforward. English and Umbach (2016) found no significant difference between women and men for aspiration, application, or enrollment in a graduate school degree after controlling for other factors such as undergraduate performance and major, prior educational debt, race, and income. Although their study considered phases of graduate school enrollment processes, it collapsed all postbaccalaureate degrees and fields together, potentially masking differential effects.

Race/Ethnicity

Among bachelor's degree holders, African Americans enroll in graduate school at higher rates than Asians, Whites, and Hispanics (Baum & Steele, 2017b; Millett, 2003; Perna, 2004). However, graduate school comes at the end of an educational pipeline in which African Americans are underrepresented among high school and college graduates. Although the rate of enrollment among bachelor's degree holders may be higher, the proportion of all African Americans overall enrolled in graduate school is lower than for Whites and Asians (Baum & Steele, 2017b). Indeed, of the 1980–1981 birth cohort, 30% of Asians, 15% of Whites, 7% of African Americans, and 5% of Hispanics had earned a graduate degree by age 36 (Torche, 2018). African Americans and Asians also tend to enroll in graduate programs more quickly after bachelor's degree completion than Whites (Tienda & Zhao, 2017).

The types of graduate school pursued also vary by race/ethnicity. Greater shares of African Americans and Hispanics enroll in a master's degree than Asians and Whites, who pursue professional degrees at higher rates, and the proportion of Asians pursuing

professional degrees is particularly high, more than double that of Whites and triple that of African Americans and Hispanics (Baum & Steele, 2017b; Tienda & Zhao, 2017).

Cultural and Social Capital

Sociologists have conceptualized enrollment in higher education as related to cultural and social capital—access to information, expectation setting, networks, and knowledge—and to class stratification in society. From this approach, higher education is a means by which the dominant class passes on power and privilege to their progeny—a sort of educational inheritance. According to Bourdieu and Passeron (1977), "Education . . . is the equivalent, in the cultural order, of the transmission of genetic capital in the biological order" (p. 32).

Expectations

Parent education has been positively related to children's expectations about education at the undergraduate level (Goyette, 2008). Individuals with college-educated parents more commonly aspire to graduate school (McCallum, 2016; Reynolds & Johnson, 2011; Schleef, 2000). Expectations about graduate school have risen over the last several decades. Reynolds and Johnson (2011) studied longitudinal surveys of 15 different nationally representative samples of high school seniors in the United States and found expectations of attending graduate or professional school increased from 29% in 1974 to 46% in 1990; this mirrored the increase of seniors who expected to attain a bachelor's degree, which went from 52%–74% over the same time period.

Multivariate analysis of the same data found women expected to attend graduate school at lower rates in the early cohorts, but by the mid-1980s, the trend had reversed, and women had graduate school expectations on par or exceeding those of men (Beal &

Crockett, 2013; Reynolds & Johnson, 2011). After controlling for other socioeconomic factors, African American and Hispanic students more commonly expected to attend graduate school, as did students with high levels of social and cultural capital, as measured by living with two parents, students with college–educated parents, and students who went to college prep high schools (Reynolds & Johnson, 2011). In a qualitative study of 41 African Americans enrolled in PhD programs, McCallum (2016) found having a parent with a graduate degree or attending a high school in affluent suburban communities was positively related to their educational expectations.

Parent Education

One key characteristic upon which there is considerable disagreement in the literature is the relationship between socioeconomic background and graduate school enrollment. Mare (1980) was one of the first to examine the relationship between parent education, a common measure of socioeconomic background, and graduate school attainment. One of their seminal contributions to educational stratification literature was that, rather than model educational attainment as the number of years of school completed, they conceptualized education as a series of educational transitions from primary to secondary school, from secondary school to college, from college to graduate school, and so on. Mare found family wealth and parent education (often used as proxies for socioeconomic background) have a great influence on their children's early educational transitions, such as primary and secondary school education. Although Mare found a positive association between socioeconomic background and college graduation, the coefficient was smaller. Mare also found a negative relationship between parent education and a child's transition to graduate school.

Mare (1980) interpreted these waning coefficients of parent education level on educational attainment to mean that as a child advanced through education levels, the influence of their social origins became less important. Said another way, high school and college leveled the playing field for students from all socioeconomic backgrounds. Mare's data, however, are nearly 50 years old, coming from a 1973 survey that included only White men.

Fourteen years later, Stolzenberg (1994) largely reproduced Mare's (1980) findings using data on MBA attainment from a longitudinal study of the high school class of 1972 in survey waves from 1972, 1976, and 1986. Stolzenberg found no relationship between parent education level and likelihood of a child earning an MBA. Stolzenberg's study also included women and people of color.

More recently, scholars have found these earlier findings surprising given the effects parents can have on providing resources and helping set expectations about graduate school enrollment. Mullen et al. (2003) found parent educational attainment is positively related to their children's enrollment in master's degrees, first professional degrees, and doctorate degrees. For MBA program enrollment, they found no relationship with parent education, but their study did not distinguish among the selectivity of MBA programs. Other scholars have found a "U-shaped pattern" for socioeconomic background: the relationship between parent education and children's educational attainment is strong among parents with primary and secondary education attainment, wanes for parents with a bachelor's degree, and then reinforces itself for parents with a doctoral or professional degree (Torche, 2011). Still others have found higher levels of parent education are associated with greater likelihood of graduate school enrollment

(Millett, 2003; Perna, 2004). Disaggregating by level of graduate degree, low-income students are more likely to pursue a master's degree rather than a professional or doctorate degree relative to high-income students (Baum & Steele, 2017b).

Stratification Strategies

When enrollment in college was relatively low across the country, a bachelor's degree may have been enough for differentiation in the labor market and society. As college degree attainment expanded in the United States after World War II, scholars characterized two forms of stratification strategies employed by parents for social reproduction, with implications for graduate school enrollment. *Vertical stratification* is the monetary and nonmonetary support affluent parents give to encourage their children to differentiate themselves through the attainment of higher degrees such as master's, doctorates, or first professional degrees. This concept is also referred to as *maximally maintained inequality*. *Horizontal stratification*, or *effectively maintained inequality*, refers to differentiation within a given stratum (Mullen et al., 2003; Torche, 2011, 2018; van de Werfhorst & Luijkx, 2010; Wakeling & Laurison, 2017), such as to more selective or prestigious institutions, fields of study, or other qualitative measures (Reynolds & Johnson, 2011).

These stratification strategies are not mutually exclusive and, in fact, may reinforce one another. Most selective colleges tend to enroll students from wealthier backgrounds (Chetty et al., 2017). When individuals from low socioeconomic backgrounds do enroll in selective institutions, they enjoy higher earnings premia after graduating than those from high socioeconomic backgrounds (Dale & Krueger, 2002). Selective undergraduate programs socialize their students to desire prestigious roles in

consulting, investment banking, and technology (Binder et al., 2016), precisely the kinds of professional roles from which some selective graduate programs tend to draw. I next address the prior research of how enrollment in graduate school is influenced by the undergraduate college experience.

Undergraduate Context

College achievement directly affects the population of potential graduate students because a requirement to enroll in nearly any graduate program is the completion of a bachelor's degree or the equivalent. That is, the starting pool of students from which graduate programs draw is the population of bachelor's degree holders rather than the population of a country overall (Baum & Steele, 2017b; Millett, 2003).

Selectivity of Undergraduate Institution

College is a time when students may update or form aspirations about graduate school as they learn more about the costs and benefits of postbaccalaureate education (Weiler, 1994). Studies have found characteristics of an undergraduate student's college help explain whether they enroll in graduate school later. For example, good faculty teaching practices tend to lead to higher aspirations for graduate school (Hanson et al., 2016). Earning a degree from a research or doctoral institution is associated with higher levels of graduate school attendance and graduation (Tienda & Zhao, 2017). Students who graduate from a historically Black college and university (HBCU) are more likely to aspire to graduate school than those from predominantly White institutions (PWIs) or Hispanic–serving institutions (HSIs). Egan and Newman (2010) attributed this difference to the institutional climate of HBCUs: "The climate within HBCUs provides students with a space to achieve recognition for their academic efforts while developing

competence in their fields of study without the more challenging race contexts found within PWIs" (p. 29).

Selectivity, defined as the percentage of all applicants admitted to an institution, is a commonly used measure of quality, perhaps for lack of systematic objective data or even an agreed–upon definition of college quality (Kuh & Pascarella, 2004). Earning a bachelor's degree from a more selective college is associated with higher rates of graduate enrollment (Eide et al., 1998; Millett, 2003; Liang Zhang, 2005). What goes unexplored in these studies is a potential endogeneity problem—students who attend higher selectivity undergraduate colleges may be higher ability, which, as described next, has been found to be positively related to the likelihood of graduate school aspiration and attainment.

Academic Performance and Major

Earning a higher grade point average (GPA) as an undergraduate has been widely found to be associated with higher rates of graduate school enrollment (e.g., Clune et al., 2001; Eide et al., 1998; English & Umbach, 2016; Millett, 2003; Tienda & Zhao, 2017; Lei Zhang, 2013). College major also seems to be related, with majors that provide direct employability, such as business and computer science, negatively associated with graduate school (Baum & Steele, 2017b; English & Umbach, 2016; Liang Zhang, 2005). In contrast, bachelor's degree majors in bio/physical science, social science, humanities or education are associated with higher rates of graduate school enrollment (Baum & Steele, 2017b; Clune et al., 2001; Hanson et al., 2016; Lei Zhang, 2013; Liang Zhang, 2005). Some have theorized those able to earn higher wages with a bachelor's degree, such as a business major, face higher opportunity costs in attending graduate school

(Monaghan & Jang, 2017; Perna, 2004; Liang Zhang, 2005). College major may also sort students into particular types of graduate degrees. For example, those studying biology or math are more likely to pursue a doctorate degree than a master's, but those studying social science or business are more likely to pursue a master's or professional degree if they pursue a graduate degree (Mullen et al., 2003).

Clune et al. (2001) found women were more likely than men to major in education, health professions, humanities, and psychology as undergraduates. In contrast, men were more likely to major in business, engineering, social science, biology, and math. Students from high socioeconomic backgrounds and those at more selective institutions were more likely to choose a major that leads to graduate school (Monaghan & Jang, 2017). Considering these undergraduate enrollment patterns helps explain some of the graduate enrollment differences by gender and socioeconomic background (Monaghan & Jang, 2017; Mullen et al., 2003; Perna, 2004).

Undergraduate Debt

Outstanding education debt has grown significantly over the past few decades, and federal student loans in the United States exceeded $1.5 trillion in 2019 (Miller, 2020). From a purely rational choice perspective, debt should not have an effect on graduate school enrollment choices if individuals are maximizing their utility over their lifetimes: If the expected benefits outweigh the costs, economists would expect someone to enroll—debt just implies an issue of the timing of payments.

Debt may be a factor if there are short-term liquidity constraints on borrowing for graduate school given outstanding current debt and if some students are averse to holding debt per se (Lei Zhang, 2013). First–generation college students, for example, have been

found to be more averse to holding debt for an undergraduate education and more likely to underestimate the amount of financial aid available to them (Lee & Mueller, 2014). Holding student loans has also been found to have a negative association with life satisfaction—stronger than mortgage debt or credit card debt (Greenberg & Mogilner, 2020).

Undergraduate borrowing is uneven, skewing more toward first generation and those from low socioeconomic backgrounds (Lee & Mueller, 2014; Millett, 2003) and underrepresented minorities (Edgington & Garcia, 2005). The question of whether undergraduate debt impacts graduate school enrollment is crucial for graduate schools aiming to attract a diverse class of students, but available empirical studies are mixed in their findings. Some studies have found undergraduate debt is negatively associated with anticipating and enrolling in graduate school in the future (Eagan & Newman, 2010; Malcom & Dowd, 2012; Millett, 2003; Weiler, 1994). Other studies have found no statistically significant relationship between undergraduate debt and graduate school enrollment (Chen & Bahr, 2020; English & Umbach, 2016; Wakeling & Laurison, 2017). Parsing these contradictory findings from previous studies, Lei Zhang (2013) identified endogeneity as an empirical challenge:

> The major challenge in studying the effect of college debt is that the amount borrowed is an endogenous variable. The accumulated debt at college graduation may be a function of unobserved ability, which may also affect an individual's post-baccalaureate decisions. (p. 155)

In other words, students who are less academically prepared may attend colleges with less generous financial aid programs and incur more debt. They may attend graduate school at lower rates on average, not as a result of the debt but because of their lower

academic ability. Lei Zhang (2013) dealt with this endogeneity by controlling for the college's financial aid policy and institutional control, finding, for graduates of public colleges, undergraduate debt had a negative effect on pursuing expensive graduate programs such as an MBA or first professional degree. Lei Zhang found no association between undergraduate debt and enrollment in other master's degrees. Graduates of private colleges with debt were more likely to pursue an MBA or first professional degree than students at private colleges without debt, a finding Lei Zhang (2013) attributed to some "underlying difference in their willingness to incur cost and bear the debt burden for human capital investment, revealed by their choice into [a private] college in the first place" (p. 172). Given the rising levels of undergraduate debt and the mixed results of empirical studies, the link between college debt and graduate school enrollment remains an important area for research.

Recent studies of graduate school enrollment have focused on particular degree types such as Torche's (2018) study of PhD programs in health and sciences and Li's (2018) study of JD programs. Relative to studies of enrollment in any type of graduate degree program (e.g., English & Umbach, 2016), focused studies of this kind have the potential to draw out differences in access by type of graduate degree program that go unobserved when all programs are studied together.

Master of Business Administration

Given the volume of business degrees granted (see Figure 1) and the income and influence of business school alumni (Cappelli et al., 2014; Cappelli & Hamori, 2004; Gross, 2019), the MBA degree is an example of a graduate degree worthy of serious study about access, but which, to date, has attracted relatively little. This section begins

with an examination of enrollment patterns in MBA programs by gender, race/ethnicity, socioeconomic status, and country. Next, I highlight what prior research has shown are motivators to enrolling in an MBA, followed by the primary barriers to access.

MBA Enrollment Patterns

Women, underrepresented minorities, and individuals from low socioeconomic backgrounds do not enroll in MBA programs at rates proportional to their share of the population of bachelor's degree holders (AccessLex Institute, 2019; Colby et al., 2017; Hazenbush, 2018; Mullen et al., 2003). This underrepresentation also shows up in the variation in the rates of taking the GMAT exam—required by many MBA programs—by gender, race/ethnicity, and by country of residence.

Though women earned 57% of bachelor's degrees in the United States and 60% of graduate degrees in 2015–2016, they represented just 45% of total GMAT exams taken. Among those who did take the GMAT, a smaller share of women (55%) sent their scores to MBA programs than men (72%), with the balance of scores sent to business master's or doctoral degrees. Women earned just 36% of MBA degrees overall in 2016 (Colby et al., 2017), and top-ranked programs enrolled classes with 37%–47% women in 2019 (Ethier, 2020b).

Asian Americans are overrepresented in MBA programs in the United States relative to their share of the population of bachelor's degree holders (10%; National Center for Education Statistics, 2019), but African Americans and Hispanic Americans are underrepresented (Hazenbush, 2018). African Americans made up 14% of the U.S. millennial generation and earned 10% of the bachelor's degrees in 2014–2015, but they represented only 8% of U.S. GMAT test takers (Hazenbush, 2018). Hispanic Americans

represent 21% of the millennial generation in the United States and earned 12% of the bachelor's degrees in 2014–2015, up from less than 7% of bachelor's degrees in 2004–2005. However, over the same time period, their share of GMAT test takers only increased from 6%–8% (Frey, 2018; Hazenbush, 2018). Table 1 includes the racial/ethnic and gender composition of the full-time MBA classes at the top 10 MBA programs in the United States.

Table 1

Student Race/Ethnicity and Gender in the Top 10 Full-Time MBA Programs as Ranked by Bloomberg News

	Race/ethnicity[a]					Gender[b]
University	Asian American, non-Hispanic	Black/African American, non-Hispanic	Hispanic	White, non-Hispanic	Multi-race/Other, non-Hispanic	Women
Columbia University	22%	7%	7%	64%	0%	38%
Dartmouth College	17%	6%	5%	64%	8%	42%
Harvard University	17%	9%	11%	57%	6%	43%
MIT	23%	9%	10%	55%	3%	41%
Northwestern University	19%	6%	11%	61%	4%	43%
Stanford University	20%	6%	10%	57%	8%	47%
University of Cal., Berkeley	27%	7%	9%	57%	1%	37%
University of Chicago	22%	6%	8%	56%	7%	40%
University of Pennsylvania	25%	9%	2%	49%	16%	47%
University of Virginia	9%	7%	4%	72%	9%	40%

Note. [a]U.S. citizens and permanent residents, Classes of 2020 and 2021 upon enrollment; Stanford figures include executive MBA and doctoral students; Dartmouth and Harvard figures show Class of 2021 only; adapted from Abelson et al. (2020). [b]All students in Class of 2021 upon enrollment, adapted from Ethier (2020b).

As with studies that examine enrollment in any postbaccalaureate program (Mare, 1980; Wakeling & Laurison, 2017), the relationship between parent education and enrollment in an MBA program is not clear from the academic literature. Some studies found no link between socioeconomic background and a child's enrollment in an MBA program (Mullen et al., 2003), and others found a significant and positive link (Perna, 2004; Torche, 2011). In 1988, GMAC conducted a survey of 1st-year MBA students across many institutions in the United States. The survey found, 30 years ago, there was evidence of socioeconomic stratification. In 1988, 46% of MBA students' fathers held a bachelor's degree or higher (Stolzenberg et al., 1988). This level of parent education for MBA students in 1988 was higher than the population's general level of bachelor's degree attainment at the time, which was less than 25% (Ma et al., 2019), suggesting parent education is related to enrollment in an MBA program. In 2015–2016, 56% of MBA students had at least one parent with a bachelor's degree or higher (AccessLex Institute, 2019).

The prevalence and popularity of graduate business degrees (e.g., MBAs) vary by country around the world (Svancer et al., 2019). In part, this is due to different levels of bachelor's degree attainment (OECD, 2020), a prerequisite to applying to a master's degree such as an MBA. Rates of GMAT test taking also vary widely by country of residence (see Table 2). The United States, China, and India represent the largest markets for GMAT exam takers, as defined by total number of test takers, by a significant margin. Out of a total number of 225,621 exams administered in 2019, the United States had 82,844, China 52,350, and India 26,459. The next highest country, Germany, had 4,063 GMAT exams administered in testing year 2019 (Svancer et al., 2019; see Table 2).

The number of GMAT tests administered relative to the size of the country's population shows a different pattern. For example, Table 2 highlights that just three exams per million people are administered in Indonesia and Pakistan, and, in several other countries (e.g., Netherlands, Singapore, United Arab Emirates), more than 100 exams are administered per million people. This difference in GMAT test taking rates by country suggests the awareness and relevance of an MBA and other graduate business degrees varies by country.

Many business schools have sizeable international student populations, with top programs typically enrolling 20%–40% of students from other countries (Financial Times, 2020; U.S. News & World Report, 2020). In addition to the tuition revenue they contribute, foreign students add to the pedagogical aims of the program by sharing knowledge and understanding about doing business in their home regions with classmates. School websites and admissions recruiting presentations often highlight the range of citizenships represented among their currently enrolled students and alumni in recruiting future students (e.g., University of Pennsylvania, 2021). However, international student enrollment in the United States has declined at some programs, with 7 of 10 top programs recording lower international enrollment in the period from 2016–2018 (Ethier, 2019, 2020a).

Table 2

Countries Administering 600 or More GMAT Exams in 2019

Country	Total Exams Administered[a]	Population (Millions)[b]	Exams per Million People
United States	82,844	330	251
China	52,350	1390	38
India	26,459	1312	20
Germany	4,063	80	51
Taiwan	3,867	24	164
United Kingdom	3,852	65	59
France	2,551	68	38
Korea, South	2,483	52	48
Italy	2,467	62	40
Japan	2,361	126	19
Singapore	1,977	6	324
Hong Kong SAR	1,933	7	267
Netherlands	1,829	17	106
Brazil	1,782	210	8
Thailand	1,472	69	21
Australia	1,367	25	54
Mexico	1,193	127	9
United Arab Emirates	1,151	10	117
Russia	1,136	142	8
Israel	1,073	9	125
Spain	989	50	20
Vietnam	886	98	9
Saudi Arabia	839	34	25
Nigeria	799	209	4
Indonesia	755	265	3
Pakistan	737	229	3
Switzerland	728	8	87
Sweden	677	10	67
Turkey	675	82	8
Kuwait	656	3	222
Lebanon	637	6	109
Peru	634	32	20
South Africa	628	56	11
Chile	620	18	34

Note. [a]Adapted from Svancer et al. (2019). [b]Adapted from United States Census Bureau (2019).

Motivators to Pursuing an MBA

Key motivators to enrolling in an MBA program include improving management and leadership skills, advancing or making changes in a career, earning more money, finding global professional opportunities, gaining respect or status, and building an influential network (Blackburn, 2011; Colby et al., 2017; Daniel et al., 2019; Hazenbush, 2016). Economic benefits can take the form of a better job, higher pay, or better long-term career options (Daniel et al., 2019; Stolzenberg & Giarrusso, 1988).

In a study exploring why some occupations pay more than others, Weeden (2002) identified licensing and educational credentialing as two methods of "occupational closure" groups from a particular profession use to limit supply and drive up returns for that profession. Extending these concepts to graduate school, to be a lawyer or a medical doctor requires an educational credential and a license. Beyond controlling for quality, licensing and educational credentialing also limit the supply of lawyers and doctors and drive up the remuneration of these occupations.

In contrast, to be a businessperson, neither an educational credential nor a license is required. This means the supply of businesspeople is largely unrestrained by occupational closure, except in some subfields. In this environment, an MBA can impart both practical knowledge and a signal to employers, consumers, and investors to distinguish oneself in the labor market (vertical stratification). As the number of MBA degrees conferred has grown, earning an MBA from a top-ranked MBA (horizontal stratification) relative to a low-ranked program is associated with higher salaries and wealth (Gross, 2019; U.S. News & World Report, 2020) and a higher likelihood of

holding a position of influence in business or society (Cappelli et al., 2014; Wai & Lincoln, 2016).

Beyond financial considerations, Schleef (2000) found maintenance of social class was a motivator for students at selective law schools and business schools, giving weight to sociological explanations for why students pursue graduate school (Bourdieu & Passeron, 1977; Torche, 2011). According to Schleef (2000), "Rather than reflect specific occupational preferences, the decisions of these students are based on class maintenance and, in some cases, the fear of not doing as well as their parents" (p. 156).

Indeed, in a survey of current MBA students, Edgington and Garcia (2005) found "Allow me to remain marketable (competitive)" was the top reason cited for pursuing an MBA program, higher than "Prepare me to get a good job" and "Allow me to change current occupation," among other motivators. The inherently relational language of this motivator—"Allow me to remain marketable (competitive)"—provides evidence that vertical stratification is a motivator for pursuing an MBA. In a two-school study, Dela Cruz (2012) used the same survey instrument and found respondents from the selective MBA program were even more likely to agree with the "Allow me to remain marketable (competitive)" statement (88%) than those from the less selective MBA program (71%) in the sample. This difference provides evidence of horizontal stratification as a motivator for individuals to choose more selective programs within the MBA market. Hazenbush (2016) also found 27% of prospective students of graduate management education had as a core motivation that of "seeking respect," agreeing with listed motivators in the survey such as "increase my status among colleagues and/or friends" and "stand out from peers."

Expectations about graduate school are typically measured in high school or college (Reynolds & Johnson, 2011) and so may miss those who develop or change aspirations for an MBA after earning a bachelor's degree. One of the few studies to consider this after-college timeframe is Seibert et al. (2013) who surveyed 337 alumni from two universities in two waves. In multivariate analysis of the survey data, they found "career-related shocks," such as a having a visible success at work, can boost confidence and raise the intentions of pursuing a graduate degree. Other shocks, like having a mentor at work leave for another company, are associated with a higher rate of applying to graduate school. They also found receiving an early promotion increased the intention of pursuing graduate school but decreased the actual application rate when they followed up with respondents 16 months later. This finding suggests the promotion stoked confidence and higher expectations for graduate school but also raised the costs of leaving work to pursue graduate school given the prospect of giving up the promotion and higher compensation (higher opportunity costs).

Barriers to Pursuing an MBA

In 2020, the direct costs of top-ranked MBA programs in the United States exceeded $200,000 in tuition, room, and board (U.S. News & World Report, 2020), as well as the opportunity cost of foregone income. Unlike many other graduate degrees, business schools require or prefer a few years of full-time work experience after college before matriculating in an MBA program. Indeed, across all graduate programs, students tend to start first professional (law, medicine) and doctoral degrees immediately or more quickly after undergraduate than master's degrees (Tienda & Zhao, 2017). College graduates considering an MBA more typically enter the workforce, earn an income, and

face the reality of giving up that income to enroll. In contrast, students who matriculate into a graduate program immediately typically have little to no income to forego (Perna, 2004). This difference in the timing of application for prospective MBA students likely influences the mental calculation of the costs and benefits but has received little attention from scholars, as Posselt and Grodsky (2017) pointed out in their review.

Women more frequently report financial challenges as a strong deterrent to pursuing an MBA than men. In a survey of 5,900 individuals who applied to an MBA, the Graduate Management Admissions Council (GMAC), the organization that develops the GMAT exam and also conducts research on behalf of business schools, found 30% of female respondents in the United States cited paying for the MBA program as their biggest challenge versus only 9% of men (Colby et al., 2017). As noted previously, part of the reason why finances may be more salient for women considering an MBA than for men is they expect fewer lifetime benefits from the degree given persistent wage gaps and the anticipation of being out of the workforce for some period of time (Colby et al., 2017; Ely et al., 2014). Selectivity of the MBA program may further influence how many years women anticipate being in the workforce. Hersch (2013) found married mothers with an MBA from an "elite" program were 20–30 percentage points less likely to be in the workforce than those who graduated from less selective institutions.

African Americans and Hispanics are more likely to cite financial resources as a barrier to admission to an MBA program than Whites and Asian Americans (Edgington & Garcia, 2005), and they perceive the cost of a for-profit or nonprofit MBA program to be largely the same (Hazenbush, 2018). Low representation of African American and Hispanic faculty at U.S. business schools may contribute to the low representation of

African Americans and Hispanics among enrolled students. Only 4.5% of all business school faculty identify as African American, and only 2.5% identify as Hispanic (Moshiri & Cardon, 2016).

GMAC conducts global surveys of prospective applicants who visit mba.com and has found motivators and barriers for graduate management education vary by country (Hazenbush, 2016; Hazenbush & Schoenfeld, 2018). For example, although 30% of women in the United States cite financial concerns (vs. 9% of men), in India, only 8% of women cite financial constraints (vs. 14% of men in India). In China, the same figures are 9% for women and 11% for men (Colby et al., 2017). Although these descriptive data suggest differences in the perceived benefits and cost by national origin, the reports do not provide theoretical or conceptual explanations for the differences or control for differences in other variables.

Areas for Further Inquiry

In the broader literature on graduate school enrollment, researchers sometimes differentiate by type of degree but more often consider all postbaccalaureate programs together (e.g., English & Umbach, 2016; Mare, 1980), due to small sample sizes remaining after dividing up population-representative longitudinal data sets (Posselt & Grodsky, 2017). In studies that do differentiate graduate programs by type, MBA programs are often grouped with other master's degrees (Carnevale et al., 2011; Tienda & Zhao, 2017; Liang Zhang, 2005), and other times they are grouped with first professional degrees (Perna, 2004; Lei Zhang, 2013). Unlike the literature on undergraduate access and choice, quantitative studies have not segmented enrollment patterns and barriers to access at selective MBA programs, where social reproduction theorists might predict the

greatest stratification (Posselt & Grodsky, 2017). Relative to more generalized studies, disaggregating by graduate school selectivity, field of study, and other dimensions is likely to reveal latent differences in access.

Despite the curricular and financial importance of international students to MBA programs, there is little treatment of foreign student enrollment in the literature. Nearly all studies of graduate school access have focused only on students in the United States (e.g., English & Umbach, 2016; Mullen et al., 2003; Perna, 2004; Wakeling & Laurison, 2017). Some researchers have studied motivations of MBA students in other countries (Blackburn, 2011; Sasson, 2017), but these studies have been limited by their one-country focus and relatively small sample sizes. Broader in scope is the survey GMAC administers of mba.com visitors each year to provide research briefs to member schools (e.g., Colby et al., 2017; Hazenbush, 2019; Schoenfeld & Daniel, 2017). These data have as a strength a common instrument used across geographies but are limited in that the sample they draw is from individuals who have already self-selected into interest in graduate management education by registering on mba.com, the main portal for registering for the GMAT exam. Access to graduate and business school among international students remains an area ripe for future research given the importance of these students to many business programs.

Most MBA specific studies on access have focused on relatively small qualitative studies of individuals enrolled at one or two business schools (Arbesman-Gold, 2016; Dela Cruz, 2012; Schleef, 2000). Two noticeable limitations of these studies are that, by virtue of their sample selection, they are (a) difficult to generalize given the idiosyncrasies of the institutions sampled and (b) they exclusively study enrolled students

rather than extending the inquiry to those who considered an MBA but chose not to enroll. Similarly, more general graduate school enrollment studies tend to rely on longitudinal data sets that consider only students who have enrolled shortly after completing a bachelor's degree (e.g., Millett, 2003; Mullen et al., 2003; Perna, 2004). For full-time MBA programs, which often require years of full-time work experience, these studies may not speak to the barriers faced by working professionals contemplating giving up a salary to attend graduate school full time. Indeed, in their review of graduate school stratification literature, Posselt and Grodsky (2017) stated Seibert et al. (2013) may be the only study focused on what drives midcareer professionals to pursue graduate school and call for more scholars to explore this topic.

In summary, the literature on graduate school access and enrollment is still nascent and relies on concepts and insights from the undergraduate college access literature. Understanding is increasing, but there is still considerable disagreement on the effects of various individual and institutional characteristics associated with graduate school aspiration, application, and enrollment. The literature on access to MBA programs is even more limited. Major areas for future research include segmenting MBA programs by reputation and selectivity, studying geographic effects for international candidates and institutions, and specifically studying why some groups such as women, minorities, and those from low socioeconomic backgrounds are underrepresented in MBA programs. Given the outsized influence graduates of top-ranked MBA programs garner in wealth and influence, better understanding access and enrollment at these institutions is important not only to MBA programs but also to society.

CHAPTER 3

METHODS

This study aimed to contribute to an understanding of access to graduate school. Using data from a survey commissioned by a top-ranked MBA program, I studied the characteristics related to reported interest in graduate management education, the key barriers potential applicants face in applying to a full-time MBA program, and how interest in a top-ranked MBA program varies by gender, race/ethnicity, socioeconomic background, and home country after controlling for other factors.

Guiding Perspectives

This inquiry was grounded in undergraduate college choice and graduate school choice literature, specifically employing Perna's (2006) nested model of choice and English's (2012) and English and Umbach's (2016) adaptation of that model for graduate school choice. This study focused on one phase of graduate school choice (aspiration) for one graduate field (business) and degree level (master's) with a particular focus on top-ranked (highly selective) programs. I chose to focus on aspiring to top-ranked graduate business programs, because these institutions matter in societal stratification patterns (Cappelli et al., 2014; Cappelli & Hamori, 2004; Gross, 2019; Wai, 2013; Wai & Lincoln, 2016).

I drew the scope of this research narrowly to study why women, minorities, and individuals from low socioeconomic backgrounds are underrepresented at top-ranked, full-time MBA programs and highlighted the particular barriers to access for this segment of graduate school. As noted in the literature review, there is considerable disagreement about what matters when it comes to graduate school access. Intuition suggests the

predictors of aspirations to a master's degree in education, master's degree in engineering, and master's degree in business administration may be different, given different prerequisites, costs, enrollment patterns, and postgraduation compensation. By focusing solely on graduate business programs, this study aimed to clarify understanding about access that may be lost in studies combining multiple phases of graduate school enrollment, fields of study, degree levels, and program selectivity.

I explored the variation that still exists within the scope of graduate business education. For example, there are multiple degree types within the field of graduate management education (e.g., master's degree in accounting, MBA) and varying formats (part time, full time, executive). In addition, characteristics associated with aspiration may vary from country to country (Colby et al., 2017; Hazenbush & Schoenfeld, 2018); uncovering geographic differences was another aim of this study.

Data and Sampling

Data for this study were from a survey commissioned by a top-ranked business school and conducted by survey and market research firm SSRS. For the purposes of this study, I refer to this business school as the sponsor of the data collection. The sponsor granted me full access to the survey instrument, all of the data generated, and the individuals at the business school and at SSRS who collected the data. The purpose of the survey was to identify individuals who would be well suited and qualified (operationalized as described in the following section) for a top-ranked MBA program but who had not yet enrolled. By collecting these data, the admissions office at the survey sponsor hoped to better understand noncustomers so it could better attract qualified applicants to its top-ranked, full-time MBA program. Given the rigor of the survey design

and collection methods, described further in the following section, these data also offer a unique avenue for academic research of graduate school access.

Survey Design

Admissions leaders at the sponsor and SSRS codesigned a custom survey instrument (see Appendix A). To gather responses from a relevant set of noncustomers, the survey gathered self-reported data to screen for individuals who may be well suited and qualified for a top-ranked MBA program:

1. Age 21–35
2. Earned a bachelor's degree
3. Undergraduate GPA of 3.0 or higher, or equivalent
4. Do not have an MBA or not currently enrolled in an MBA program
5. Interested in a business-related career or a management position in any profession or industry (and may already be working in business)
6. English proficient

In addition, the survey targeted residents of five countries: Brazil, China, Germany, South Africa, and the United States. The sponsor chose these countries primarily because of their geographic spread (five different continents). Within each continent, these countries are large and important in terms of size of economy and population. The countries are also different on other dimensions including language, economic development, education system, bachelor's degree attainment, graduate school attainment, and culture—dimensions that may relate to interest in graduate school and an MBA. Respondents self-reported their country of residence, so some foreign nationals may be included in country samples alongside citizens.

Respondents who met all the screening criteria continued into the actual survey instrument, which was divided into several sections. First, they reported interest in different types of graduate management education and in top-ranked, full-time MBA programs specifically. Next, they indicated aspects of a full-time program that deter them from pursuing the degree. For the 19 deterrents offered, respondents could indicate if it was a major deterrent, a minor deterrent, or not a deterrent. Respondents were asked demographic and additional background information such as gender, race/ethnicity, age, current work industry, country, region within country, personal income, parent education, undergraduate institution, GPA, and prior educational debt. All data in the survey were self-reported.

On average, respondents took 14–15 minutes to complete the survey. Forty-one percent of respondents completed the survey on a mobile device. Respondents had the option to take the survey in English in all countries, as well as Portuguese in Brazil (77% of respondents chose to do so), Chinese in China (88% of respondents), and German in Germany (47% of respondents). SSRS translated all non-English responses into English. None of the data was individually identifiable, and no follow-up surveys of the same individuals were conducted (or even possible).

As noted, survey respondents in the United States identified their undergraduate college in the survey. I used data from the Integrated Postsecondary Education Data System (IPEDS) to identify, for each U.S. college named in the survey, other college characteristics such as selectivity and whether the institution is an HBCU or HSI institution. Administered by the National Center for Education Statistics, part of the U.S. Department of Education, IPEDS systematically gathers information from all colleges,

universities, and vocational or technical schools that participate in any federal financial aid program (National Center for Education Statistics, n.d.). Respondents who studied outside the United States were not asked to identify their undergraduate institution in the survey.

Population and Sample

SSRS administered this survey online over 3 weeks in May 2019. Given the sponsor's desire to collect data in five countries, SSRS worked with online survey panel aggregator, EMI, to target individuals who met the screening criteria (e.g., age 21–35, college or university graduate, undergrad GPA of 3.0 or higher or equivalent). Individuals who took the survey were part of 1 of 18 actively managed research panels in EMI's partner network of more than 150 panels globally. Individuals in these research panels opt in to taking surveys and provide various demographic background information to the panel provider. SSRS and EMI focused on these panels because they had participants who were likely to meet the sponsor's goals for representation by country. Panelists received compensation for completing the surveys, such as points toward a gift card. Compensation is different for each online research panel. EMI sources panels are actively managed to enforce data standards and deduplication through the use of cookies and IP address monitoring, admitting only 30% of research panels into its partner network (EMI Research Solutions, 2016). Both SSRS and EMI have collected data for public opinion polling, Fortune 500 companies, news organizations, and think tanks (EMI Research Solutions, 2016; SSRS, 2020).

For this survey, EMI sent out targeted invitations and reminders to panelists in their partner network who fit the screening criteria. Beyond the screening criteria, the

survey sponsor had several goals for the sample. First, the sponsor desired 2,000 completions from the United States and 500 each from Brazil, China, Germany, and South Africa, with a roughly equal number of individuals identifying as female and male in each country.

Second, although no specific targets were set, the sponsor asked for a balanced mix of regional representation in each country and a mix of current work industries represented across all countries. Third, within the United States, the sponsor set a goal of obtaining at least 100 completions from individuals identifying as African American females, 100 as African American males, 100 as Hispanic females, and 100 as Hispanic males. Finally, within the United States, the sponsor provided to SSRS and EMI a list of undergraduate institutions that had been represented in the sponsor's full-time MBA student body in the last 5 years. The sponsor set a target that at least 70% of respondents had earned a bachelor's degree at one of the institutions on the supplied list.

SSRS and EMI monitored field progress daily to assess the breakdown of respondents who had completed the survey relative to the survey sponsor's goals for completions outlined previously. If a group was behind on its targeted number of completions, EMI targeted more panelists from that group. When the number of completions for a group reached the goal, panelists in that demographic group were no longer actively contacted.

Individuals who did not meet the screening criteria were stopped from advancing in the survey. To arrive at the goal number of completions, SSRS and EMI obtained an additional 10% sample in each country to account for responses that were inconsistent or anomalous. In a data cleaning process, SSRS removed responses that had "straight-

lining" behavior, were completed in less than half the average time, or failed two "trap" questions meant to test attentiveness. As shown in Table 3, 9,819 started the survey, and 4,414 met all the screening criteria and completed the full survey. SSRS removed 332 responses (about 7.5% of total completions) in the cleaning process to arrive at 4,082 final completions of the survey. These 4,082 responses are the underlying data used for this study.

Table 3

Survey Completions After Screening and Cleaning

Country	A. Survey Starts	B. Ineligible Based on Screen Criteria	C. Total Completions (A - B)	D. Removed in Cleaning	E. Final Completions (C - D)
Brazil	1,146	592	554	42	512
China	924	372	552	52	500
Germany	1,289	739	550	47	503
South Africa	1,313	763	550	38	512
United States	4,976	2,768	2,208	153	2,055
Other country	171	171	--	--	--
Total	9,819	5,405	4,414	332	4,082

Variables of Interest

The key dependent variables in this study were reported interest in a graduate business program and reported barriers to pursuing a full-time MBA program. I analyzed interest in graduate business programs using both descriptive and multivariate analyses. To analyze reported barriers to a full-time MBA program, I used descriptive statistics. I

segmented these analyses by a number of independent variables shown to be important in other studies of graduate school enrollment and access.

Demographic Characteristics

Several demographic characteristics feature prominently in prior studies of graduate enrollment including gender (e.g., Clune et al., 2001; Dela Cruz, 2012; Mullen et al., 2003; Perna, 2004), race/ethnicity (e.g., Collins, 2012; Edgington & Garcia, 2005; Hazenbush, 2018; Perna, 2004; Tienda & Zhao, 2017), and socioeconomic background (e.g., Mare, 1980; Mullen et al., 2003; Stolzenberg et al., 1988; Torche, 2011, 2018).

Table 4 shows the breakout of completed surveys by country and gender. The overall split was fairly even at 51% female and 49% male, but Brazil (46% female) and Germany (55% female) were less balanced. All other sponsor goals were met (completions per country, race/ethnicity and gender intersections in the United States, balance of regions and industries represented, and undergraduate university representation).

Table 4

Survey Completions by Country and by Gender

Country	Total	% Female	% Male
Brazil	512	46	54
China	500	52	48
Germany	503	55	45
South Africa	512	52	48
United States	2055	51	49
Total	4082	51	49

Table 5 highlights that, within the United States, the racial/ethnic breakout of this sample was roughly in line with total bachelor's degrees conferred in the United States in 2017–2018, though Hispanics were slightly overrepresented in the survey sample relative to the population of bachelor's degree conferred (18% vs. 14%; National Center for Education Statistics, 2019). Given small cell counts, those who selected more than one race, Native American, American Indian, Alaska Native, Native Hawaiian and other Pacific Islander, or other were combined into Multi-race/Other, non-Hispanic.

Table 5

Survey Completions in the United States by Race/Ethnicity and Gender Relative to Total Population of Bachelor's Degrees Holders in the United States by Race/Ethnicity

	Survey					NCES[a]
Race/ethnicity	Female	Male	Another gender identity	Total	Percent of total	Total bachelor's degrees conferred in 2017-2018
Asian, non-Hispanic	71	65		136	6.6%	8.0%
Black/AA, non-Hispanic	118	101		219	10.7%	10.4%
Hispanic	185	178		363	17.7%	14.2%
White, non-Hispanic	639	633	3	1,275	62.0%	63.2%
Multi-race/Other, non-Hispanic	36	25	1	62	3.0%	4.2%
Total	1,049	1,002	4	2,055		

Note. [a]Adapted from National Center for Education Statistics (2019).

In addition to gender and race/ethnicity, socioeconomic background and its relationship to graduate school access was another focus area. In this study, parents' highest level of education was used as a measure of socioeconomic background. The

survey gathered parent education in seven categories, which for the purposes of this study were collapsed into five categories (see Table 6).

Table 6

Number of Respondents by Parent Education Reported in Survey and Collapsed Categories Used in Study

Collapsed parent education category	N	Parent education reported in survey	N
High school or less	499	Less than a high school diploma/A few years of secondary education or less, including no formal education	122
		High school degree or equivalent/Completed secondary education/Matric/Grade 12	377
Some college	356	Some college, no degree/Some university education after secondary schooling, no degree	286
		Associate degree	70
Bachelor's degree	2504	Bachelor's degree/University degree	2504
Some graduate studies	208	Some master's/doctoral/post-graduate studies, no degree	208
Graduate degree	494	Master's degree, doctoral degree, or other post-graduate degree	494
I don't know	21	I don't know	21

Of the five categories of parent education, those representing a degree level (high school, bachelor's, graduate) had the highest number of respondents with 12%, 62%, and 12% of the total, respectively. In contrast, categories of "some college" and "some graduate studies" had relatively fewer respondents at 9% and 5% of the total, respectively. The intersection of parent education with race/ethnicity, gender, and country is shown in Table 7.

Table 7

Survey Completions by Parent Education and Respondent Race/Ethnicity, Gender, and Home Country

Respondent race/ethnicity, gender, home country	Parent education					
	High school degree or less	Some college	Bachelor's degree	Some graduate studies	Graduate degree	Total
Race/ethnicity (U.S. only)						
Asian, non-Hispanic	4	8	102	7	14	135
Black/AA, non-Hispanic	13	23	139	9	33	217
Hispanic	30	30	253	12	37	362
White, non-Hispanic	80	100	885	22	185	1272
Multi-race/Other, non-Hispanic	7	2	33	9	10	61
Gender						
Female	273	214	1182	117	284	2070
Male	225	141	1321	91	207	1985
Another gender identity	1	1	1	0	3	6
Home country						
Brazil	104	31	265	61	49	510
China	36	81	331	34	16	498
Germany	128	26	217	27	99	497
South Africa	97	55	279	27	51	509
United States	134	163	1412	59	279	2047
Total	499	356	2504	208	494	4061
Total (%)	12%	9%	62%	5%	12%	100%

Note. Twenty-one respondents who reported "I don't know" for parent education not shown in table.

Some prior studies (e.g., Tienda & Zhao, 2017) have modeled age as years since graduating from college. Age may be related to whether one has the job experience required for admission to an MBA program; on the other hand, older individuals may

have lower expectations of future earnings as they have fewer years to recoup the investment in a graduate degree such as an MBA program. Age was constrained to 21- to 35-year-olds in this study, and the average age in the sample was 29.

Home Country

Beyond demographic characteristics, the data from this cross-national survey allowed for studying the importance of home country. Although Perna (2006) developed the college choice model in a U.S. context, the multilayered conceptualization of choice may also apply in other geographies. Rather than home region relating only to one layer of the model, I conceptualized home region as a variable influencing many aspects of the graduate school choice model shown in Figure 2.

Home country may affect human capital calculations of the costs and benefits of attending graduate school such as available resources, attitudes about debt, and post-MBA salaries. Cultural and social capital—knowledge, educational expectations, access to information and networks, and language abilities (Bourdieu, 1986; Bourdieu & Passeron, 1977; Perna, 2006)—may also vary by home region. For example, lower prevailing rates of educational attainment in a country may depress information about graduate school, expectations for graduate school, and the use of graduate school to maintain social class. In another example, individuals from countries where English is common may be associated with higher rates of graduate school because they have linguistic cultural capital that is valuable in that domain because English is the language of instruction for many graduate business schools globally (Carvajal, 2007).

The percentage of the population that has completed a bachelor's degree, a prerequisite for pursuing an MBA, varies in these five countries. Among 25- to 34-year-

olds, 21% of Brazilians had achieved at least a bachelor's degree in 2018, compared to 8% for China in 2010, 33% for Germany in 2019, 5% for South Africa in 2018, and 40% for the United States in 2019 (OECD, 2020; see Table 8).

Table 8

College Attainment and GMAT Exams Administered by Home Country

Country of Residence	Percent of 25-34 year-olds with a bachelor's, master's, or doctoral degree[a]	GMAT Exams Taken[b]			GMAT Scores Sent to Graduate Program by Type[b]		
		Total Exams	Per million residents[c]	by Females	MBA	Business Master's	Doctoral/ Other
Brazil	21%	1,782	8	32%	85%	12%	4%
China	8%	52,350	38	70%	16%	79%	5%
Germany	33%	4,063	51	37%	18%	80%	2%
South Africa	5%	628	11	36%	86%	13%	1%
United States	40%	82,844	251	42%	73%	23%	4%
Global Total		225,621		47%	61%	36%	4%

Note. [a]Adapted from OECD (2020); [b]Adapted from Svancer et al. (2019). [c]Adapted from Svancer et al. (2019) and U.S. Census Bureau (2019).

As noted in Table 2, awareness and prevalence of the MBA and other graduate business degrees also vary by country, as evidenced by the differences in the number of GMAT tests administered in each country and region. Although differences in bachelor's degree attainment may influence GMAT test volume, the volume may also reflect attitudes toward the degree, especially the perceived acceptance by employers. For the countries represented in this study, there are large differences in GMAT testing patterns

(see Table 8). Of note, whereas across the world, women wrote 47% of the GMAT exams administered in test year 2019, in China they accounted for 70%. In Brazil, Germany, South Africa, and the United States, women accounted for 42% or less of all GMAT exams administered (Svancer et al., 2019). There are also differences in the types of graduate business programs to which test takers in these five countries sent their GMAT scores. Scores in Brazil, South Africa, and the United States were predominantly sent to MBA programs (full time, part time, or executive); in China and Germany, roughly 80% of scores were sent to business master's programs.

Employment Industry

A person's work environment may relate to differences in social or cultural capital and the perceived value of an MBA. For example, individuals who have work colleagues with an MBA have access to more information about business school and may rely on these informal social networks for support in the aspiration and application phases of the decision. Some industries, such as professional services/finance, have a higher concentration of business school alumni, which may, as a result, be associated with lower barriers to access for individuals in these industries. To facilitate the interpretation of results, I collapsed the 19 choices offered for industry on the survey to nine industry categories (see Table 9). Individuals who selected more than one industry category were included in Other.

Table 9

Number of Respondents by Field of Employment

Collapsed industry category	N	Employment industry specified in survey
Student/unemployed	369	I am currently a student; not currently working/never previously employed
CPG/retail	269	Consumer packaged goods, food, beverage, and apparel; retail
Education	329	Education
Health care	380	Health care, biotechnology, and pharmaceuticals
Industrials/manufacturing	566	Automobiles and auto parts; capital goods (aerospace, defense, building products, electrical equipment, machinery); energy; materials (chemicals, construction materials, containers, metals, mining, paper, forest products); manufacturing; utilities
Media/travel	309	Communications, media and entertainment; hospitality (hotels, restaurants, etc.); transportation
Prof. services/finance	715	Commercial and professional services; financial services and real estate
Technology	536	Technology (IT services, software, hardware, semiconductors)
Other or multiple selected	609	Other; multiple industries selected

Financial considerations. From a human capital consideration, individual income may be associated with aspirations and plans for graduate school. Income represents a source of money that could be saved to help pay for graduate school. Income may also be related to academic ability. Together these suggest income may be positively related to enrolling in graduate school. At the same time, current income represents one element of the opportunity cost an individual may need to forego if enrolling in a full-time graduate program. As income rises, so too does the opportunity cost, which may be related to lower average interest in an MBA program. Respondents reported their income in $25,000 bands ranging from less than $25,000 to more than $200,000. Respondents outside of the United States saw equivalent income amounts in local currencies using

prevailing exchange rates in April 2019 (see Appendix A). SSRS used these same exchange rates to convert all figures into U.S. dollars.

Prior educational debt may deter interest in an MBA program due to debt aversion or liquidity constraints (Lei Zhang, 2013). As noted previously, some studies have found a negative relationship between undergraduate debt and graduate school enrollment (Eagan & Newman, 2010; Malcom & Dowd, 2012; Millett, 2003), and others have found no association (English & Umbach, 2016; Wakeling & Laurison, 2017). In the survey, respondents shared prior educational debt as a continuous variable. After analyzing the distribution of the responses, I divided the data into $10,000 categories from $0.00 to $40,000 or more. Educational debt was gathered using local currencies, and SSRS converted them to U.S. dollars using the prevailing exchange rates at the time the data were collected (see Appendix A).

Undergraduate Institution Characteristics

Interest in graduate management education programs and barriers to access may vary by undergraduate college characteristics given the importance of peer effects (Hoxby, 1997; Winston & Zimmerman, 2004) and differences in college resources (Eide et al., 1998), which may influence social and cultural capital, raising expectations for graduate school and support for the application process. Undergraduate GPA (Clune et al., 2001; Eide et al., 1998; English & Umbach, 2016; Millett, 2003; Tienda & Zhao, 2017; Lei Zhang, 2013) and institutional selectivity (Bielby et al., 2014; Eide et al., 1998; Millett, 2003; Liang Zhang, 2005) are common measures included in studies of graduate school enrollment. GPA and college selectivity may both be positively associated with

interest in graduate school as they relate to an individual's ability in an undergraduate context that may help them succeed in a graduate program.

In the survey, respondents shared their cumulative GPA and the grading scale used by their university. In the United States, categories were provided from 2.00 to 4.00 in increments of 0.20. As noted above, all respondents below a 3.00 or B average equivalent were screened out and not allowed to continue in the survey. For global GPA scales, SSRS converted all scores to a B or an A average equivalent, using conversion tables from World Educational Services, a transcript verifying service (World Education Services, 2019). SSRS coded U.S. GPAs of 3.0 to 3.6 as a B average and GPAs greater than 3.6 (up to 4.0) as an A average.

In the U.S.–specific analyses, I used the acceptance rate data from IPEDS to measure college selectivity, collapsing raw selectivity percentages into selectivity categories aligned with the NCES Digest of Education Statistics (National Center for Education Statistics, 2018a). Acceptance rates were from 2018 or, where that was not available, the most recent year in which acceptance rate was reported in IPEDS. For the U.S. model, I used IPEDS data to identify HBCU and HSI institutions. Cell counts were relatively small for HBCU and HSI colleges. For this reason, the two were combined in descriptive and multivariate analyses, so each U.S. college was categorized as HBCU/HSI or non-HBCU/HSI. A summary of all variables in this study that were associated with aspiration for a graduate business program is included in Table 10.

Table 10

Independent Variables in This Study: Characteristics That May Be Associated With Interest in Graduate Management Education

Variable	Values
Gender	Female; male; another identity
Race and ethnicity (U.S. only)	Asian, non-Hispanic; Black/African American, non-Hispanic; Hispanic; White, non-Hispanic; Multi-race/Other, non-Hispanic
Parent education	High school degree or less; Some college; Bachelor's degree; Some graduate studies; Graduate degree; I don't know
Age	21-35
Home country	Brazil; China; Germany; South Africa; United States
U.S. region	Midwest; Northeast; South; West
Employment industry	Student/unemployed; CPG/retail; Education; Health care; Industrials/manufacturing; Media/travel; Prof. services/finance; Technology; Other or multiple selected
Income ($USD)	Less than $25,000; $25,000 to less than $50,000; $50,000 to less than $75,000; $75,000 to less than $100,000; $100,000 to less than $125,000; $125,000 to less than $150,000; $150,000 or more
Prior education debt ($USD)	$0 (no debt); $1 to less than $10,000; $10,000 to less than $20,000; $20,000 to less than $30,000; $30,000 to less than $40,000; $40,000 or more
Undergraduate GPA (all)	B average or equivalent; A average or equivalent
Undergraduate GPA (U.S. only)	3.00-3.19; 3.20-3.39; 3.40-3.59; 3.60-3.79; 3.80-4.00 or higher; Not available
Selectivity of undergraduate institution (U.S. only)	90 percent or more accepted; 75 to less than 90 percent; 50 to less than 75 percent; 25 to less than 50 percent; Fewer than 25 percent accepted; Not available
Institution type (U.S. only)	Non-HBCU/HSI; HBCU/HSI; Not available

Analytical Approach

The next section outlines my approach for analyzing the four research questions of this study. I employed descriptive and multivariate analyses of the May 2019 survey data.

Research Question 1

How do characteristics of individuals who report interest in a business master's, part-time MBA, executive MBA, and full-time MBA differ? To address this question, I calculated the percentage who reported interest in each type of graduate business program, broken out by demographic and other respondent characteristics. For this analysis, I used a question from the survey, which asked, "Are you interested in any of the following types of graduate business programs? (Please select as many as apply.)." Respondents were presented with nine choices, which I collapsed into four graduate management education categories, consistent with Daniel et al. (2019), as shown in Table 11. Note that these are not mutually exclusive categories given respondents could "select as many as apply." If an individual selected one or more of the degree programs within the collapsed category, I identified them as reporting interest in that collapsed category.

Given the differences in perceived benefits and costs, formats, and intensity, there may be differences in the characteristics of individuals who aspire to each category of graduate management education. Business master's degrees are typically one full-time year, and many do not require work experience (Daniel et al., 2019). As a result, business master's students are typically early in their careers or straight out of college. Although the MBA has long been the dominant graduate business degree, business master's

degrees have grown rapidly in popularity, especially since 2010 (Hazenbush, 2019; Schoenfeld & Daniel, 2017).

Table 11

Reported Interest in Graduate Business Education by Type of Program

Collapsed category	N	Degree program listed in survey	N
Business master's	1910	MS in Management	1059
		MS in Finance	687
		MS in Business/Data Analytics	802
		MS in Accounting	503
		Less overlapping interest within category	*1141*
Part-time MBA	1667	Part-time MBA	1006
		Online/distance learning MBA	1184
		Less overlapping interest within category	*523*
Executive MBA	735	Executive MBA	735
Full-time MBA	1457	Full-time MBA, two years	1203
		Full-time MBA, less than two years	659
		Less overlapping interest within category	*405*

Compared to part-time and executive MBA degrees, and business master's programs, full-time MBA programs are higher prestige and provide access to more lucrative career outcomes (Datar et al., 2010). Full-time programs are also more selective, enrolling a more academically talented and diverse set of students by gender, race/ethnicity, and citizenship (Schmitt, 2017). Though students in part- and full-time programs must all pay direct costs (tuition and fees), the opportunity costs faced by full-time students are higher. In full-time MBA programs, students typically stop working and forego their salary for 1 or 2 years. Many also incur the cost of moving to a new city. In a

part-time or executive MBA program, students continue working, though sometimes at reduced levels.

As the popularity of part-time and executive MBA programs has grown, the share of MBA students enrolled in full-time programs has declined dramatically, especially at lower ranked business schools (Datar et al., 2010). Some business schools, such as those at University of Illinois at Urbana-Champaign, Wake Forest, and Virginia Tech, have closed their full-time MBA programs in favor of part-time and executive format MBA programs (Gee, 2019).

Research Question 2

How do reported barriers to applying to a full-time MBA program vary by gender, race/ethnicity, parent education, and home country? This question focuses on barriers individuals face in applying to full-time programs in particular. The survey asked those who reported an interest in a full-time MBA:

> There are many reasons why some people apply for full-time MBA programs and others do not. For each of the following, please indicate whether it is a reason that might deter you from applying to a full-time MBA program.

The survey offered 18 potential deterrents from which to choose in four categories (see Table 12). For each, individuals indicated whether it was a "major" deterrent, a "minor" deterrent, or "not a deterrent," selecting as many as applied. In a follow-up question, respondents indicated which one was their main deterrent. The wording of the question was slightly different for those who indicated an interest in a full-time MBA versus those who did not indicate an interest in a full-time MBA (see Appendix A). In addition to the 18 deterrents from which respondents could select, individuals could identify "some other reason" for not being interested in a full-time MBA. Thirty-four individuals wrote in a

response for “some other reason” with responses varying widely. Given the small number and variance of write-in responses, they were not coded and remained in “other.”

Table 12

Deterrents to Pursuing a Full-Time MBA With Abbreviations Used in Study

Abbreviation	Deterrent as shown in survey
Financial deterrents	
Not enough money	I do not have enough money to pay for business school right now.
Not enough financial aid	I don’t believe I would receive enough financial aid to make the program affordable for me.
Too much debt required	I may have to take on a large amount of debt to attend business school.
Compensation now is enough	My compensation in my current job is enough right now.
Application fee too high	The $200-$300 application fee per school is too much for me to afford right now.
Financial return not worth it	The financial return is not worth it.
Personal deterrents	
Cannot postpone life events	Attending business school may require me to postpone life events (such as marriage, children, buying a home, etc.).
Cannot relocate	I am unable to relocate.
May not be able to work in U.S.	I may not be able to work in the U.S.
Time demands too great	The demands on my time would be too great.
Program not for people like me	These programs are not for people like me.
Career deterrents	
MBA not relevant in my field	An MBA is not relevant in my field.
Career opportunities delayed	Attending business school could delay me from accepting career opportunities that may come up before I would finish the program.
Satisfied in current job	I am satisfied enough with my current job for now.
Post job prospects not appealing	My post-MBA job prospects are not appealing enough.
Admissions deterrents	
Don't have qualifications	I don’t believe I have the qualifications to be admitted to a top-ranked program.
Don’t have time for application	I don't have the time required to complete a competitive application right now.
Standardized tests too daunting	Taking the required standardized test (typically GMAT or GRE) is too daunting.
Other	Some other reason

To address this research question, I calculated the frequency at which each deterrent was selected as the main deterrent across all respondents. I then broke out the results by gender, race/ethnicity, parent education, and home country. The goal of this set of descriptive statistics was to uncover which deterrents—financial, personal, process, or career—were most salient for certain groups of potential applicants.

Research Question 3

How does reported interest in a top-ranked, full-time MBA vary by gender, race/ethnicity, and parent education? Given differences in selectivity, prestige, and career outcomes associated with top-ranked MBA programs (Cappelli et al., 2014; Gross, 2019; Schmitt, 2017; Wai & Lincoln, 2016), educational access may vary for these programs. Building on the prior descriptive statistics, I employed a multivariate logistic regression model to address this question.

The dependent variable in this model came from a question on the survey that listed 17 top-ranked, full-time MBA programs from around the world and asked respondents, "Which of these full-time MBA programs, if any, would you be interested in applying to? (Please select as many as apply.)." I coded individuals who reported interest in a full-time MBA, and one or more of the 17 top-ranked programs as interested in a top-ranked, full-time MBA program, as a dichotomous variable. The independent categorical variables of gender, race/ethnicity, parent education, and home country were operationalized as dichotomous variables with reference categories.

Research Question 4

Are observed differences in reported interest in a top-ranked, full-time MBA by gender, race/ethnicity, and parent education explained by home country, other individual

characteristics, and measures of undergraduate college context? In Model 2, I added in the remaining independent variables from Table 10 as a separate block to the logistic regression model to measure how observed differences in reported interest by gender, race/ethnicity, and parent education may be explained by differences in other variables. Given the effect of geography or home country has been relatively untested in the graduate choice literature to date, I also ran separate models for each country. In the U.S. model, I added in variables for region, GPA on a 4.0 scale, selectivity of undergraduate institution, and institution type (HBCU/HSI). In the models for Brazil, China, Germany, and South Africa, where the *n* was smaller, I collapsed categories for parent education, personal income, and prior educational debt given smaller cell counts (see Table 13).

Limitations

Although this study aimed to add to what is known about aspirations for graduate school and underrepresentation of some groups in top-ranked MBA programs, there are some important limitations. The survey panels drawn from for this survey were designed to be representative, but respondents may have been different—in unknown ways—from individuals who do not join survey panels. Furthermore, the survey included minimal indicators of social and cultural capital. Small cell counts for some racial/ethnic groups (Native American, American Indian, Alaska Native, Native Hawaiian and other Pacific Islander) limited the ability to probe all groups of potential interest. Another limitation was that respondents participated in this as a one-time survey, and no follow-up qualitative data gathering was possible from the same respondents.

Table 13

Respondents by Collapsed Variables Used for Multivariate Country Analyses

Variable	Brazil	China	Germany	South Africa	United States
Parent education (highest level)					
Categories used in full model					
High school degree or less	104	36	128	97	134
Some college	31	81	26	55	163
Bachelor's degree	265	331	217	279	1412
Some graduate studies	61	34	27	27	59
Graduate degree	49	16	99	51	279
I don't know	2	2	6	3	8
Collapsed categories for non-U.S. country models					
Less than bachelor's degree	135	117	154	152	--
Bachelor's degree	265	331	217	279	--
Some graduate studies or degree	110	50	126	78	--
I don't know	2	2	6	3	--
Income ($USD)					
Categories used in full model					
Less than $25,000	205	71	131	297	266
$25,000 to less than $50,000	90	111	151	120	510
$50,000 to less than $75,000	47	109	110	39	519
$75,000 to less than $100,000	57	95	49	14	365
$100,000 to less than $125,000	27	60	33	12	190
$125,000 to less than $150,000	23	25	13	5	103
$150,000 or more	63	29	16	25	102
Collapsed categories for non-U.S. country models					
Less than $25,000	205	71	131	297	--
$25,000 to less than $75,000	137	220	261	159	--
$75,000 or more	170	209	111	56	--
Prior education debt ($USD)					
Categories used in full model					
$0 (no debt)	187	218	201	170	612
$1 to less than $10,000	244	100	134	265	384
$10,000 to less than $20,000	33	45	68	40	222
$20,000 to less than $30,000	14	53	40	19	202
$30,000 to less than $40,000	8	21	13	7	151
$40,000 or more	26	63	47	11	484
Collapsed categories for non-U.S. country models					
$0 (no debt)	187	218	201	170	--
$1 to less than $10,000	244	100	134	265	--
$10,000 or more	81	182	168	77	--
Total respondents	512	500	503	512	2055

Respondents volunteered to complete the survey and self-report all data in the survey, which may have influenced responses to some questions in unknown ways. For example, respondents were asked to report their income, GPA, and parents' education. Though this survey was anonymous, societal expectations may have influenced some to report different than actual figures for these or other questions. In some cases, individuals who did not actually meet the screening criteria for English proficiency, grades, bachelor's degree attainment, and interest in a business career or management role may have completed the survey. Nonetheless, respondents were unlikely to provide untruthful responses to complete the full survey, as the screening criteria were not known to respondents, and, as noted before, SSRS "cleaned" out unreliable responses.

Another limitation was the survey asked respondents for their interest in many of the generally accepted top MBA programs globally, but a few "top" schools may have been missing. For example, of the top 10 programs identified by the *Financial Times* 2020 ranking, one school, HEC Paris, was missing from the survey. Expanding to the top 20 on the *Financial Times* ranking, five more schools were missing from the survey: IESE, NUSBS, Cambridge Judge, HKUST, and Oxford Saïd (Financial Times, 2020). On the *U.S. News & World Report* 2020 ranking of MBA programs, the top 10 programs were all represented, but five programs in the top 20 were not represented on the survey: UCLA Anderson, CMU Tepper, USC Marshall, UNC Chapel Hill, UT McCombs (U.S. News & World Report, 2020). The limitation here was that some respondents may have been interested in a top 11–20 school not represented on the list of 17 presented in the survey and therefore were not counted as aspiring to a "top-ranked" MBA program.

This study relied on data from five countries that are different on multiple dimensions such as global geographic position, land area, population size, native language, educational system, and average income. Despite the diversity in the countries sampled, other countries vary meaningfully from these five. That limitation acknowledged, analyzing data from five countries from the same survey instrument (in combined and separate models) helped highlight the mediating effect of country and geographic region as related to graduate school choice.

SSRS fielded the survey in May 2019, near the end of a long economic expansion in the United States and other countries around the world. Applications to MBA programs typically fall in strong macroeconomic conditions as potential students stay in the job market to take advantage of increasing wages and promotion opportunities. In contrast, when the economy falters, applications to MBA programs typically increase (P. Thomas, 2020). This survey thus captured a snapshot of time when general interest in a graduate business program may have been relatively lower.

CHAPTER 4

FINDINGS

This study used data from a survey conducted in May 2019 of bachelor's degree holders in five countries. All respondents were screened as potentially qualified applicants for a top-ranked, full-time MBA program: age 21–35, held a bachelor's degree with a GPA of 3.0 or higher (or the equivalent), interested in a business-related career or management role in any industry, and proficient in English. This novel data set allowed for study at a crucial point in the graduate school access timeline: after bachelor's degree completion and in the early years in a career. This study used descriptive and multivariate analyses of these data to determine how reported interest in graduate business school—and salient deterrents to applying—vary by characteristics of the individuals themselves and their undergraduate experiences. The findings are presented by research question.

Research Question 1

How do characteristics of individuals who report interest in a business master's, part-time MBA, executive MBA, and full-time MBA differ?

Overall Interest

The survey question about interest allowed for multiple responses: "Are you interested in any of the following types of graduate business programs? (Please select as many as apply.)" (see Appendix A for the survey instrument). Overall, the highest proportion of respondents reported interest in a business master's program (47%) and a part-time MBA (41%). The interest reported for a full-time MBA (36%) and a top-ranked, full-time MBA (32%) was lower among all respondents. Only those who reported interest in a full-time MBA were asked about their interest in a top-ranked program, so the latter

was a subset of the former. Eighteen percent of respondents were interested in an executive MBA. This low level of interest for an executive MBA program was likely influenced by the age constraint in the sample (age 21–35), because most executive MBA programs attract older students (Heath Anderson, 2020).

Table 14

Overlap in Reported Interest in Graduate Business Programs

	Reported interest		Percent of row who also reported interest in:				
Program	N	Percent of total	Business Master's	Part-time MBA	Executive MBA	Full-time MBA	Top-ranked Full-time MBA
Business Master's	1910	47%	--	43%	25%	39%	36%
Part-time MBA	1667	41%	50%	--	24%	42%	38%
Executive MBA	735	18%	65%	55%	--	53%	51%
Full-time MBA	1457	36%	51%	47%	27%	--	91%
Top-ranked full-time MBA	1319	32%	52%	48%	28%	100%	--

This study revealed a high level of overlapping interest in different types of graduate business programs among potential applicants (see Table 14). Among those who aspired to a full-time MBA, about half also reported interest in a part-time MBA or a business master's degree (47% and 51%, respectively). Among the smaller group who reported interest in an executive MBA, an even higher percentage also reported interest in a full-time MBA (53%), part-time MBA (55%), or a business master's (64%). Of all those who reported an interest in a full-time MBA, 91% were interested in a top-ranked, full-time MBA.

Gender

When considering reported interest by gender, a smaller percentage of women than men reported interest in business master's programs (44% for women vs. 50% for men), executive MBA programs (15% vs. 22%), full-time MBA programs (32% vs. 40%), and top-ranked, full-time MBA programs (28% vs. 37%). The gap in reported interest between women and men was highest for top-ranked, full-time MBA programs (nine percentage points). Only for part-time MBA programs did women more commonly report interest (44%) than men (38%; see Table 15).

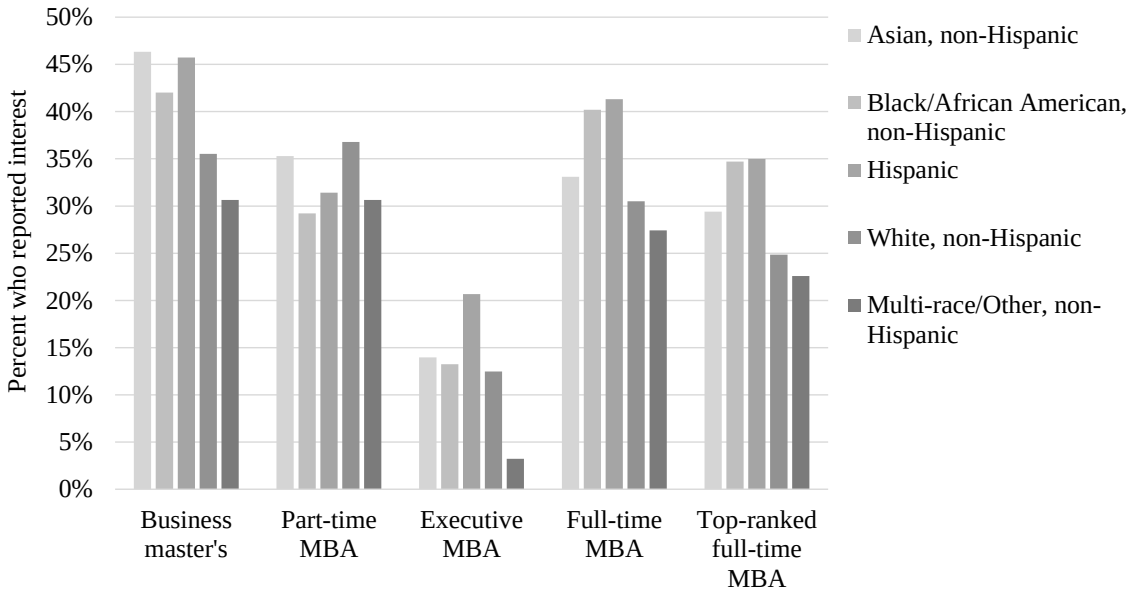
Race/Ethnicity

The survey gathered data on race/ethnicity for U.S. respondents only, so the findings here were limited to 2,055 respondents, or about half of the sample. Hispanics and Blacks reported interest in a full-time MBA at higher rates (41% and 40%) relative to Asians (33%) and Whites (31%). The same was true for a top-ranked, full-time MBA where 35% of Hispanics and Blacks reported interest relative to 29% of Asians and 25% of Whites. Hispanics most frequently reported interest in an executive MBA at 21% versus 12%–14% for Asians, Blacks, and Whites. For Asian Americans and Whites, the lower rates of interest in a full-time MBA program (33% and 31%) were paired with higher interest in a part-time program at 35% and 37% relative to the interest reported in a part-time MBA by other racial/ethnic groups (29%–31%; see Figure 3). Given data limitations, I was unable to examine patterns for Native American, American Indian, Alaska Native, and Native Hawaiian and other Pacific Islander, nor examine differences within groups such as Asian Americans.

Within each race/ethnicity group, Asian Americans, Blacks, and Hispanics more commonly reported interest in business master's programs than other graduate business programs. Asian Americans reported interest in a business master's 13 percentage points more frequently than in a full-time MBA (46% vs. 33%). The difference was five percentage points for Hispanics (46% vs. 41%) and just two percentage points for African Americans (42% vs. 40%). The percentages of White and Multirace/Other respondents interested in a business master's were roughly equal to those interested in a part-time MBA (36%–37% for Whites, 31% for Multirace/Other) and 4–5 percentage points higher than those interested in a full-time MBA (31% for Whites, 27% for Multirace/Other).

Figure 3

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Race/Ethnicity



Note. U.S. respondents only. Respondents could report interest in more than one program.

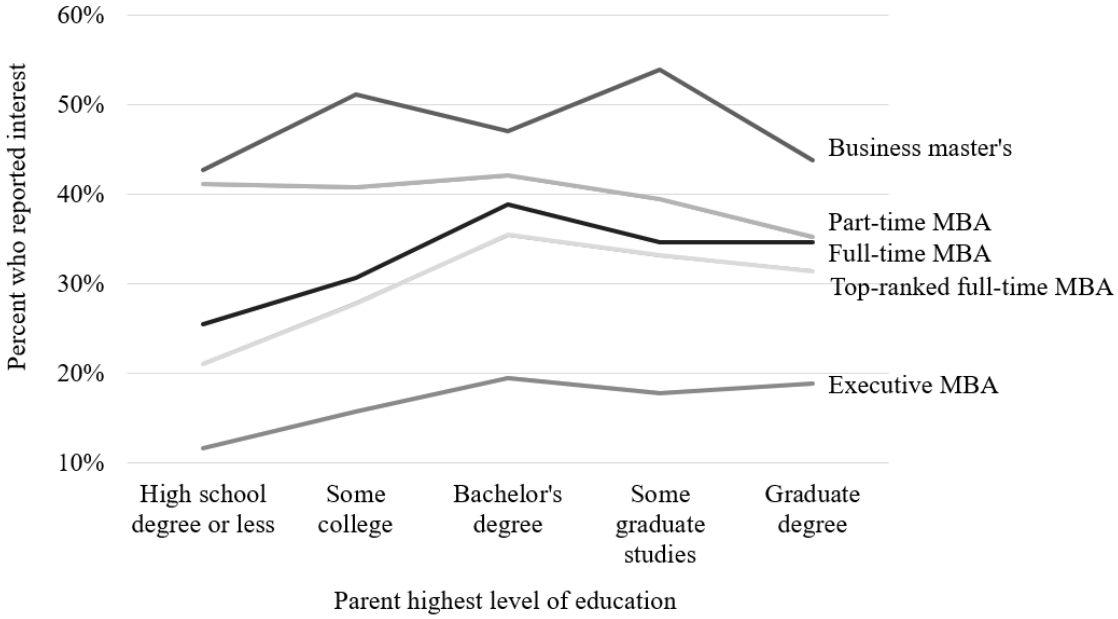
Parent Education

Those whose parents attained a bachelor's degree reported the highest rates of interest in executive, full-time, and top-ranked, full-time MBA programs. For all programs except an executive MBA, those whose parents achieved a bachelor's degree more commonly reported interest than those whose parents earned a graduate degree. For example, 39% of the individuals whose parents' highest education level was a bachelor's degree reported interest in a full-time MBA versus 35% of those whose parents earned a graduate degree. Respondents whose parents had no more than a high school degree least frequently reported interest in all graduate business programs except for a part-time MBA (see Table 15).

In contrast to this unimodal pattern of interest in an MBA program centered around those whose parents attained a bachelor's degree, interest in a business master's program is multimodal (see Figure 4). There are relatively higher rates of interest among those whose parents completed "some college" but no college degree (51%) or "some graduate studies" but no graduate degree (54%) than those whose parents ended their studies with a degree—high school degree (43%), bachelor's degree (47%), or graduate degree (44%).

Figure 4

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Parent Education



Note. Respondents could report interest in more than one program.

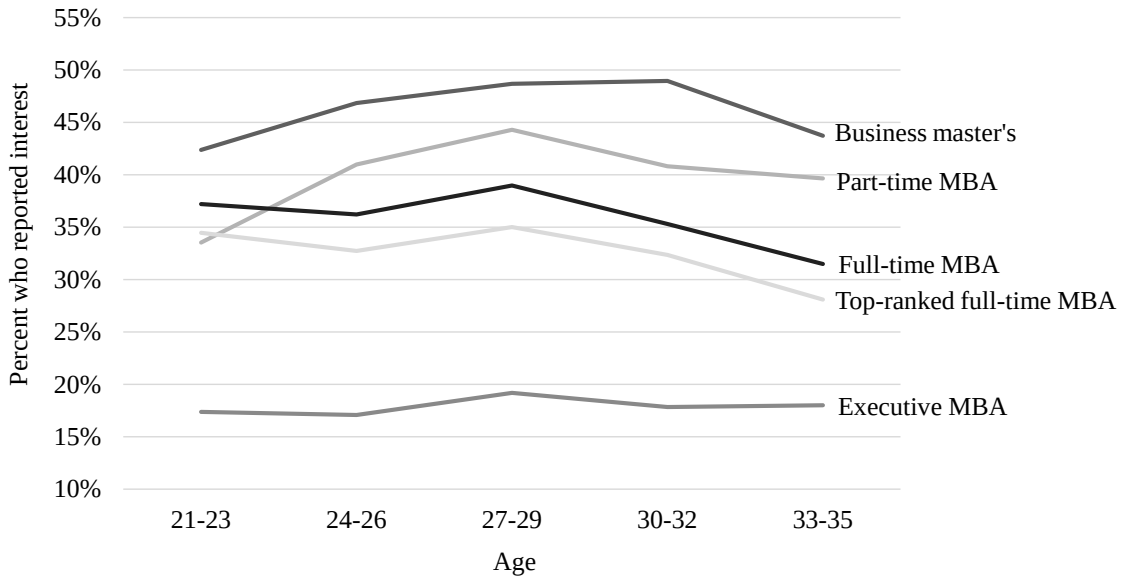
Although interest in a part-time MBA is more common than interest in a full-time MBA for all categories of parent education, the difference narrows as parent education increases. Among those whose parents earned a high school degree or less, respondents reported interest in a part-time MBA 16 percentage points higher than interest in a full-time MBA. That difference narrows to three percentage points among those whose parents earned a bachelor's degree and to less than one percentage point difference among those whose parents earned a graduate degree (see Figure 4).

Age

Interest in graduate business programs varied somewhat by age. Among the youngest age group of respondents in this sample, those ages 21–23, a roughly similar proportion (34%–37%) was interested in a part-time MBA, full-time MBA, and top-ranked, full-time MBA. Interest rates among this age group were higher for a business master's (42%) and lower for an executive MBA (17%). Among those in the next age group, 24–26, rates of interest were higher for business master's and part-time MBA programs (47 and 41 %, respectively) and lower for full-time and top-ranked, full-time (36 and 33 %). Across all age groups, those interest rates for part-time, executive, and full-time MBA programs were highest for ages 27–29. For all programs except for business master's, interest rates were lower among those age 30–32. Those age 33–35 seemed to have less interest than others in business master's degree, full-time MBA, and top-ranked, full-time MBA. Interest in an executive MBA did not vary much among 21- to 35-year-olds (see Figure 5).

Figure 5

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Age Group



Note. Respondents could report interest in more than one program.

Reported interest in business master's programs and part-time MBA programs was higher than for other programs and more consistent across age groups. Reported interest in business master's programs ranged from 42% for those age 21–23 up to 49% for those age 30–32. Table 15 summarizes the reported interest across demographic characteristics: gender, race/ethnicity, parent education, and age.

Table 15

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Demographic Characteristics

	Business master's	Part-time MBA	Executive MBA	Full-time MBA	Top-ranked full-time MBA	N
Total	47%	41%	18%	36%	32%	4082
Gender						
Female	44%	44%	15%	32%	28%	2083
Male	50%	38%	22%	40%	37%	1993
Another identity	--	--	--	--	--	6
Race and ethnicity (U.S. only)						
Asian, non-Hispanic	46%	35%	14%	33%	29%	136
Black/African American, non-Hispanic	42%	29%	13%	40%	35%	219
Hispanic	46%	31%	21%	41%	35%	363
White, non-Hispanic	36%	37%	12%	31%	25%	1275
Multi-race/Other, non-Hispanic	31%	31%	3%	27%	23%	62
Total U.S.	39%	35%	14%	34%	28%	2055
Parent education (highest level)						
High school degree or less	43%	41%	12%	25%	21%	499
Some college	51%	41%	16%	31%	28%	356
Bachelor's degree	47%	42%	19%	39%	35%	2504
Some graduate studies	54%	39%	18%	35%	33%	208
Graduate degree	44%	35%	19%	35%	31%	494
I don't know	--	--	--	--	--	21
Age						
21-23	42%	34%	17%	37%	34%	328
24-26	47%	41%	17%	36%	33%	837
27-29	49%	44%	19%	39%	35%	980
30-32	49%	41%	18%	35%	32%	1054
33-35	44%	40%	18%	31%	28%	883

Note. Respondents could report interest in more than one program.

Home Country

Highlighting differences in aspiration for graduate school across countries was a key contribution of this study because most extant studies of graduate school enrollment and attainment draw on data from just one country. Findings highlighted that rates of interest in graduate business programs vary across the five countries included in this study (see Table 16). For all program types, Chinese respondents reported the highest rate of interest, by a large margin—sometimes more than 30 percentage points. For example, 75% of Chinese respondents reported interest in a business master's versus 58% of those from Brazil, 44% from Germany and South Africa, and 39% from the United States. The rate of interest in an executive MBA was lower for Brazil (29%) than China (33%) but substantively higher than for Germany (14%), South Africa (13%), and the United States (13%).

For full-time MBA programs and top-ranked, full-time MBA programs, the reported interest was remarkably similar across all countries except for China. About a third of respondents in Brazil, Germany, South Africa, and the United States reported interest in a full-time MBA, with a somewhat smaller proportion interested in a top-ranked, full-time program. In contrast, 58% of Chinese respondents reported an interest in a full-time MBA. Furthermore, every Chinese respondent who indicated an interest in a full-time MBA also reported interest in a top-ranked program. In the United States, 34% of respondents were interested in a full-time MBA, but only 28% in a top-ranked program, the largest differential between interest in top-ranked and all full-time programs in any country in the study.

U.S. Region

Across the four census divisions within the United States, few differences are notable (see Table 16). Those from the Western region reported a higher rate of interest in business master's and full-time MBA programs than those from other regions. Those from the Midwest reported the lowest rate of interest in top-ranked, full-time MBA programs at just 23% of respondents relative to the 29%–31% of respondents from other regions of the country.

Employment Industry

Interest in a graduate business program varied somewhat by industry among respondents in this survey. Those working in industrials/manufacturing reported the highest rates of interest among all industry groups for part-time (47%), full-time (45%), and top-ranked, full-time MBA (42%), and the third highest proportion of interest for a business master's degree (53% vs. 55% of those working in the technology or professional services/finance industries; see Table 16). Those working in the technology sector had the highest proportion interested in an executive MBA (25%) and the second highest proportion interested in a full-time (40%) and top-ranked, full-time MBA program (39%). In general, smaller proportions of those working in education, health care, and those in the student/unemployed group were interested in graduate business programs relative to other industry groups.

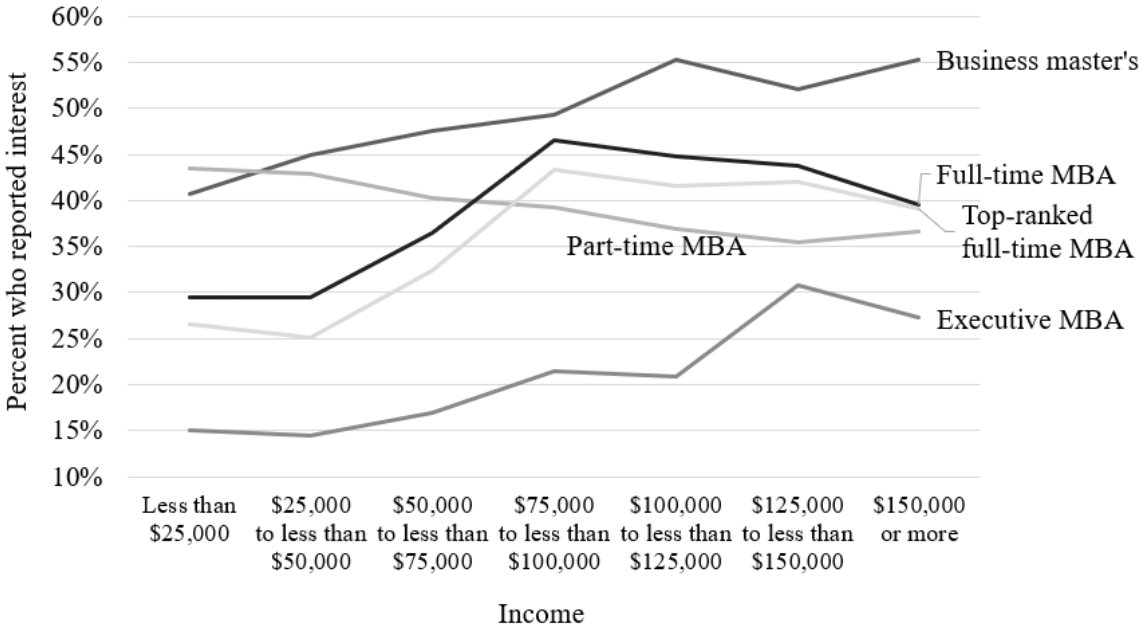
Personal Income

Rates of interest in a business master's program rise with income. Forty-one percent of those who make less than $25,000 were interested, a proportion that rises to 52%–55% of those who make $100,000 or more. These findings highlight the broad

appeal of business master's programs across a wide set of income levels. Interest in an executive MBA followed roughly the same pattern, with interest rising from 15% of those earning less than $25,000 to 27%–31% for those earning $125,000 or more. Interest in a part-time MBA followed a different pattern, with a negative relationship between rate of interest and income. Forty-three percent of those earning $50,000 or less were interested in a part-time MBA, and just 36%–37% of those who make over $100,000 were interested (see Figure 6).

Figure 6

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Income



Note. Respondents could report interest in more than one program.

Interest in a full-time and top-ranked, full-time MBA peaked for those earning $75,000–$100,000 with interest declining slightly as income increased beyond $100,000.

Less than 30% of those who earn $25,000 or less were interested in a full-time MBA relative to 47% of those who earn between $75,000 and $100,000 and 40%–45% of those who earn more than $100,000.

As income rises, individuals interested in a full-time MBA were more likely to report interest in a top-ranked program. The difference in the proportion interested in a full-time MBA and top-ranked, full-time MBA program narrowed from a 5-percentage-point difference for those who earn $25,000 to $50,000 to less than a one percentage point for those who earn $150,000 or more.

Table 16

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Geographic and Employment Characteristics

	Business master's	Part-time MBA	Executive MBA	Full-time MBA	Top-ranked full-time MBA	N
Total	47%	41%	18%	36%	32%	4082
Home country						
Brazil	58%	41%	29%	31%	30%	512
China	75%	60%	33%	58%	58%	500
Germany	44%	41%	14%	31%	28%	503
South Africa	44%	46%	13%	31%	30%	512
United States	39%	35%	14%	34%	28%	2055
U.S. region						
Midwest	35%	35%	11%	29%	23%	431
Northeast	37%	38%	17%	34%	29%	442
South	39%	32%	12%	34%	28%	772
West	43%	36%	17%	37%	31%	410
Employment industry						
Student/unemployed	38%	30%	13%	28%	24%	369
CPG/retail	49%	42%	21%	36%	32%	269
Education	33%	38%	11%	33%	30%	329
Health care	34%	39%	11%	30%	27%	380
Industrials/manufacturing	53%	47%	22%	45%	42%	566
Media/travel	39%	39%	17%	32%	27%	309
Prof. services/finance	55%	41%	19%	36%	32%	715
Technology	55%	41%	25%	40%	39%	536
Other or multiple selected	47%	44%	17%	34%	30%	609
Income ($USD)						
Less than $25,000	41%	43%	15%	29%	26%	970
$25,000 to less than $50,000	45%	43%	14%	30%	25%	982
$50,000 to less than $75,000	48%	40%	17%	36%	32%	824
$75,000 to less than $100,000	49%	39%	21%	47%	43%	580
$100,000 to less than $125,000	55%	37%	21%	45%	42%	322
$125,000 to less than $150,000	52%	36%	31%	44%	42%	169
$150,000 or more	55%	37%	27%	40%	39%	235

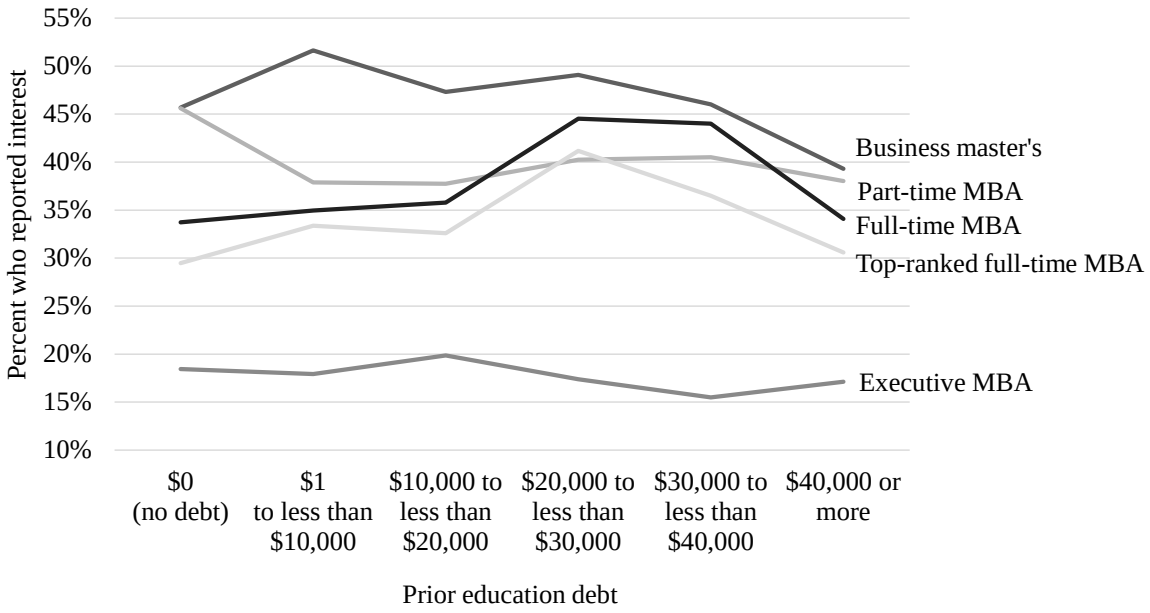
Note. U.S. region based on respondent state and U.S. Census divisions. Respondents could report interest in more than one program.

Prior Education Debt

Among those with no prior education debt, 46% reported interest in a part-time MBA. Those with at least $1 in prior educational debt had lower levels of interest in a part-time MBA (38%–41%). Rates of interest in an executive MBA were similar regardless of debt, ranging from 16%–20% (see Figure 7).

Figure 7

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Prior Education Debt



Note. Respondents could report interest in more than one program.

Interest in a business master's was highest (52%) for those who had $1 to $10,000 in prior education debt, relative to just 39% of those with $40,000 of debt or more. Rates of interest in a full-time MBA followed a roughly bell-shaped pattern, with interest at 34% among those with no debt, peaking at 45% of those who had $20,000 to $30,000 of

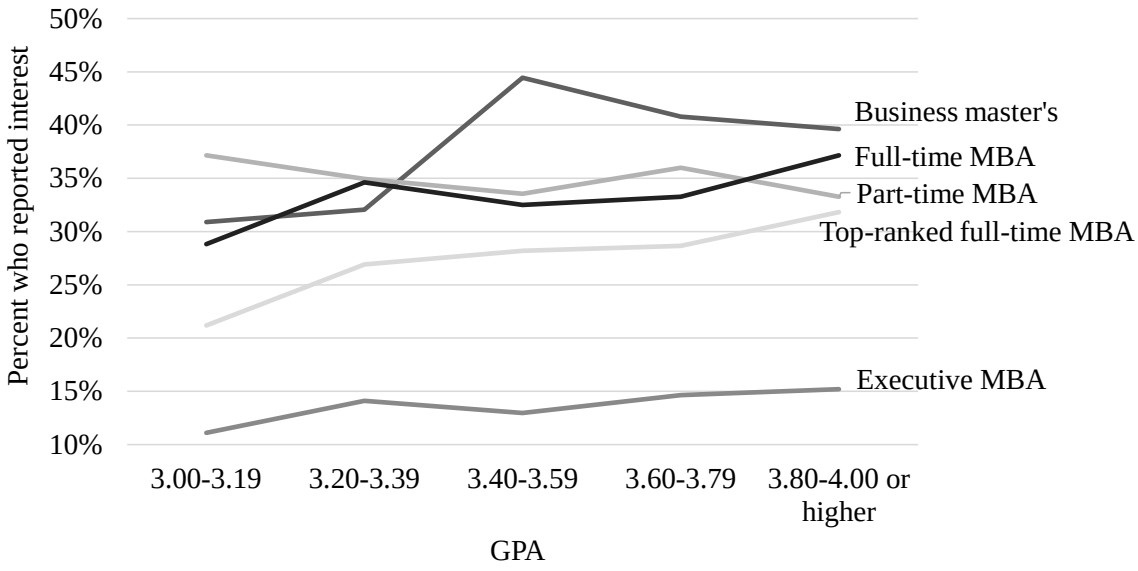
education debt, and falling back to 34% of those with $40,000 or more in debt. Interest in a top-ranked, full-time MBA followed a similar bell-shaped pattern, peaking at 41% of those with $20,000 to $30,000 in debt.

Undergraduate GPA

One of the qualifying questions for the survey was self-reporting at least the equivalent of a B grade point average as an undergraduate. Across all countries, those with the equivalent of an A grade point average more frequently reported interest in all graduate business programs—business master's, part-time MBA, executive MBA, full-time MBA, and top-ranked, full-time MBA—than those with equivalent of B (see Table 17). For the United States, the survey gathered more granular GPA data. Interest in an executive, top-ranked, full-time MBA program generally rose with GPA (see Figure 8). The biggest increase in rate of interest was for a top-ranked, full-time MBA with 21% of those in the 3.00-3.19 GPA group reporting interest relative to 32% of those with a GPA of 3.80-4.00 or higher. In contrast, interest in a part-time MBA generally fell as undergraduate GPA increased. Interest in a business master's peaked for those with a 3.40-3.59 GPA and then fell modestly as GPA rose.

Figure 8

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Grade Point Average (GPA)



Note. U.S. respondents only. Respondents could report interest in more than one program.

Selectivity of Undergraduate Institution

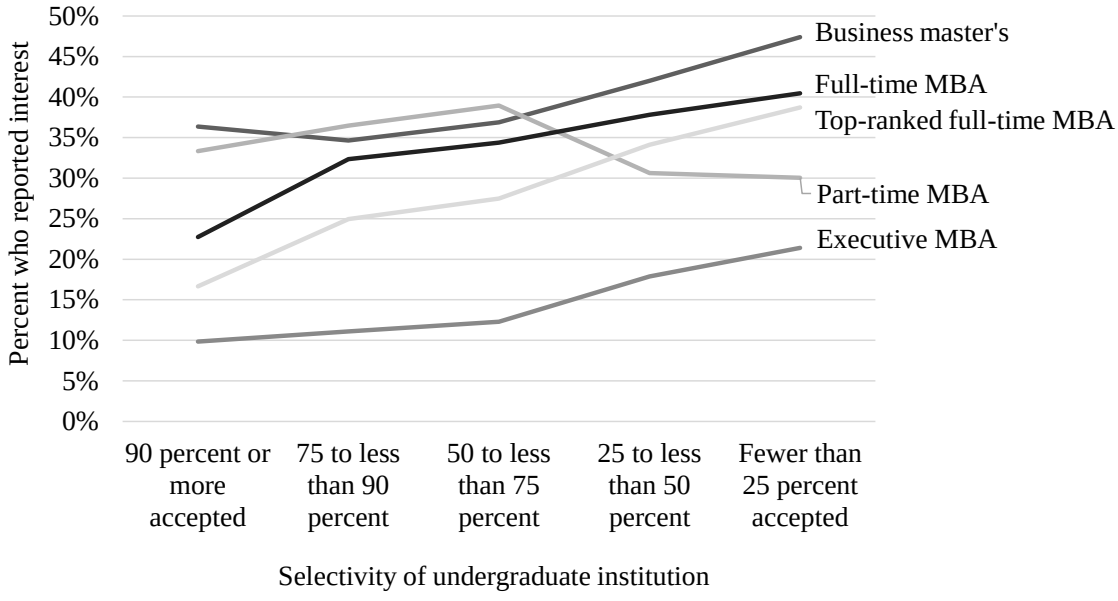
The rate of reported interest increased with the selectivity of the respondent's undergraduate institution for all programs except the part-time MBA (see Figure 9). Selectivity had the strongest relationship with rates of interest in a top-ranked, full-time MBA program. When comparing respondents from the least selective undergraduate institutions to the most selective, there was a 22 percentage point increase in the proportion interested in a top-ranked MBA program—from just 17% interested among those from the least selective universities to 39% interested among those from the most selective universities. This increase in interest from the least to most selective undergraduate institution compared to a 17 percentage point increase in interest for a full-

time MBA, 14 percentage point increase for a business master's, and 11 percentage point increase for an executive MBA (see Table 17).

The gap between those who reported interest in a full-time MBA and those who reported interest in a top-ranked, full-time MBA also narrowed with selectivity of the undergraduate institution. For example, among those who went to an institution that accepts 75%–90% of applicants, 32% reported interest in a full-time MBA, and 25% reported interested in a top-ranked, full-time MBA, a gap of roughly seven percentage points. In contrast, among those who attended the most selective undergraduate institutions, 40% reported interest in a full-time MBA, and 39% reported interest in a top-ranked MBA program, a gap of only one percentage point.

Figure 9

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Selectivity of Undergraduate Institution



Note. U.S. respondents only. Respondents could report interest in more than one program.

Interest in a part-time MBA was the exception to the general pattern for other programs and selectivity of undergraduate institution—after a certain selectivity level, interest in a part-time MBA decreased. The proportion of those from the least selective schools interested in a part-time MBA was 33%, which rose to 39% for those who attended an institution with 50%–75% selectivity before falling to 30% of those interested from the most selective undergraduate institutions (see Figure 9).

Institution Type

Among U.S. respondents, it was possible to use IPEDS data to classify undergraduate institution by type: HBCU, HSI, or another college (non-HBCU/HSI). Among those who attended an HBCU/HSI rather than a non-HBCU/HSI, a higher proportion reported interest in a business master's (three percentage points higher), executive MBA (four percentage points), full-time MBA (10 percentage points higher), and top-ranked, full-time MBA (12 percentage points higher; see Table 17). As with undergraduate selectivity, the relationship between HBCU/HSI and reported rate of interest was strongest for a top-ranked MBA. Only for a part-time MBA program did students from a non-HBCU/HSI more frequently report interest (three percentage points).

Table 17

Percentage of Respondents Who Reported Interest in Graduate Business Programs by Undergraduate Education Characteristics

	Business master's	Part-time MBA	Executive MBA	Full-time MBA	Top-ranked full-time MBA	N
Total	47%	41%	18%	36%	32%	4082
Prior education debt ($USD)						
$0 (no debt)	46%	46%	18%	34%	29%	1388
$1 to less than $10,000	52%	38%	18%	35%	33%	1127
$10,000 to less than $20,000	47%	38%	20%	36%	33%	408
$20,000 to less than $30,000	49%	40%	17%	45%	41%	328
$30,000 to less than $40,000	46%	41%	16%	44%	37%	200
$40,000 or more	39%	38%	17%	34%	31%	631
Undergraduate GPA (all)						
B average or equivalent	44%	39%	16%	33%	28%	1681
A average or equivalent	49%	42%	19%	38%	35%	2401
Undergraduate GPA (U.S. only)						
3.00-3.19	31%	37%	11%	29%	21%	288
3.20-3.39	32%	35%	14%	35%	27%	312
3.40-3.59	44%	34%	13%	33%	28%	486
3.60-3.79	41%	36%	15%	33%	29%	478
3.80-4.00 or higher	40%	33%	15%	37%	32%	487
Not available	--	--	--	--	--	4
Selectivity of undergraduate institution (U.S. only)						
90 percent or more accepted	36%	33%	10%	23%	17%	132
75 to less than 90 percent	35%	36%	11%	32%	25%	433
50 to less than 75 percent	37%	39%	12%	34%	27%	724
25 to less than 50 percent	42%	31%	18%	38%	34%	431
Fewer than 25 percent accepted	47%	30%	21%	40%	39%	173
Not available	40%	28%	12%	23%	19%	162
Institution type (U.S. only)						
Non-HBCU/HSI	38%	35%	14%	33%	27%	1795
HBCU/HSI	41%	32%	18%	43%	39%	172
Not available	41%	28%	11%	37%	19%	88

Note. Respondents could report interest in more than one program.

Research Question 2

How do reported barriers to applying to a full-time MBA program vary by gender, race/ethnicity, parent education, and home country?

Focusing now on full-time MBA programs, I report findings from descriptive analysis of the following question from the survey of potentially qualified applicants in five countries:

> There are many reasons why some people apply for full-time MBA programs and others do not. For each of the following, please indicate whether it is a reason that might deter you from applying to a full-time MBA program.

Respondents indicated their "main deterrent" among 18 items organized into four categories: financial, personal, career, and admissions. The findings here present the frequency with which each of 18 deterrents was selected as the main deterrent and broken out by various demographic characteristics. For ease of presenting the findings, each deterrent is abbreviated (see Table 12). Of the 4,082 respondents in this sample, 294 (7% of the total) identified no deterrent or only minor deterrents. The findings in this section present the percentage of the total respondents who identified a main deterrent and omit the 294 respondents who did not. I use the terms "deterrent" and "barrier" interchangeably.

Overall Barriers

Financial considerations are the most common primary deterrent to applying to a full-time MBA program. Among respondents, 43% cited a financial consideration as the main deterrent, whereas 24% identified a personal deterrent, 21% reported a career deterrent, and 10% reported an admissions deterrent (see Table 18).

Taken as a whole, the prominence of financial barriers identified in this study may reflect the growing costs of full-time MBA programs in terms of tuition and cost of attendance. It may also reflect the opportunity cost involved with foregoing a salary and other compensation to focus on school full-time, particularly relative to part-time and executive MBA programs. The opportunity cost may be particularly salient for full-time MBA students given they traditionally have postbaccalaureate work experience before enrolling. In contrast, students in other graduate or professional schools, such as law or medical school, traditionally enroll right after college and face lower immediate opportunity costs as a result.

The two most common individual deterrents are both financial: “not enough money” (15% of respondents) and “too much debt required” (12% of respondents). Only 4% of respondents selected “financial return not worth it” as the main deterrent. Considered together, these findings suggest fewer individuals doubt the long-term financial value of a full-time MBA, but they are blocked (at least perceptually) by short-term liquidity constraints or debt aversion.

Table 18

Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program and Gender

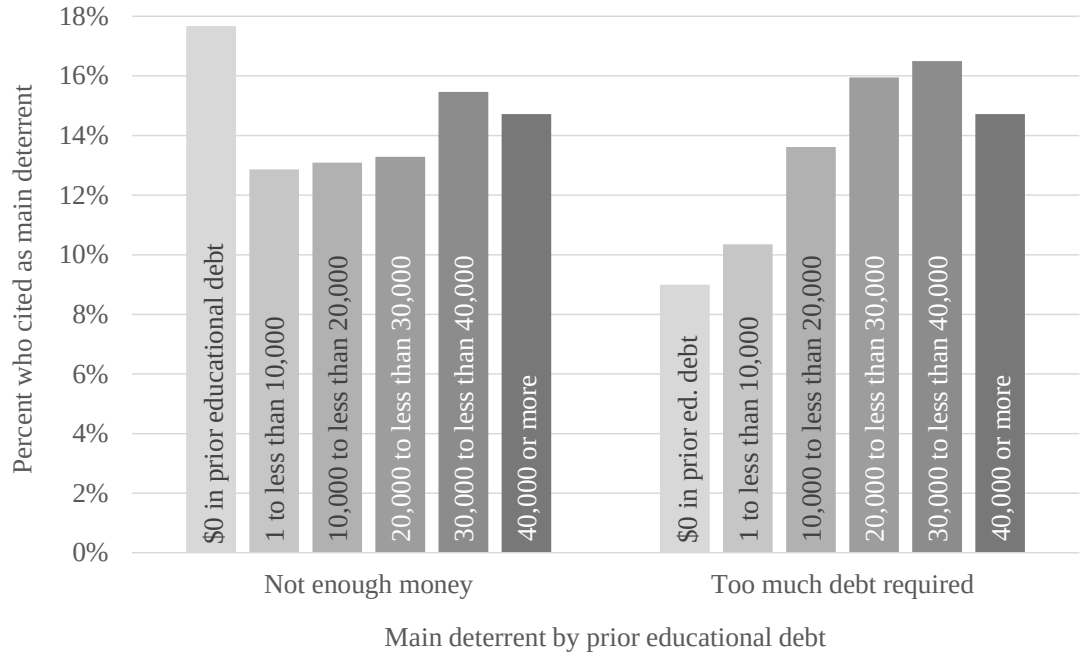
Deterrent	Female	Male	Total
Financial deterrents			
Not enough money	18%	11%	15%
Not enough financial aid	4%	4%	4%
Too much debt required	13%	10%	12%
Compensation now is enough	3%	4%	4%
Application fee too high	3%	5%	4%
Financial return not worth it	3%	4%	4%
Subtotal	46%	40%	43%
Personal deterrents			
Cannot postpone life events	6%	6%	6%
Cannot relocate	4%	4%	4%
May not be able to work in U.S.	2%	3%	2%
Time demands too great	9%	10%	9%
Program not for people like me	2%	2%	2%
Subtotal	23%	25%	24%
Career deterrents			
MBA not relevant in my field	7%	5%	6%
Career opportunities delayed	4%	6%	5%
Satisfied in current job	6%	8%	7%
Post job prospects not appealing	3%	4%	4%
Subtotal	20%	23%	21%
Admissions deterrents			
Don't have qualifications	3%	4%	4%
Don’t have time for application	4%	3%	4%
Standardized tests too daunting	2%	4%	3%
Subtotal	10%	11%	10%
Other	1%	1%	1%
N	1953	1829	3782
Nonresponse (rate)	130 (6%)	164 (8%)	294 (7%)

Note. Six respondents who identify as “another gender identity” are not shown in table; columns add to 100%.

The relevance of these financial barriers is amplified by an individual's prior educational debt (e.g., from completing a bachelor's degree). Eighteen percent of those with no prior educational debt cited "not enough money" relative to 13%–15% of others. Among those with no prior educational debt, 9% cited "too much debt required" as their main deterrent. By comparison, among those who had $20,000 or more in undergraduate debt, 15%–16% cited "too much debt required" as their main deterrent (see Figure 10).

Figure 10

Percentage Who Cited "Not Enough Money" or "Too Much Debt Required" as Their Main Deterrent to Applying to a Full-Time MBA by Level of Prior Educational Debt



Two personal deterrents a relatively high number indicated as their main deterrents are "time demands too great" (9% of respondents) and "cannot postpone life

events" (6%). These barriers highlight the unique temporal challenge a full-time MBA presents for prospective students relative to a part-time MBA or an executive MBA. Whereas the latter allow a person to continue with work and other personal responsibilities, a full-time MBA implies one needs to set aside other responsibilities (and a salary) to focus on the MBA program.

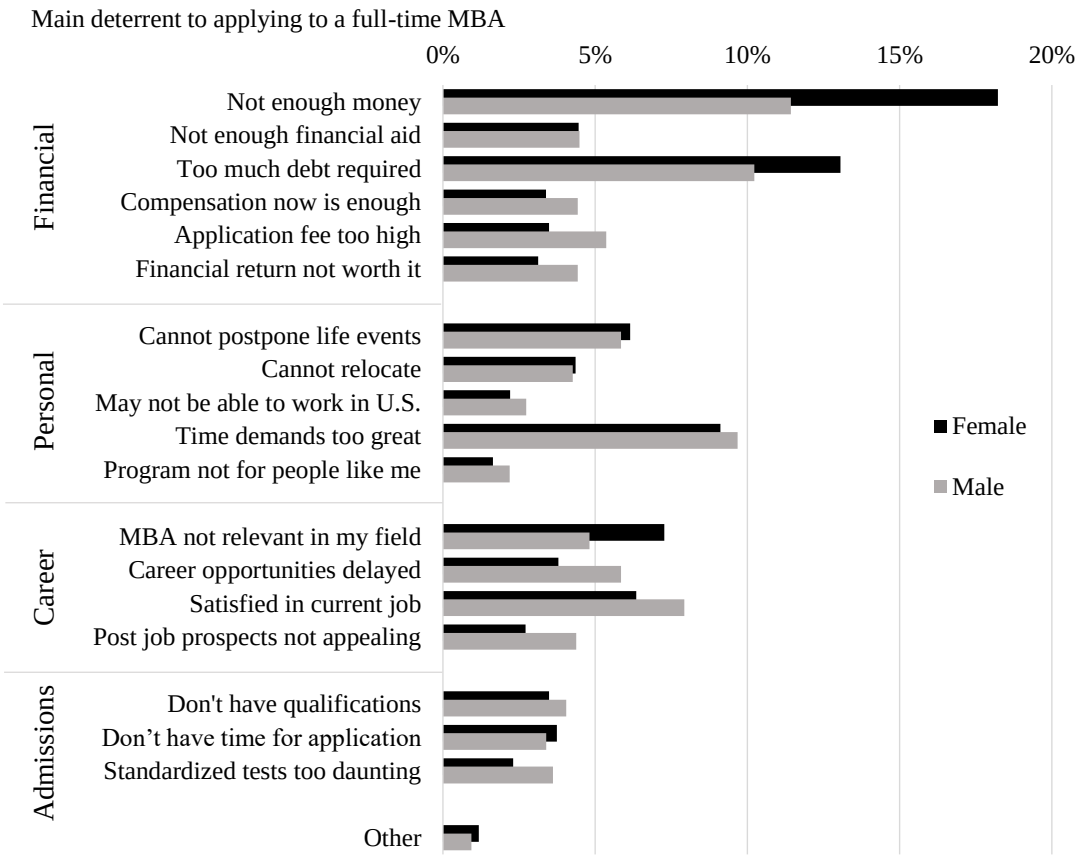
Two career deterrents, "satisfied in my current job" (7% of respondents) and "MBA not relevant in my field" (6% of respondents), were the fourth and fifth most commonly individually identified barriers across all 18. That these were commonly cited highlights that an MBA, unlike a law or medical school degree, is not required for licensure or to work in the field.

Gender

Women and men differ in how commonly they cite some barriers as most important to pursuing a full-time MBA program (see Figure 11). Women are especially deterred by the financial barriers of "not enough money" (18% of women vs. 11% of men) and "too much debt required" (13% vs. 10%). Seven percent of women cited "MBA not relevant in my field" as their main deterrent versus 5% of men.

Figure 11

Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program and Gender



Note. Six respondents who identify as "another gender identity" are not shown in figure.

Race/Ethnicity

Forty-nine percent of Black prospective students cited financial barriers as the main deterrent to applying to a full-time MBA. This is higher than the percentage of Whites (44%), Hispanics (41%), and Asian Americans (41%). "Not enough money" and "too much debt required" were each cited by 16% of Black respondents, each garnering double the next most commonly cited deterrent, "cannot relocate" (8%; see Table 19).

Table 19

Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program and Race/Ethnicity

Deterrent	Asian non-Hispanic	Black/ African American non-Hispanic	Hispanic	White non-Hispanic	Multi-race/ Other non-Hispanic	Total
Financial deterrents						
Not enough money	15%	16%	12%	14%	21%	14%
Not enough financial aid	4%	4%	4%	4%	7%	4%
Too much debt required	11%	16%	14%	14%	7%	14%
Compensation now is enough	5%	5%	4%	3%	2%	4%
Application fee too high	2%	4%	3%	3%	2%	3%
Financial return not worth it	3%	5%	3%	6%	7%	5%
Subtotal	41%	49%	41%	44%	46%	44%
Personal deterrents						
Cannot postpone life events	8%	5%	6%	6%	9%	6%
Cannot relocate	2%	8%	5%	5%	4%	5%
Time demands too great	18%	6%	10%	11%	9%	10%
Program not for people like me	1%	2%	3%	2%	4%	2%
Subtotal	29%	19%	25%	23%	25%	24%
Career deterrents						
MBA not relevant in my field	5%	5%	8%	8%	4%	8%
Career opportunities delayed	5%	5%	6%	3%	2%	4%
Satisfied in current job	8%	7%	6%	9%	11%	8%
Post job prospects not appealing	4%	3%	4%	3%	5%	3%
Subtotal	21%	19%	23%	23%	21%	23%
Admissions deterrents						
Don't have qualifications	2%	6%	3%	3%	0%	3%
Don’t have time for application	2%	4%	3%	4%	4%	3%
Standardized tests too daunting	4%	3%	5%	2%	5%	3%
Subtotal	8%	12%	11%	8%	9%	9%
Other	1%	1%	0%	1%	0%	1%
N	131	199	345	1199	57	1931
Nonresponse (rate)	5 (4%)	20 (9%)	18 (5%)	76 (6%)	5 (8%)	124 (6%)

Note. U.S. respondents only. Columns add to 100%.

Although financial barriers were also the most frequently cited deterrent for Whites and Hispanics, the difference between those barriers and the next nonfinancial barrier (three or four percentage points) was smaller than the difference for Black respondents (eight percentage points). For Black or African American respondents compared to those of other racial or ethnic backgrounds, the financial barriers were especially salient.

African American respondents were relatively less deterred by personal considerations—when taken together, these were cited by 19% of Blacks compared with 23% of Whites, 25% of Hispanics, and 29% of Asians. Blacks also cited career deterrents less frequently than other groups. Twelve percent of Blacks and 11% of Hispanics cited admissions deterrents (taken together) as their main deterrent versus 8% of Whites and Asians.

Both Whites and Hispanics most commonly reported the same three individual deterrents. Both groups most frequently cited "too much debt required" (14% of respondents each) and "not enough money" (14% of Whites and 12% of Hispanics) as their main deterrent. "Time demands too great" came next for each group at 11% and 10% of respondents, respectively. Asian Americans were the only group to indicate a nonfinancial barrier as the main deterrent. Eighteen percent of Asian Americans chose "time demands too great" as their main deterrent, followed by "not enough money" (15%) and "too much debt required" (11%).

As an individual barrier, "time demands too great" varied the most by race/ethnicity. Just 6% of Blacks chose it as their main deterrent to applying for a full-time MBA, compared to 10% of Hispanics, 11% of Whites, and 18% of Asians. This 12-

percentage-point range compares to the next highest range of 5-6 percentage points for "cannot relocate" and "too much debt required." Given the inherent investment of dedicated time required to complete a full-time MBA versus a part-time MBA or business master's, that "time demands too great" varies in importance by race/ethnicity is an important finding.

Intersection of Gender and Race/Ethnicity

Considering gender and race/ethnicity separately masks some of the differences in barriers to pursuing a full-time MBA that lie at their intersection. Although women overall are more deterred by financial deterrents than men by four percentage points (46% of women vs. 42% of men), Asian American women were less likely to cite a financial barrier than Asian American men by nine percentage points (37% vs. 46%, respectively). Indeed, Asian American women were least deterred by financial barriers across all intersections of gender and race/ethnicity (see Table 20).

Asian American women were more likely to be deterred by personal considerations (32%) than Asian American men (25%). This seven-percentage-point gap in the frequency of personal deterrents compared to a 1-percentage-point gap between women and men overall. Additionally, although women overall were less likely to be concerned about "career opportunities delayed" relative to men by two percentage points, Asian American women were more likely than Asian American men to list this as their main deterrent to applying to a full-time MBA by five percentage points. Taken together, Asian American women cited career and personal barriers more frequently than women overall, and they cited financial concerns less frequently.

Table 20 *Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program, Race/Ethnicity, and Gender*

Deterrent	Asian, non-Hispanic		Black/African American, non-Hispanic		Hispanic		White, non-Hispanic		Multi-race/Other non-Hispanic		Total		
	F	M	F	M	F	M	F	M	F	M	F	M	All
Financial deterrents													
Not enough money	16%	14%	18%	13%	18%	5%	18%	10%	21%	22%	18%	10%	14%
Not enough financial aid	4%	3%	3%	5%	2%	6%	5%	3%	3%	13%	4%	4%	4%
Too much debt required	10%	13%	18%	14%	14%	15%	16%	12%	9%	4%	15%	13%	14%
Compensation now is enough	3%	8%	5%	5%	5%	4%	1%	5%	0%	4%	2%	5%	4%
Application fee too high	1%	3%	3%	6%	4%	3%	1%	4%	3%	0%	2%	4%	3%
Financial return not worth it	1%	5%	1%	9%	1%	5%	6%	7%	9%	4%	4%	6%	5%
Subtotal	37%	46%	48%	50%	44%	38%	47%	41%	45%	48%	46%	42%	44%
Personal deterrents													
Cannot postpone life events	10%	6%	5%	3%	7%	5%	7%	5%	9%	9%	7%	5%	6%
Cannot relocate	3%	2%	7%	8%	5%	5%	5%	5%	3%	4%	5%	5%	5%
Time demands too great	18%	17%	4%	8%	9%	11%	11%	11%	12%	4%	10%	11%	10%
Program not for people like me	1%	0%	1%	2%	3%	3%	2%	2%	3%	4%	2%	2%	2%
Subtotal	32%	25%	17%	22%	24%	25%	24%	23%	27%	22%	24%	23%	24%
Career deterrents													
MBA not relevant in my field	4%	5%	5%	6%	8%	7%	11%	6%	3%	4%	9%	6%	8%
Career opportunities delayed	7%	2%	7%	1%	3%	8%	1%	5%	0%	0%	3%	5%	4%
Satisfied in current job	9%	8%	8%	5%	7%	5%	7%	11%	9%	13%	7%	9%	8%
Post job prospects not appealing	1%	6%	2%	5%	3%	5%	2%	3%	3%	9%	2%	4%	3%
Subtotal	22%	21%	22%	16%	21%	24%	21%	26%	15%	26%	21%	24%	23%
Admissions deterrents													
Don't have qualifications	3%	0%	6%	6%	3%	3%	2%	3%	0%	0%	3%	3%	3%
Don’t have time for application	3%	2%	3%	5%	4%	2%	4%	3%	6%	0%	4%	3%	3%
Standardized tests too daunting	3%	5%	3%	2%	3%	7%	1%	3%	6%	4%	2%	4%	3%
Subtotal	9%	6%	12%	13%	10%	12%	7%	10%	12%	4%	8%	10%	9%
Other	0%	2%	2%	0%	0%	1%	2%	1%	0%	0%	1%	1%	1%
N	68	63	111	88	177	168	608	588	33	23	997	930	1927
Nonresponse (rate)	3 (4%)	2 (3%)	7 (6%)	13 (13%)	8 (4%)	10 (6%)	31 (5%)	45 (7%)	3 (8%)	2 (8%)	52 (5%)	72 (7%)	124 (6%)

Note. U.S. respondents only; four individuals who identify as “another gender identity” are not shown in table; columns add to 100%.

Black respondents cited financial concerns (as a group) at the highest rate (Table 19). Black women were more deterred than Black men by "not enough money" and "too much debt required" but less deterred than Black men by "not enough financial aid," "application fee too high," and "financial return not worth it" (see Table 20). In contrast to Asian American women who more commonly indicated personal deterrents than Asian American men, Black women reported personal deterrents at lower rates than Black men (17% vs. 22%). Career concerns for Black women were six percentage points higher than for Black men (22% vs. 16%). This contrasted with White women who reported career concerns five percentage points lower than White men (21% vs. 26%). Only 5% of Hispanic men indicated "not enough money" as their main deterrent, compared to 18% of Hispanic women.

Across Asian, Black, and Hispanic groups, women were less skeptical about the financial return of a full-time MBA than men—listing "financial return not worth it" 4–8 percentage points less frequently than men. In all these groups, only 1% of Asian, Black, and Hispanic women selected "financial return not worth it" as their main deterrent to applying. In contrast, White men and White women cited this deterrent at roughly the same rate of 6%–7%. On a related barrier to applying, "MBA not relevant in my field," Asian, Black, and Hispanic women were less deterred than White women. Eleven percent of White women cited this barrier as their main deterrent, and only 4% of Asian American women, 5% of Black women, and 8% of Hispanic women identified this as their main deterrent. Together, these findings suggest non-White women are more likely to perceive the financial value and relevance of a full-time MBA than other intersections of gender and race/ethnicity.

Asian, Black, and Hispanic women were all more likely than men in their race/ethnicity group to cite "satisfied with current job" as the main deterrent. In contrast, White women were less likely than White men to note this as the main deterrent. Asian and Black women were more likely than men to be deterred by "career opportunities delayed," but White and Hispanic women were less likely than men to cite this as the main barrier to applying to a full-time MBA program. Table 20 summarizes differences in deterrents at the intersection of gender and race/ethnicity.

Parent Education

Respondents from low socioeconomic backgrounds, as proxied by their parents' education, were more likely to cite financial barriers as their main deterrent to applying to a full-time MBA program. Children of parents with less than a bachelor's degree cited a financial deterrent as their main deterrent 47%–48% of the time versus 42% of those whose parents have a bachelor's degree or 39% with a graduate degree (see Table 21). Children of parents who completed "some graduate studies" but not a graduate degree cited financial concerns 46% of the time, a similar rate to those whose parents have less than a bachelor's degree. This multimodal pattern for financial deterrents and parent education may reflect higher labor market returns tied to degree attainment (bachelor's or graduate) than returns for in between phases ("some college" or "some graduate studies").

Table 21

Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program and Parent Education

	Parent education					
Deterrent	High school degree or less	Some college	Bachelor's degree	Some graduate studies	Graduate degree	Total
Financial deterrents						
Not enough money	20%	20%	14%	15%	13%	15%
Not enough financial aid	6%	5%	4%	6%	3%	4%
Too much debt required	10%	13%	12%	10%	11%	12%
Compensation now is enough	2%	4%	4%	5%	3%	4%
Application fee too high	5%	4%	4%	7%	4%	4%
Financial return not worth it	4%	2%	4%	3%	5%	4%
Subtotal	48%	47%	42%	46%	39%	43%
Personal deterrents						
Cannot postpone life events	6%	5%	6%	7%	6%	6%
Cannot relocate	3%	5%	5%	4%	4%	4%
May not be able to work in U.S.	3%	1%	2%	2%	3%	2%
Time demands too great	7%	10%	10%	4%	10%	9%
Program not for people like me	1%	2%	2%	3%	2%	2%
Subtotal	21%	24%	25%	20%	25%	24%
Career deterrents						
MBA not relevant in my field	8%	8%	4%	6%	12%	6%
Career opportunities delayed	4%	5%	5%	5%	4%	5%
Satisfied in current job	7%	5%	7%	5%	8%	7%
Post job prospects not appealing	4%	2%	4%	4%	3%	4%
Subtotal	23%	19%	20%	20%	27%	21%
Admissions deterrents						
Don't have qualifications	3%	3%	4%	4%	3%	4%
Don’t have time for application	2%	2%	4%	6%	3%	4%
Standardized tests too daunting	2%	3%	3%	4%	2%	3%
Subtotal	7%	8%	11%	14%	8%	10%
Other	1%	2%	1%	1%	1%	1%
N	462	328	2316	197	464	3767
Nonresponse (rate)	37 (7%)	28 (8%)	188 (8%)	11 (5%)	30 (6%)	294 (7%)

Note. Twenty-one respondents who reported “I don’t know” about parent education are not shown in table. Columns add to 100%.

Within the financial deterrents, “not enough money” was the most common barrier across all groups and was cited more frequently for those whose parents earned less than a bachelor’s degree (20%) than for those whose parents earned at least a bachelor’s degree (13%–15%). For children of parents with a high school degree, “some college,” or “some graduate studies,” “not enough money” was cited at a higher rate than the highest nonfinancial barrier. For example, among those whose parents earned a high school degree, 20% cited “not enough money” as their main deterrent and 8% cited “MBA not relevant in my field” (the highest nonfinancial barrier for this group), a difference of 12 percentage points. In contrast, 13% of those whose parents earned a graduate degree cited “not enough money” as their main deterrent versus the 12% of this group who cited “MBA not relevant in my field” (the highest nonfinancial barrier for this group), a difference of only one percentage point.

For those whose parents have a graduate degree, career deterrents were more salient than for other parent education groups (27% vs. 19%–23%). For those whose parents completed “some graduate studies,” admissions deterrents were more salient than for other groups (14% vs. 7%–11%).

The relationship between parent education and the perceived relevance of an MBA degree followed a U-shaped pattern. “MBA not relevant in my field” was cited as the main deterrent to applying to a full-time MBA by 8% of those whose parents have less than a bachelor’s degree. This percentage dropped to 4% for children of parents with a bachelor’s degree and 6% for children of parents who completed “some graduate studies.” For those whose parents have a graduate degree, the prominence of this barrier reemerged, with 12% of the group identifying “MBA not relevant in my field” as their

main deterrent. For those in this group, the perceived irrelevance of an MBA was cited almost as frequently as “not enough money” (13%).

Home Country

Barriers to applying to a full-time MBA program differed by home country. For Brazilians, the most frequently noted barriers were financial, especially “not enough money” (17% of respondents), “application fee too high” (12%), and “too much debt required” (9%). Fifty percent of Brazilians cited one of these or another financial deterrent as the primary prohibitor to pursuing a full-time MBA program. The high frequency of concern over the application fee among Brazilians (12%) was unique—respondents from other countries in this sample only cited this 3% of the time (China, Germany, and the United States), and 6% of the time (South Africa). The fees collected by business school admissions offices are typically $200 to $300 on top of any fees for a required standardized test. These fees are higher on a relative basis in Brazil and South Africa given lower in-country incomes than in Germany and the United States.

South Africa followed a largely similar pattern, with financial barriers even more prominent—53% of South Africans cited a financial barrier as the main deterrent. Twenty-two percent of South Africans cited “not enough money” as the main deterrent, higher than respondents from Brazil (17%), the United States (14%), China (13%), and Germany (12%). A relatively higher percentage also selected “too much debt required” at 13% of South Africans, a similar level to the United States (14%), but higher than Brazil (9%), China (8%), and Germany (7%). Across all countries in this sample, South Africans were least deterred by career deterrents as a whole—13% of their total respondents versus 18%–31% of other countries’ totals (see Table 22).

Table 22

Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program and Home Country

Deterrent	Brazil	China	Germany	South Africa	U.S.	Total
Financial deterrents						
Not enough money	17%	13%	12%	22%	14%	15%
Not enough financial aid	6%	4%	4%	6%	4%	4%
Too much debt required	9%	8%	7%	13%	14%	12%
Compensation now is enough	5%	5%	3%	4%	4%	4%
Application fee too high	12%	3%	3%	6%	3%	4%
Financial return not worth it	2%	2%	2%	2%	5%	4%
Subtotal	50%	36%	32%	53%	44%	43%
Personal deterrents						
Cannot postpone life events	3%	6%	8%	5%	6%	6%
Cannot relocate	5%	3%	3%	5%	5%	4%
May not be able to work in U.S.	6%	5%	4%	5%	0%	2%
Time demands too great	7%	10%	9%	8%	10%	9%
Program not for people like me	1%	2%	2%	1%	2%	2%
Subtotal	23%	26%	26%	24%	24%	24%
Career deterrents						
MBA not relevant in my field	2%	3%	9%	4%	8%	6%
Career opportunities delayed	6%	9%	5%	3%	4%	5%
Satisfied in current job	5%	5%	11%	3%	8%	7%
Post job prospects not appealing	5%	3%	6%	3%	3%	4%
Subtotal	18%	20%	31%	13%	23%	21%
Admissions deterrents						
Don't have qualifications	2%	8%	5%	3%	3%	4%
Don’t have time for application	3%	4%	3%	5%	3%	4%
Standardized tests too daunting	2%	5%	2%	2%	3%	3%
Subtotal	8%	18%	10%	10%	9%	10%
Other	1%	1%	2%	1%	1%	1%
N	445	477	457	478	1931	3788
Nonresponse (rate)	67 (13%)	23 (5%)	46 (9%)	34 (7%)	124 (6%)	294 (7%)

Note. Columns add to 100%.

The barriers facing Chinese applicants to applying to a full-time MBA were more evenly spread across the individual deterrents and the deterrent groups. Just 36% of Chinese respondents cited financial constraints as predominant, higher than Germany (32%) but lower than the United States (44%), Brazil (50%), and South Africa (53%). Chinese applicants were also more deterred by admissions barriers, in particular "don't have qualifications," cited by 8% of Chinese respondents versus 2%–5% for the other countries in the sample.

German respondents cited financial barriers as the main deterrent less frequently than respondents of other nations (32%) and at about the same frequency as career deterrents (31%). Germans were more muted than respondents from Brazil and South Africa on "not enough money" (12% among Germans vs. 17% among Brazilians and 22% among South Africans) and more muted than those from South Africa and the United States on "too much debt required" (7% vs. 13% and 14%, respectively). In contrast, career deterrents were frequently identified. "Satisfied in current job" was the second most commonly reported deterrent to applying for a full-time MBA for Germans (11%). "MBA not relevant in my field" and "time demands too great" were tied for third most frequent (9% each). These findings suggest Germans are relatively less concerned about the cost of a full-time MBA but are more concerned about the value of an MBA relative to their current career opportunities and trajectory.

In the United States, 44% cited a financial constraint as the main deterrent to applying to a full-time MBA, especially "not enough money" and "too much debt required" (14% each). The debt deterrent was more frequent in the United States than in other countries (7%–13%). This may reflect the characteristics of higher education in the

United States where student loans are a more common part of the undergraduate experience and therefore may be relatively more on the minds of those contemplating graduate school. The next most frequently cited barriers for U.S. respondents were "time demands too great" (10%), "MBA not relevant in my field" (8%), and "satisfied in current job" (8%). These three deterrents were also relatively high for Germany and perhaps represent the relatively more comfortable starting point many respondents have in these more developed economies.

Intersection of Gender and Home Country

Considering gender and home country together revealed additional differences in deterrents to applying to a full-time MBA (see Table 23). Whereas Germans overall cited financial barriers at lower rates than others, disaggregating by gender showed German women were more commonly deterred by financial barriers. Relative to German men, German women more frequently cited "not enough money" (17% vs. 4%), "too much debt" (9% vs. 5%), and "MBA not relevant in my field" (11% vs. 6%). Fourteen percent of German men listed "satisfied in my current job" versus 9% of German women and 8% of men in any country.

Table 23 *Percentage of Respondents by Main Deterrent to Applying to a Full-Time MBA Program, Home Country, and Gender*

Deterrent	Brazil		China		Germany		South Africa		United States		Total		
	F	M	F	M	F	M	F	M	F	M	F	M	All
Financial deterrents													
Not enough money	20%	14%	12%	14%	17%	4%	26%	18%	18%	10%	18%	11%	15%
Not enough financial aid	7%	5%	4%	5%	4%	4%	6%	6%	4%	4%	4%	4%	4%
Too much debt required	12%	6%	9%	7%	9%	5%	13%	12%	15%	13%	13%	10%	12%
Compensation now is enough	5%	5%	7%	3%	3%	3%	3%	5%	2%	5%	3%	4%	4%
Application fee too high	9%	14%	3%	3%	2%	4%	6%	6%	2%	4%	3%	5%	4%
Financial return not worth it	2%	3%	2%	2%	3%	1%	1%	3%	4%	6%	3%	4%	4%
Subtotal	54%	47%	37%	34%	39%	23%	55%	49%	46%	42%	46%	40%	43%
Personal deterrents													
Cannot postpone life events	4%	3%	4%	8%	7%	9%	5%	6%	7%	5%	6%	6%	6%
Cannot relocate	7%	4%	3%	2%	1%	4%	5%	5%	5%	5%	4%	4%	4%
May not be able to work in U.S.	6%	7%	4%	7%	4%	4%	5%	5%	0%	0%	2%	3%	2%
Time demands too great	6%	7%	11%	9%	7%	10%	8%	8%	10%	11%	9%	10%	9%
Program not for people like me	1%	2%	1%	3%	2%	3%	2%	1%	2%	2%	2%	2%	2%
Subtotal	24%	22%	23%	28%	21%	32%	24%	24%	24%	23%	23%	25%	24%
Career deterrents													
MBA not relevant in my field	3%	2%	4%	2%	11%	6%	4%	5%	9%	6%	7%	5%	6%
Career opportunities delayed	6%	7%	6%	11%	6%	5%	2%	4%	3%	5%	4%	6%	5%
Satisfied in current job	5%	5%	6%	3%	9%	14%	2%	4%	7%	9%	6%	8%	7%
Post job prospects not appealing	3%	7%	4%	3%	5%	7%	3%	2%	2%	4%	3%	4%	4%
Subtotal	16%	20%	20%	20%	30%	32%	11%	14%	21%	24%	20%	23%	21%
Admissions deterrents													
Don't have qualifications	3%	2%	8%	8%	5%	5%	2%	5%	3%	3%	3%	4%	4%
Don’t have time for application	2%	4%	5%	3%	3%	3%	4%	5%	4%	3%	4%	3%	4%
Standardized tests too daunting	2%	3%	6%	5%	2%	2%	2%	2%	2%	4%	2%	4%	3%
Subtotal	7%	9%	19%	17%	9%	11%	8%	12%	8%	10%	10%	11%	10%
Other	0%	1%	2%	0%	1%	2%	2%	0%	1%	1%	1%	1%	1%
N	198	246	248	229	254	203	256	221	997	930	1953	1829	3782
Nonresponse (rate)	36 (15%)	31 (11%)	12 (5%)	11 (5%)	22 (8%)	24 (11%)	8 (3%)	26 (11%)	52 (5%)	72 (7%)	130 (6%)	164 (8%)	294 (7%)

Note. Columns add to 100%.

In other countries, there were fewer intersectional differences in deterrents to applying to an MBA, but a few were noteworthy. Fourteen percent of Brazilian men were deterred by "application fee too high" versus 9% of Brazilian women and only 6% of men from any country. Whereas women overall cited "not enough money" more frequently than men as their main deterrent (18% vs. 11%), women in China cited this two percentage points less often than Chinese men (12% vs. 14%). Chinese women were more likely than Chinese men to be deterred by "satisfied in current job," the opposite of women in other countries in the study.

Research Questions 3 and 4

How does reported interest in a top-ranked, full-time MBA vary by gender, race/ethnicity, and parent education? Are observed differences in reported interest in a top-ranked, full-time MBA by gender, race/ethnicity, and parent education explained by home country, other individual characteristics, and measures of undergraduate college context?

To address these research questions, I employed a logistic regression model. The typical output of a logistic regression is the odds ratio. To make the coefficients more intuitive to interpret, I calculated the average marginal effects (AME) of each independent variable (Angrist & Pischke, 2008) using the Stata statistical package. The AME coefficients of a logistic regression model can be interpreted here as the increase in the probability in being interested in a full-time, top-ranked MBA.

Table 24 shows the results of the logistic regression. Model 1 included gender, race/ethnicity, and parent education. In Model 2, home country and other characteristics were added. The analyses showed gender, race/ethnicity, and parent education were

related to the likelihood of reporting interest in a top-ranked, full-time MBA program (Research Question 3). These relationships persisted when controlling for home country and other employment and educational variables (Research Question 4).

Gender

Among this group screened as potentially qualified applicants for a top-ranked, full-time MBA program, women were 7.6 percentage points less likely than men to report interest in a full-time, top-ranked MBA program after controlling for race/ethnicity and parent education (Model 1). After adding controls for age, home country, employment industry, income, prior educational debt, and undergraduate GPA (Model 2), women remained 6.1 percentage points less likely than men to report interest.

Race/Ethnicity

African Americans and Hispanics were both 10.8 percentage points more likely than Whites to report interest, controlling for gender and parent education (Model 1). African Americans were 9.9 percentage points more likely than Whites, and Hispanics were 7.9 percentage points more likely than Whites, to be interested in a top-ranked, full-time MBA program after controlling for other characteristics (Model 2). In the full model, Asians were 6.3 percentage points more likely than Whites to report interest in a top-ranked, full-time MBA program, net of other variables, although the coefficient was not statistically significant.

Table 24

Predictors of Reported Interest in a Top-Ranked, Full-Time MBA Program

	(1)		(2)	
	AME	SE	AME	SE
Gender *(male reference)*				
Female	- 0.076***	(0.014)	- 0.061***	(0.014)
Race/ethnicity *(White)*				
Asian, non-Hispanic	0.046	(0.042)	0.063	(0.041)
Black/African American, non-Hispanic	0.108**	(0.033)	0.099**	(0.032)
Hispanic	0.108***	(0.027)	0.079**	(0.026)
Multi-race/Other, non-Hispanic	- 0.008	(0.066)	0.003	(0.063)
Non-U.S.	0.145***	(0.017)		
Parent education *(high school degree or less)*				
Some college	0.102**	(0.034)	0.024	(0.034)
Bachelor's degree	0.182***	(0.025)	0.118***	(0.025)
Some graduate studies	0.135***	(0.039)	0.071	(0.039)
Graduate degree	0.152***	(0.031)	0.112***	(0.030)
I don't know	- 0.013	(0.120)	- 0.015	(0.114)
Age			- 0.010***	(0.002)
Home Country *(United States)*				
Brazil			0.085***	(0.025)
China			0.295***	(0.023)
Germany			0.074**	(0.026)
South Africa			0.098***	(0.026)
Employment industry *(student/unemployed)*				
CPG/retail			0.051	(0.038)
Education			0.085*	(0.036)
Health care			0.036	(0.036)
Industrials/manufacturing			0.097**	(0.032)
Media/travel			0.033	(0.037)
Prof. services/finance			0.061*	(0.031)
Technology			0.112***	(0.032)
Other or multiple selected			0.085**	(0.032)
Personal income ($USD) *(less than $25,000)*				
$25,000 to less than $50,000			- 0.025	(0.022)
$50,000 to less than $75,000			0.049*	(0.023)
$75,000 to less than $100,000			0.126***	(0.025)
$100,000 to less than $125,000			0.105***	(0.030)
$125,000 to less than $150,000			0.113**	(0.037)
$150,000 or more			0.084**	(0.033)
Prior education debt ($USD) *($0/no debt)*				
$1 to less than $10,000			0.019	(0.019)
$10,000 to less than $20,000			0.029	(0.025)
$20,000 to less than $30,000			0.086**	(0.027)
$30,000 to less than $40,000			0.081*	(0.034)
$40,000 or more			0.016	(0.023)
Undergraduate GPA *(B average or equivalent)*				
A average or equivalent			0.034*	(0.015)
Observations	4082		4082	
Pseudo R^2	0.030		0.077	

Note. $*p < 0.05$, $**p < 0.01$, $***p < 0.001$. Reference category in parentheses. Showing average marginal effects (AME) and standard error (SE) terms calculated in Stata.

Parent Education

Relative to children of parents with a high school degree or less, those whose parents had any higher degree of postsecondary learning were more likely to report interest in a top-ranked, full-time MBA program. Children of parents with "some college" were 10.2 percentage points more likely than children of parents with no more than a high school degree to report interest in a top-ranked, full-time MBA after controlling for gender and race/ethnicity (Model 1). The highest likelihood of reporting interest was for children of parents with a bachelor's degree (18.2 percentage points more likely than those whose parents had a high school degree or less). Those whose parents completed "some graduate studies" or a graduate degree were 13.5 percentage points and 15.2 percentage points more likely to report interest, respectively, than those whose parents had a high school degree or less (see Table 24).

After controlling for other variables in Model 2, parent education continued to be statistically related to interest in a top-ranked, full-time MBA, though only for full degree attainment levels. Controlling for other variables in Model 2 reduced the magnitude of the coefficients for parental education. Those whose parents had a bachelor's degree were 11.8 percentage points more likely to report interest than those whose parents had earned a high school degree or less (down from 18.2 in Model 1). After controlling for other factors, those whose parents had earned a graduate degree were 11.2 percentage points more likely (down from 15.2 in Model 1). This suggests the influence of parent education was somewhat mediated by the additional variables added in Model 2. The coefficients for in-between groups of parent education, "some college" and "some graduate studies,"

no longer showed a statistically significant relationship (at the $p < .05$ level) with interest in a top-ranked, full-time MBA program after controlling for other variables.

Home Country

The analyses also showed, net of other variables, respondents who live outside the United States were considerably more likely to report interest in a top-ranked, full-time MBA program: 8.5 percentage points for Brazil, 29.5 percentage points for China, 7.4 percentage points for Germany, and 9.8 percentage points for South Africa (see Table 24).

Table 25 further illuminates these differences by showing the findings of separate logistic regression models for Brazil, China, Germany, and South Africa. To account for small cell sizes, categories for parent education, personal income, and prior education debt were collapsed (see Table 13). In Brazil, where bachelor's degree attainment is lower than in the United States (OECD, 2016), parent education had a positive relationship with interest in a top-ranked, full-time MBA program. Those whose parents have a bachelor's degree were 12.5 percentage points more likely to report interest as those whose parents have less than a bachelor's degree, net of other variables. Those whose parents have a postbaccalaureate education were 14.2 percentage points more likely. In Brazil, gender was unrelated to interest in a top-ranked, full-time MBA after controlling for other variables. Individuals working in two industries in Brazil, CPG/retail and technology, were 31 and 19 percentage points more likely than students/unemployed to be interested in a top-ranked, full-time MBA. No other variable was related to the likelihood of reported interest among Brazilians after controlling for other variables.

Among potentially qualified Chinese applicants, gender, parent education, age, employment industry, personal income, and undergraduate GPA were associated with

interest in a top-ranked, full-time MBA program (see Table 25). Chinese women were 10 percentage points less likely than men to be interested, despite higher GMAT test taking rates (see Table 8). However, women were more likely than men in China to send GMAT test scores to business master's programs and less likely to send them to MBA programs (Svancer et al., 2019). Those whose parents earned a bachelor's degree were 25 percentage points more likely than those whose parents have less than a bachelor's degree, and those whose parents completed some graduate school or a degree were 16 percentage points more likely to report interest than those whose parents have no more than a high school degree. Age was negatively associated with interest in a top-ranked, full-time MBA in China. For every 1-year increase in age among potentially qualified Chinese applicants, an individual was three percentage points less likely to report interest. The relationship between age and interest in a top-ranked, full-time MBA program was stronger in China than in any other country in the study.

For Germans, personal income and prior education debt were the only statistically significant predictors of interest in a top-ranked, full-time MBA program after controlling for other variables (see Table 25). Indeed, it is more noteworthy what was not associated with interest among German potentially qualified applicants. Interest in a top-ranked, full-time MBA did not statistically vary by gender, parent education, age, employment industry, or GPA among German survey respondents. Those who make $75,000 or more were 20 percentage points more likely than those who earn less than $25,000 to report interest, and those who make between $25,000 and $75,000 were no more likely to report interest. Germans with debt from prior education were 12–15 percentage points more likely than those with no debt to report interest in a top-ranked, full-time MBA program.

Table 25

Predictors of Reported Interest in a Top-Ranked, Full-Time MBA Program: Residents of Brazil, China, Germany, and South Africa in Separate Logistic Regression Models

	(3) Brazil		(4) China		(5) Germany		(6) South Africa	
	AME	SE	AME	SE	AME	SE	AME	SE
Gender								
Male (reference)								
Female	0.018	(0.041)	- 0.099*	(0.041)	- 0.020	(0.041)	- 0.100*	(0.040)
Parent education								
Less than bachelor's degree								
Bachelor's degree	0.125*	(0.052)	0.253***	(0.045)	0.057	(0.048)	0.049	(0.046)
Some graduate studies or degree	0.142*	(0.059)	0.160*	(0.079)	0.016	(0.055)	0.052	(0.063)
I don't know	0.200	(0.291)					0.467	(0.264)
Age	- 0.009	(0.006)	- 0.033***	(0.007)	- 0.009	(0.006)	- 0.011*	(0.005)
Employment industry								
Student/unemployed								
CPG/retail	0.314**	(0.115)	0.225*	(0.106)	0.031	(0.109)	- 0.219	(0.167)
Education	0.017	(0.116)	0.261	(0.181)	0.086	(0.092)	0.191*	(0.084)
Health Care	0.070	(0.098)	0.322**	(0.122)	0.137	(0.096)	- 0.048	(0.108)
Industrials/manufacturing	0.091	(0.096)	0.245**	(0.091)	0.106	(0.088)	0.195*	(0.087)
Media/travel	- 0.107	(0.146)	0.324**	(0.110)	0.086	(0.101)	0.040	(0.099)
Prof. services/finance	0.104	(0.090)	0.331***	(0.095)	- 0.083	(0.094)	0.027	(0.086)
Technology	0.193*	(0.090)	0.237*	(0.110)	0.131	(0.084)	0.007	(0.090)
Other or multiple selected	0.188*	(0.091)	0.448**	(0.155)	0.090	(0.080)	- 0.006	(0.088)
Personal income ($USD)								
Less than $25,000								
$25,000 to less than $75,000	0.039	(0.052)	- 0.160*	(0.068)	0.083	(0.056)	0.044	(0.044)
$75,000 or more	- 0.020	(0.052)	- 0.048	(0.074)	0.195**	(0.063)	0.099	(0.062)
Prior education debt ($USD)								
$0/no debt								
$1 to less than $10,000	- 0.033	(0.047)	- 0.101	(0.057)	0.120*	(0.051)	- 0.030	(0.044)
$10,000 or more	- 0.042	(0.063)	0.000	(0.050)	0.146**	(0.047)	0.047	(0.059)
Undergraduate GPA								
B average or equivalent								
A average or equivalent	0.027	(0.042)	0.122*	(0.050)	0.018	(0.054)	- 0.003	(0.042)
Observations	512		498		497		512	
Pseudo R^2	0.049		0.132		0.076		0.079	

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. Reference category in italics.

For South African respondents, after controlling for other variables, interest in a top-ranked, full-time MBA varied by gender, age, and employment industry (see Table 25). Women were 10 percentage points less likely than men to report interest. For every 1-year increase in age, the likelihood of reporting interest dropped by roughly one percentage point. Those working in education and industrials/manufacturing were 19 and 20 percentage points more likely to report interest than those who are students/unemployed, net of other variables.

For U.S. respondents, interest in a top-ranked, full-time MBA program varied by gender, race/ethnicity, parent education, age, personal income, prior education debt, undergraduate GPA, and selectivity of undergraduate institution (see Table 26). Employment industry and region were not significant factors after controlling for other variables in the model.

Women in the United States were 4.8 percentage points less likely than men to report interest in a top-ranked, full-time MBA. Blacks and Hispanics were more likely than Whites to report interest by 7.6 and 5.6 percentage points respectively, net of other variables. Similar to the overall model, those whose parents earned a bachelor's degree or a graduate degree were roughly 15–16 percentage points more likely to report interest than those whose parents have a high school degree or less, after controlling for other variables.

Table 26 *Predictors of Reported Interest in a Top-Ranked, Full-Time MBA Program: Residents of U.S. Only, Logistic Regression*

(7) United States	AME	SE
Gender *(male reference)*		
Female	- 0.048*	(0.020)
Race/ethnicity *(White)*		
Asian, non-Hispanic	0.061	(0.040)
Black/African American, non-Hispanic	0.076*	(0.031)
Hispanic	0.056*	(0.026)
Multi-race/Other, non-Hispanic	0.007	(0.061)
Parent education *(high school degree or less)*		
Some college	0.098	(0.060)
Bachelor's degree	0.152**	(0.049)
Some graduate studies	0.068	(0.077)
Graduate degree	0.159**	(0.055)
I don't know	0.008	(0.211)
Age	- 0.008**	(0.003)
Employment industry *(student/unemployed)*		
CPG/retail	- 0.012	(0.050)
Education	- 0.043	(0.050)
Health care	- 0.045	(0.047)
Industrials/manufacturing	0.031	(0.046)
Media/travel	- 0.052	(0.050)
Prof. services/finance	0.003	(0.041)
Technology	0.045	(0.043)
Other or multiple selected	0.005	(0.041)
Personal income ($USD) *(less than $25,000)*		
$25,000 to less than $50,000	0.008	(0.038)
$50,000 to less than $75,000	0.088*	(0.037)
$75,000 to less than $100,000	0.187***	(0.038)
$100,000 to less than $125,000	0.150***	(0.044)
$125,000 to less than $150,000	0.114*	(0.053)
$150,000 or more	0.110*	(0.052)

(model continued)	AME	SE
Prior education debt ($USD) *($0/no debt)*		
$1 to less than $10,000	0.071*	(0.029)
$10,000 to less than $20,000	0.016	(0.035)
$20,000 to less than $30,000	0.087*	(0.035)
$30,000 to less than $40,000	0.101**	(0.039)
$40,000 or more	0.058*	(0.027)
Undergraduate GPA *(3.00-3.19)*		
3.20-3.39	0.077*	(0.037)
3.40-3.59	0.060	(0.034)
3.60-3.79	0.069*	(0.034)
3.80-4.0 or higher	0.097**	(0.034)
U.S. region (*Northeast)*		
Midwest	0.000	(0.031)
South	0.013	(0.026)
West	0.018	(0.030)
Selectivity of undergraduate institution		
(90 percent or more accepted)		
75 to less than 90 percent accepted	0.094	(0.050)
50 to less than 75 percent accepted	0.109*	(0.048)
25 to less than 50 percent accepted	0.120*	(0.050)
Less than 25 percent accepted	0.154**	(0.055)
Not available	0.026	(0.072)
Undergraduate type *(Non-HBCU/HSI)*		
HBCU/HSI	0.064	(0.034)
Not available	- 0.005	(0.078)
Observations	2,055	
Pseudo R^2	0.076	

Note. $*p < 0.05$, $**p < 0.01$, $***p < 0.001$. Reference in parentheses. Average marginal effects (AME) and standard error (SE) terms calculated in Stata.

In the United States, the relationship between personal income and interest followed the same roughly bell-shaped curve as in the overall model. Interest for those reporting incomes of $25,000 to $50,000 was no different than those with income of $25,000 or less. Those reporting income of $50,000 to $75,000 were 8.8 percentage points more likely to report interest. Interest peaked for those reporting incomes between $75,000 and $100,000 who were 18.7 percentage points more likely to report interest than those with income of $25,000 or less, net of other variables. Those earning $100,000 or more were 11–15 percentage points more likely to report interest than those earning $25,000 or less.

Nearly all levels of prior education debt in the United States, including the highest grouping, $40,000 or more, were associated with a greater likelihood of reporting interest in a top-ranked, full-time MBA program compared to those with no prior education debt. Relative to those with a GPA of 3.00–3.19, those with higher GPAs were 7–10 percentage points more likely to report interest in a top-ranked, full-time MBA, net of other variables. As selectivity of the undergraduate institution increased, so too did the interest in a top-ranked, full-time MBA. U.S. respondents from the most selective colleges were 15 percentage points more likely to report interest than those from the least selective colleges. With a *p* value of roughly 0.06, the average marginal effect for undergraduate type (HBCU/HSI or not) fell just outside the statistically significant range used in this study. That said, despite already controlling for race/ethnicity and other variables, those attending an HBCU/HSI were about six percentage points more likely to report interest in a top-ranked, full-time MBA than those who do not attend an HBCU/HSI.

Other Variables of Interest

Several of the additional characteristics added to Model 2 (see Table 24) were significantly related to interest in a top-ranked, full-time MBA. As age increased by 1 year (within this sample of respondents age 21-35), the likelihood of interest fell by roughly one percentage point. Relative to those who were students or unemployed, those working in a few industries were more likely to be interested in a top-ranked, full-time MBA program including education (8.5 percentage points), industrials/manufacturing (9.7 percentage points), professional services (6.1 percentage points), and technology (11.2 percentage points), net of other variables.

Personal income was associated with interest in a top-ranked, full-time MBA, with coefficients following a roughly bell-shaped curve. Those with incomes $25,000 to $50,000 were no different than those with incomes less than $25,000 in likelihood of reported interest. Those with incomes of $50,000 to $75,000 were 4.9 percentage points more likely to report interest. Interest peaked for those with $75,000 to $100,000 in income who were 12.6 percentage points more likely to be interested in a top-ranked, full-time MBA than those reporting incomes less than $25,000. Those with more than $100,000 in income were 8.4 to 11.3 percentage points more likely than those with less than $25,000 of income to report interest (see Table 24).

For prior educational debt, the pattern of interest mirrored the descriptive findings: Net of other variables, those who have less than $20,000 and those with more than $40,000 in prior education debt were no more likely than those with no debt to report interest. Those with $20,000 to $40,000 in debt were 8–9 percentage points more likely to report interest in a top-ranked, full-time MBA than those with no prior education

debt. Students who reported A average grades for their bachelor's degree were 3.4 percentage points more likely than those who reported B average grades to be interested in a full-time, top-ranked MBA program, net of other variables (see Table 24).

Across the seven models presented in Table 24, Table 25, and Table 26, the pseudo R^2 values range from 3.0%–13.2%. As is typical for social science research, there are other factors that influence the formation of interest in a top-ranked, full-time MBA program not accounted for in these models. The pseudo R^2 value for Model 2, which includes respondents from all countries, was 7.7%. The pseudo R^2 values for models focused on Germany (7.6%), South Africa (7.9%), and the United States (7.6%) were relatively similar. The country model for respondents from Brazil was less predictive (4.9%), but the model with respondents from China was more predictive (13.2%). The differences in which independent variables were statistically significant predictors for respondents in each country model, and differences in pseudo R^2 values, highlight the role of home country as an important mediating variable for interest in graduate school.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Despite the importance of graduate school enrollment and attainment on social (im)mobility, the literature remains limited relative to undergraduate college access. Extant studies have increased an understanding of enrollment in the graduate school context but have important limitations—often related to the availability of data. There remains disagreement about the size and direction of the relationship between various individual characteristics and graduate school aspiration, enrollment, and attainment.

Although data sets such as Baccalaureate and Beyond (B&B)—which undergird many studies of graduate school enrollment (e.g., English & Umbach, 2016; Millett, 2003; Mullen et al., 2003; Perna, 2004; Liang Zhang, 2005)—provide longitudinal breadth, they sometimes lack the statistical power to meaningfully segment analyses by program characteristics such as field of study, degree level, and institutional selectivity due to low cell counts (Posselt & Grodsky, 2017). Collapsing these variables may mask differences in the relationship between individual characteristics and graduate school enrollment. For example, the barriers to access are likely different for a master's in education versus engineering or a local, part-time MBA versus a global, top-ranked, full-time MBA.

The relative paucity of data also means researchers tend to study those who have attained a graduate degree, making inferences about the barriers that kept others from aspiring, enrolling, or persisting. Furthermore, despite an increasingly global market for graduate students, most studies of graduate school access focus on single-nation data sets,

making it difficult to account for social or cultural capital and other characteristics related to access that may vary by country.

This study addressed this gap in the literature by using data from a unique five-country survey of bachelor's degree holders screened as potentially qualified applicants for a top-ranked, full-time MBA program. By focusing on the interest and aspiration phase of the graduate attainment journey, this study aimed to shed light on a phase of access where graduate schools may be most influential with program offerings and marketing strategies. A goal of this study was to develop a better understanding of why women, some racial/ethnic minorities, and individuals whose parents have not completed at least a bachelor's degree are underrepresented in top-ranked MBA programs and how the predictors of interest and aspiration may vary across countries.

To do so, this study addressed the following research questions:

1. How do characteristics of individuals who report interest in a business master's, part-time MBA, executive MBA, and full-time MBA differ?
2. How do reported barriers to applying to a full-time MBA program vary by gender, race/ethnicity, parent education, and home country?
3. How does reported interest in a top-ranked, full-time MBA vary by gender, race/ethnicity, and parent education?
4. Are observed differences in reported interest in a top-ranked, full-time MBA by gender, race/ethnicity, and parent education explained by home country, other individual characteristics, and measures of undergraduate college context?

Findings from descriptive statistical analyses show reported interest in a business master's, part-time MBA, executive MBA, and full-time MBA programs varied by individual characteristics. Financial barriers such as "not enough money" and "too much debt required" were most commonly reported as the strongest deterrents keeping individuals from applying to a full-time MBA. The salience of these barriers varied by gender, race/ethnicity, the intersection of gender and race/ethnicity, parent education, and home country. In multivariate analyses, interest in a top-ranked, full-time MBA also varied by gender, race, parent education, and home country, even after controlling for other variables noted in the literature as important. Given the relatively low share of variance explained in the logistic regression models, other forces also played a role. I now turn to a detailed analysis of these findings by individual characteristic.

Gender

This study found female potential applicants less commonly reported interest in business master's degrees, executive MBA programs, and full-time and top-ranked, full-time MBA programs than male potential applicants. In multivariate analyses, women were 6–10 percentage points less likely than men to report interest in a top-ranked, full-time MBA program after controlling for other variables. On the surface, these findings are puzzling given women represent a higher proportion of bachelor's degree graduates each year in the United States (Colby et al., 2017). Women in the United States are also more likely than men to pursue any master's degree (Baum & Steele, 2017b) but less likely to enroll in an MBA program (Colby et al., 2017; Mullen et al., 2003; U.S. News & World Report, 2020). By focusing on the early aspiration phase of graduate school

choice, this study suggests women attain MBA degrees at lower rates than men, at least in part due to lower rates of interest.

Helping to explain this underrepresentation of women in full-time MBA programs, I found women were more likely than men to cite financial barriers and the irrelevance of the MBA to their career paths than men as the main deterrents to pursuing an MBA. The statements, “not enough money” and “too much debt required,” were particularly prominent deterrents for women, suggesting near-term financing questions weighed more heavily for women than for men (see Figure 11). The findings here among potential applicants to a top-ranked MBA program extend the findings of Colby et al. (2017) among those who had already applied, confirming the salience of financial barriers in both the aspiration and application phases of accessing an MBA program.

Women may cite financial barriers more commonly because they expect lower pay while working (e.g., Carnevale et al., 2011; Ma et al., 2019) and more time out of the workforce than men over their lifetime (Ely et al., 2014; Hersch, 2013), making it harder to recoup the upfront costs of an MBA. Women were also more likely than men to cite “MBA not relevant in my field” as their main barrier to applying (see Table 18), which may reflect that women choose different career paths such as health sciences or education. Those women who do choose business may be blocked from opportunities where an MBA may be relevant and remunerative. For example, women in business are less likely than their male counterparts to be in senior management roles, manage direct reports, and have profit and loss responsibility (Ely et al., 2015; R. Thomas et al., 2020).

After controlling for other variables, the multivariate analysis in this study showed the relationship between gender and reported interest in a full-time MBA

program varied by country (see Table 25). Women in Brazil and Germany were as likely as men in those countries to report interest, but women in the United States, China, and South Africa were all less likely than men to report interest in a top-ranked, full-time MBA program. This mediating effect of country may reflect different educational expectations, available career pathways, comfort with financing options or other structural differences in the costs and benefits of education by country. For example, the gender pay gap varies by country (Leopold et al., 2017), which may influence how women and men from different countries weigh the benefits and costs of pursuing graduate school.

Race/Ethnicity

Among potential applicants, African Americans and Hispanics were 8–10 percentage points more likely to report interest in a top-ranked, full-time MBA than Whites after controlling for other variables, a pattern reflected in the descriptive analyses as well. This finding relates to those who are potentially qualified applicants to a top-ranked MBA program—here operationalized as those age 21–35 with a bachelor's degree, a 3.0 or higher undergraduate GPA, and an interest in a business-related career or management position. Even though Black and Hispanic potential applicants were more likely to be interested in an MBA, given these racial/ethnic groups are underrepresented among bachelor's degree holders, they remain underrepresented in top-ranked business schools (Abelson et al., 2020; Hazenbush, 2018).

These findings about higher rates of interest in an MBA program among Black and Hispanic bachelor's degree holders, net of other variables, are consistent with prior studies about graduate school enrollment patterns. Black and Hispanic graduate degree

holders have been found to be overrepresented relative to the pool of bachelor's degree holders but underrepresented relative to the population writ large (e.g., Baum & Steele, 2017b; English & Umbach, 2016; Perna, 2004). The high levels of reported interest among Blacks and Hispanics found here relative to other racial/ethnic groups suggests their underrepresentation in enrollment in full-time MBA programs does not seem to be due to a lack of aspiration or interest among bachelor's degree holders.

Though underrepresented racial/ethnic minorities are often grouped together in academic research and in business school marketing strategies, this study found key barriers to applying differ among these groups. Among potential applicants, African Americans were more likely than Whites to identify financial barriers as the main deterrent to applying, but Hispanics and Asian Americans were less likely than Whites to do so (see Table 19).

This finding is consistent with Heller (1997) who found evidence that African Americans are more responsive to increasing educational prices than Whites but that the evidence for Hispanics is more mixed. Although Li (2018) found no changes in overall number enrolled at top law schools as prices increased, they posited (but did not have the data to empirically examine) that the increased prices may have a disproportionately deterrent effect on women and minorities and may thus affect the enrollment diversity. Findings here about the salience of financial barriers to women and African Americans provides evidence to substantiate these hypotheses. Although this study does not reveal what these different groups know about the true costs of enrolling, they highlight the financial barriers perceived and cited by these groups as the reason for not being interested in a full-time MBA program.

Parent Education

Though sociologists and other scholars see education as a way parents pass on power or wealth to their children (Bourdieu, 1986; Bourdieu & Passeron, 1977), the relationship between socioeconomic background and access to graduate school is not resolved in the literature. Some research has shown parent education is not related to graduate school enrollment after attaining a bachelor's degree (e.g., Mare, 1980; Stolzenberg et al., 1988), and other research has shown parent education is related to graduate school enrollment (e.g., Perna, 2004; Torche, 2011). Adding to this body of research, this study shows parent education is positively related to interest in business school generally and to top-ranked, full-time MBA programs in particular. Multivariate analyses showed, among those screened as potential applicants, children whose parents have a bachelor's or graduate degree are 10–25 percentage points more likely to report interest in a top-ranked, full-time MBA than children whose parents have a high school degree or less, after controlling for other variables and depending on the country (see Table 24, Table 25, and Table 26).

These results stand in contrast to the findings of Mare (1980) and Stolzenberg (1994), which found no relationship (or a negative relationship) between graduate school enrollment and parent education. It may be that the influence of parent education on graduate school enrollment has increased over the past 30–40 years as bachelor's degree attainment has risen, making graduate school more important to social mobility (Wakeling & Laurison, 2017).

Furthermore, although Mullen et al. (2003) found parent education has a strong effect on their children's entry into first-professional and doctoral degrees, they found no

relationship between parent education and enrollment in an MBA program. However, Mullen et al. did not distinguish between the type, format, or prestige of the MBA program. This study adds to their findings by focusing on interest in top-ranked, full-time MBA programs, where sociologists would expect horizontal stratification strategies are more likely to be present (Torche, 2018; Wakeling & Laurison, 2017) because graduates of these institutions have higher pay and more influence (e.g., Gross, 2019). In contrast to enrollment in MBA programs in general (Mullen et al., 2003), this study found, for aspiration to a top-ranked, full-time MBA programs, the role of parent education reasserts itself, providing evidence of both vertical and horizontal stratification.

Four categories of parent tertiary education are statistically related to interest in a top-ranked, full-time MBA after controlling for race/ethnicity and gender (Model 1). When adding in other control variables (home country, industry, income, prior education debt, and GPA), only two categories of parent education remained statistically significant: bachelor's degree and graduate degree. The parent education groups "some college" and "some graduate studies" were no longer significant (see Model 2 in Table 24). This pattern was mirrored in descriptive statistics showing interest levels in a business master's degree elevated for those whose parents have "some college" or "some graduate studies" (Figure 4), and the higher salience of financial barriers for these groups (see Table 21). Those who fail to attain a degree have lower income than those who do finish (Ma et al., 2019). These findings also suggest their children may experience additional disadvantage in the form of stunted aspirations for graduate school.

Another difference between Models 1 and 2 was the size of the coefficients for parent education. In the simple model, the average marginal effects of parent education at

the bachelor's degree and graduate degree levels were 18.2% and 15.2%, respectively, relative to those whose parents earned a high school degree or less. In the full model, the average marginal effects were 11.8% for those whose parents earned a bachelor's degree and 11.2% for those whose parents earned a graduate degree (see Table 24). That both of these coefficients were lower in the full model suggests some of the parent education relationship advantage travels through other variables in the model such as undergraduate GPA, prior education debt, personal income, or employment industry. Some of the difference was also mediated by home country.

Deterrents to applying to a full-time MBA varied by parent education. The frequency with which "not enough money" was cited as the main barrier was lower for those whose parents have a bachelor's or graduate degree than for those whose parents have less than a bachelor's degree (13%–14% vs. 20%). "MBA not relevant in my field" was more commonly reported as the main deterrent for those whose parents had a graduate degree than for those whose parents had a bachelor's degree (12% vs. 4%). Those whose parents earned a graduate degree were also most likely to cite "financial return not worth it" and "satisfied in current job" (see Table 21). Taken together, these findings suggest those whose parents have a graduate degree perceived less need to pursue a full-time MBA program. This study did not distinguish among the type of graduate degree a parent achieved, so this finding may have been influenced by parents with graduate degrees steering or socializing their children toward a graduate program or occupation in their own field such as law or medicine (van de Werfhorst & Luijkx, 2010).

Home Country

This study revealed differences by home country in reported interest in different types of graduate business programs, barriers to a full-time MBA, and interest in a top-ranked, full-time MBA. Among bachelor's degree holders screened as potential applicants to a top-ranked, full-time MBA program, reported interest varied by country even after controlling for other variables. Those from Brazil, Germany and South Africa were 7–10 percentage points more likely than those from the United States to report interest, and those from China were 30 percentage points more likely (see Table 24). In descriptive analyses, those from China also reported higher levels of interest in business master's, part-time MBA, executive MBA, and full-time MBA programs than respondents from other countries (see Table 17). Given the global market for graduate school, these findings provide evidence that home country, something little explored in the literature, is important to understanding enrollment patterns in graduate school.

Barriers to pursuing an MBA most frequently cited also varied by country (see Table 22). Across all countries, financial barriers to a full-time MBA were cited most frequently, but that frequency varied. Fifty-three percent of those from South Africa, 50% from Brazil, 44% from the United States, 36% from China, and 32% from Germany cited a financial barrier as the top deterrent. Of these five countries in 2019, South Africa and Brazil had the lowest per capita income at $6,001 and $8,717 in nominal U.S. dollars respectively (World Bank, n.d.). Given the fixed tuition costs for top-ranked programs, the prominence of financial barriers in South Africa and Brazil reflects a human capital guiding perspective given lower average incomes in those countries before and after an MBA (Becker, 1975; Perna, 2004). On the other end of the scale, Germans cited financial

barriers to a full-time MBA least often (32%) but had the second highest per capita income ($46,258) in this group of countries (see Table 27).

Findings from China and the United States did not follow this pattern of average income and the prevalence of financial barriers. Respondents from the United States had the highest per capita income ($65,118) but cited financial barriers as the main deterrent 44% of the time. Despite a per capita income 6 times smaller than that of the United States ($10,261), Chinese respondents cited financial barriers as the main deterrent to pursuing a full-time MBA eight percentage points less frequently than respondents from the United States (see Table 27). These anomalous findings suggest simple cost and benefit analyses are insufficient to explain patterns of interest in a top-ranked MBA program by country.

Table 27

Financial Barriers to a Full-Time MBA, Income, and Educational Attainment by Country

Country	Percent of sample most deterred from pursuing MBA by a financial barrier[a]	2019 per capita income (nominal USD)[b]	Percent of 25-34 year-olds with a bachelor's, master's, or doctoral degree[c]
South Africa	53%	6,001	5%
Brazil	50%	8,717	21%
United States	44%	65,118	40%
China	36%	10,261	8%
Germany	32%	46,258	33%

Note. [a]Findings from this study; [b]Adapted from World Bank (n.d.); [c]Adapted from OECD (2020).

Elements of the habitus, undergraduate institution context, graduate school context, and macro social, economic, and policy context layers (English, 2012; Perna,

2006) may also vary by country, influencing how individuals perceive the costs and benefits of pursuing graduate school. For example, in the United States and Germany, the prominence of debt and personal income were especially salient in multivariate findings of this study (see Table 25 and Table 26). The prospect of more debt for graduate school weighed heavily as a deterrent to pursuing a full-time MBA for those in the United States (see Table 22), where loans have become an increasing fixture in higher education.

Table 27 shows the attainment of at least a bachelor's degree varied among 25- to 34-year-olds in these countries, from a low of 5% in South Africa to a high of 40% in the United States. Given the barriers to college attainment in South Africa, for example, 5% of individuals there with a bachelor's degree may have higher access to resources or ability on average than those with a bachelor's degree in the United States where college attainment is more widespread. This selection on higher average ability or access to other resources among South African bachelor's degree holders may help to explain why South African potential applicants are 10 percentage points more likely than those in the United States to report interest in a top-ranked, full-time MBA program (see Table 24).

The logistic analyses by country shed light on the relative importance of different variables to interest in a top-ranked, full-time MBA as mediated by country context. Women are less likely than men to report interest in China, South Africa, and the United States, but I found no statistical relationship between gender and interest in Germany or Brazil (see Table 25 and Table 26). This finding may reflect differences in undergraduate study patterns, career paths, or attitudes about gender by country that were beyond the scope of this study but warrant further research. Intersectional descriptive analyses reflected some differences in reported barriers to applying to a full-time MBA by gender

and home country. For example, German women cited financial barriers as their main deterrent more frequently than German men by 16 percentage points (see Table 23).

The relationship between parent education and interest in a top-ranked, full-time MBA was also mediated by home country. In Brazil, China, and the United States, having a parent with a bachelor's degree was associated with a 13-, 25-, and 15-percentage-point increased likelihood, respectively, of reporting interest in a top-ranked, full-time MBA, relative to those whose parents have less education. In Germany and South Africa, parent education was not statistically related to interest in a top-ranked MBA program (see Table 25 and Table 26). These findings suggest the role of higher education in social reproduction and stratification (Bourdieu, 1986; Bourdieu & Passeron, 1977) may vary around the world and link to other structural differences by country. The variation found by home country across all research questions in this study highlights the utility of both econometric and sociological approaches to understanding graduate school access and choice (English, 2012; English & Umbach, 2016; Perna, 2004, 2006).

Relative to the 7.7% pseudo R^2 of the full logistic regression across countries (Model 2), the pseudo R^2 value for the China country model (Model 4) was 13.2%. This means the variables represented in the model captured more of the variation in interest in a top-ranked, full-time MBA program for Chinese potential applicants. Pseudo R^2 values for the other country models were essentially equal to the full model or lower. Across all models, there remained considerable unexplained variation in interest in a top-ranked, full-time MBA.

Other Variables of Interest

Age

Overall, this study found age to be negatively correlated to interest in a top-ranked, full-time MBA program after controlling for other variables. Age was a significant (and negative) predictor of interest in China, South Africa, and the United States, but not related to interest in Brazil or Germany, net of other variables (see Table 25). The negative relationship between interest and age reflected that older candidates have to pay the same direct costs as younger candidates but have fewer years in the workforce after graduating to realize the benefits of pursuing a top-ranked MBA. Particularly in China, older potential applicants were less likely to report interest than younger candidates: 3.3 percentage point decrease in likelihood of reporting interest for each 1-year increase in age (versus -1.11 and -0.8 percentage points for South Africa and the United States). China's lower retirement age—60 for men and between age 50–60 for women, depending on the type of work (OECD, 2019)—may also have influenced how individuals weighed the perceived costs and time to realize the benefits of an MBA. These findings build on the insights of Tienda and Zhao (2017) about differences in graduate school enrollment by race/ethnicity and age in the United States and may reflect attitudinal, cultural, or structural differences related to age by country.

Personal Income

This study found a generally positive relationship between personal income and interest in a business master's program. Interest in a full-time and top-ranked, full-time MBA followed a roughly bell-shaped curve, rising with income to $100,000 and then falling somewhat for individuals with over $100,000 in income (see Figure 5).

Multivariate analyses showed a similar pattern of interest for a top-ranked, full-time MBA. Average marginal effects were positive and statistically significant for incomes $50,000 and above, but the coefficient peaked for those earning $75,000 to $100,000 at 0.126 before falling to 0.084 for those earning $150,000 or more (see Table 24).

These findings reinforce a rational choice or human capital conception of educational continuation (Becker, 1975), with income playing multiple roles. Income can be an indicator of an individual's underlying ability and work ethic (though there are assuredly other factors). Those same underlying attributes that contribute to higher income are also related to higher aspirations for graduate school and ability to succeed. This logic helps explain the positive relationship between income and reported interest, up to a certain point, found here. Income can also represent opportunity cost, particularly for those contemplating a full-time MBA program, which requires foregoing that income while enrolled. Indeed, although the cost of attendance for top-ranked, full-time MBA programs exceeds $100,000 per year (U.S. News & World Report, 2020), some high-earning individuals forego more than this in compensation by enrolling in a full-time MBA.

The bell-shaped coefficients thus reflect the multiple relationships income has with interest in a top-ranked, full-time MBA program—both a positive (correlated with ability) and negative (opportunity cost) conceptual relationship. Candidates along the income curve must weigh these relationships simultaneously when considering a full-time graduate program, and, at a certain point, the costs may outweigh the benefits. This manifold relationship for income is consistent with Seibert et al. (2013) who found getting a quick raise or promotion is associated with higher interest in graduate school but

lower likelihood of applying. These findings also add nuance to studies that have found those who majored in less remunerative undergraduate majors were more likely to enroll in graduate school due to the lower opportunity costs (Monaghan & Jang, 2017; Perna, 2004; Lei Zhang, 2013).

Prior Education Debt

After controlling for other factors, this study showed those with a moderate amount of debt were more likely to report interest in a top-ranked MBA than those with no debt and those with relatively higher amounts of debt. Those with $20,000 to $40,000 in prior educational debt were about 8–9 percentage points more likely than those with no debt to report interest. This finding may underscore that individuals who are comfortable investing in debt for a bachelor's degree (the opposite of debt aversion) are more likely to show interest in a graduate degree, up to a certain point (Lei Zhang, 2013).

Indeed, in descriptive statistics about barriers to applying to a full-time MBA, 18% of those with $0 educational debt cited "not enough money," and only 13% of those with $1 to $30,000 in prior educational debt did so (see Figure 10). Some experience with debt at the undergraduate level seems to help individuals understand potential sources of funds for graduate school. After $40,000 in debt, however, the multivariate analysis showed no relationship with interest, suggesting payments at that level may be too cumbersome to forego a salary to pursue a full-time MBA program.

To date, the empirical research has been mixed on whether undergraduate debt is positive or negatively related (or not related at all) with graduate school enrollment (e.g., Chen & Bahr, 2020; Eagan & Newman, 2010; English & Umbach, 2016; Malcom & Dowd, 2012; Millett, 2003; Wakeling & Laurison, 2017; Weiler, 1994; Lei Zhang, 2013).

Although findings of this study do not settle the debate for all graduate school programs, the relationship may vary based on the type of graduate degree, including how much additional debt is anticipated to complete the graduate degree. A full-time MBA often requires students to take out additional debt, which is not the case for some other graduate degrees.

Furthermore, this study found "too much debt required" was the second highest deterrent to pursuing a full-time MBA, and this deterrent was more commonly cited as the level of undergraduate loans increased (see Figure 10). These findings suggest when individuals contemplate whether to enroll in graduate school, they consider the cumulative impact of debt—not just their stock of prior educational debt from college but also the additional debt they anticipate from graduate school.

Undergraduate GPA

This study found earning a higher undergraduate GPA was associated with a 7- to 10-percentage-point higher likelihood of reporting interest in a top-ranked, full-time MBA in China and in the United States, though no relationship was found in Brazil, Germany, or South Africa (see Table 25 and Table 26). This positive relationship is consistent with prior studies (e.g., Clune et al., 2001; Eide et al., 1998; English & Umbach, 2016; Millett, 2003; Tienda & Zhao, 2017; Lei Zhang, 2013). The descriptive analyses reinforced this positive relationship most clearly for full-time and executive MBA programs, but the relationship was more mixed for part-time MBA programs, which may relate to their lower admissions standards and prestige (Daniel et al., 2019).

Selectivity of Undergraduate Institution

Potential applicants in the United States who attended a more selective undergraduate institution were more likely to report interest in a business master's degree, as well as an executive MBA, full-time MBA, and top-ranked, full-time MBA (see Figure 8). Multivariate analyses confirmed the selectivity of potential applicants' undergraduate institution has a positive relationship with interest in a top-ranked, full-time MBA program in the United States, after controlling for other variables. This study found those attending more selective institutions are 11–15 percentage points more likely to report interest in a top-ranked, full-time MBA than those who attended the least selective undergraduate institutions, even after controlling for other variables (see Table 26). This finding at the aspiration or interest phase of MBA enrollment mirrors the findings of existing studies about the positive relationship between selectivity of undergraduate institution and enrollment in graduate school (Eide et al., 1998; Millett, 2003; Tienda & Zhao, 2017; Liang Zhang, 2005). Attending a selective undergraduate institution may influence interest in graduate school by surrounding potential applicants with other high-ability students more likely to go on to graduate school, a form of social and cultural capital, and with resources such as graduate school advising centers or visits from graduate school admissions offices.

Institution Type

In descriptive analyses, those who attended an HBCU/HSI reported interest in a business master's, part-time MBA, and executive MBA at roughly the same rates as those who did not attend an HBCU/HSI. In contrast, they reported interest in a full-time and top-ranked, full-time MBA at substantively higher rates. After controlling for other

factors in the multivariate analysis, this study found a positive relationship (albeit just outside the 0.05 *p*-value threshold used in this study) between attending an HBCU/HSI for a bachelor's degree and reporting interest in a top-ranked, full-time MBA program. That race/ethnicity was controlled for in this finding suggests a social and cultural influence of HBCU/HSI on graduate school aspiration, confirming the findings of Eagan and Newman (2010) in STEM fields.

Implications for Practice

One of the goals of this study was to help explain why women, individuals from low socioeconomic backgrounds, and underrepresented minorities are not enrolled in higher numbers in top-ranked, full-time MBA programs—a set of programs critical to understanding stratification patterns in society given the wealth and positions of influence held by their graduates. Findings of this study revealed differences in interest levels and barriers to access among individuals screened as potentially qualified applicants for a top-ranked program but who had, as yet, decided not to enroll. These findings suggest business schools and other graduate schools can better tailor their marketing strategy and program portfolio to harness interest and break down barriers faced by some groups of prospective students.

Tailored Outreach

Interest in business master's and MBA programs varied by gender, race/ethnicity, parent education, and home country (see Table 15 and Table 16). Interest in top-ranked, full-time MBA programs was related to these same characteristics, even after controlling for other variables (see Table 24). The main deterrent to pursuing a full-time MBA also varied by gender (Table 18), race/ethnicity (Table 19), parent education (Table 21), home

country (Table 22), and the intersections of gender and race/ethnicity (Table 20) and gender and home country (Table 23). However, all too often, admissions officers take a one-size-fits-all approach, using the same messaging and general events to recruit potential students with different backgrounds. Admissions offices can use these findings to develop tailored marketing strategies that better empathize with their target audience and address their concerns.

Business schools seeking to attract more women to their full-time MBA programs should consider how to address barriers applying women face at higher rates than men, including "not enough money," "too much debt," and "MBA not relevant in my field." In information sessions, rather than downplaying costs (or avoiding them altogether), admissions officers can speak forthrightly about the investment an MBA requires, acknowledging the high direct and opportunity costs while also explaining the benefits. They might further highlight how alumnae have managed the debt burden after graduating. Even the language business schools use in information sessions, websites, and advertisements to describe their programs may need to be assessed. When organizations describe their ideal candidates using superlatives or stereotypically masculine attributes, studies have found women are systematically less interested (Ammerman & Groysberg, 2021).

Women earn a majority of master's degrees in the United States but only 36% of MBA degrees (Baum & Steele, 2017b; Colby et al., 2017). In addition to encouraging more women to pursue graduate school, business schools may be able to recruit women who are considering a different master's degree. For example, business schools could explore messaging that highlights how an MBA can lead to fulfilling and remunerative

careers in a wide range of fields, such as those traditionally pursued after a Master of Education or Master of Public Health.

Beyond messaging, schools might explore debt relief programs or partnerships with outside organizations like the Forté Foundation that seek to attract women to MBA programs. To address the higher perceived irrelevance of an MBA for women than men, business schools could consider recruiting efforts while candidates are still undergraduates, years before they are eligible to enroll given work requirements. Colby et al. (2017) found women in many regions of the world were more likely than men to consider an MBA while still an undergraduate student. This study found after women finished a bachelor's degree their rate of interest in a top-ranked, full-time MBA was lower than that of men, after controlling for other factors. Outreach to women in college could take the form of early pipeline development marketing or even a deferred admission program for students to apply to an MBA program while in college but matriculate after a few years of work experience (Colby et al., 2017; Silverman Hodara, 2019).

Attracting students from different racial/ethnic backgrounds to apply and enroll in full-time MBA programs is another example of where tailored approaches are likely to be more effective. Business schools and outside support organizations like Management Leadership for Tomorrow often group together marketing to different underrepresented minority groups. However, findings about the most salient deterrents for each group suggest there may be limits to this approach. For example, African Americans cited financial barriers most frequently among all groups, but Hispanics cited financial barriers least frequently (tied with Asian Americans). Instead, Hispanics were more likely to

worry about opportunity costs ("time demands too great") and the relevance of a business degree ("MBA not relevant in my field") than African Americans (see Table 19). The intersection of gender and race/ethnicity revealed further nuance to the barriers each group faces (see Table 20). For example, 18% of Hispanic females cited "not enough money" as their main deterrent to applying to a full-time MBA versus only 5% of Hispanic males.

These insights highlight the shortcomings of marketing to women and men, or Asians, Blacks, Hispanics, or Whites, as a monolith. There were further differences in interest and barriers by home country as well. Instead, the findings presented throughout this study can help schools develop more tailored outreach strategies to appeal to prospective students of different gender, racial/ethnic, socioeconomic, and geographic backgrounds.

Program Portfolio

An important finding of this study was the extent of overlapping interest among prospective students in the different types of graduate business degrees—business master's, such as a master's in finance or management, and MBA programs, including part-time, executive, and full-time formats. For example, of those interested in a full-time MBA, 47% also expressed interest in a part-time MBA program, and 51% in a business master's degree. Table 14 shows overlapping interest among program types ranging from 24%–64%. This overlap in interest reflects the real-world choice a potential student must weigh—not just, "Should I pursue graduate school?" but also, "Which graduate business program should I attend?"

The rapid rise in the number of business master's and part-time MBA programs (Daniel et al., 2019; Datar et al., 2010) and the high overlapping interest among these programs found here suggest graduate business school offerings are not well differentiated. After a rapid rise from 1970 to 2010, the number of graduate business degrees conferred overall (including MBA and business master's) has been flat since 2010 at around 190,000 conferred in the United States per year (National Center for Education Statistics, 2018b). However, the mix of degrees awarded began shifting away from the full-time MBA and toward part-time, executive, and business master's programs before then (Daniel et al., 2019; Datar et al., 2010). Business master's programs have wide appeal across age and income levels (see Figure 5 and Figure 6). Whether business master's and part-time MBA programs have risen to meet falling demand for full-time programs, or have hastened their decline, is difficult to disentangle empirically.

Rising tuition and opportunity costs associated with a full-time MBA may be responsible for some of this shifting demand. Indeed, in this study, potential applicants most frequently cited "not enough money," "too much debt required," and "time demands too great" as deterrents to pursuing a full-time MBA (see Table 18). The first two speak to the direct costs of a full-time MBA program, and the third speaks to the opportunity costs. The cost of attendance at most top-ranked business schools in the United States exceeds $200,000 over 2 years (U.S. News & World Report, 2020), and the opportunity cost mirrors prevailing salaries among potential students. Although students in part-time and executive MBA programs face similar direct costs, their opportunity costs are lower because they mostly attend local programs and continue in their full-time employment. Students in business master's programs also face lower opportunity costs because the

programs are shorter (typically two semesters) and because more students enroll immediately following a bachelor's degree (Daniel et al., 2019) before they start earning a salary.

The shift away from full-time toward part-time and business master's programs is particularly pronounced for mid and lower ranked business schools. This study found, among those who reported interest in a full-time program, most (91%) reported interest in a top-ranked program. This finding may suggest candidates feel the investment of time, money, and foregone salary for a full-time MBA is only worth it when attending a top-ranked school. This conclusion is consistent with findings from news reports (Gee, 2019) and prior studies that the full-time MBA market is "hollowing out" (Datar et al., 2010, p. 28) as mid and lower ranked business schools lose full-time MBA enrollment or close full-time programs to focus on part-time (including online) MBA and business master's programs.

This study's findings about overlapping interest in graduate business programs and differentiated barriers to applying may inform discussions at business schools about the students they would like to attract and thus the portfolio of degree programs they choose to offer. For example, interest in business master's, part-time, executive, and full-time MBA programs varied by gender, race/ethnicity, parent education, and age (see Table 15). The prominence of financial barriers for many groups of potential students also suggests price points should be further studied and thoughtfully considered for each program, alongside the school's market position.

Implications for Future Research

In their 2017 review of the literature on graduate education and social stratification, Posselt and Grodsky noted, "The time is right to move beyond top-coding education as 'college and more'" (p. 369). Rather, they encouraged future research that disaggregates graduate school by degree type (master's, doctoral, professional), by field of study, program selectivity, and steps along the student pathway (e.g., aspiration/ interest, admission, enrollment, and graduation). This study highlighted the value of taking such an approach by focusing on one type of graduate program (master's), field (business), selectivity (top-ranked), and student pathway juncture (aspiration/interest). By doing so, this research uncovered differences in aspiration and barriers to attending full-time and top-ranked, full-time MBA programs by gender, race/ethnicity, parent education, and home country—differences that may not have been discernible in a research approach that collapses multiple graduate programs, types, fields, or selectivity levels.

Aspiration and Application

In addition to segmenting research by field of study, more research can focus on early aspiration and application phases of graduate school enrollment for other degree types and fields. For example, this study found aspiration to graduate business school was stratified by individual characteristics and perceived barriers to applying also varied. Findings such as these are eminently practical because they identify the perceived barriers to access admissions offices and institutions can work to dismantle to attract and enroll students from different backgrounds.

Additional research could illuminate pathways and prohibitors to other professional and graduate programs important to societal stratification patterns, such as

medical school and law school. Studies could follow a research design similar to this one, surveying those who are qualified and well suited for a particular graduate program to understand patterns and barriers to aspiration and application to the graduate program.

Qualitative studies could complement this study by probing for additional reasons that motivate interest in a graduate business program or preclude one from applying. The logistic regression models of interest here explained a relatively low percentage of the variance in interest, suggesting other characteristics may be influential. Qualitative research could further explore how potential applicants perceive the value of graduate business degrees and whether they feel the degrees are suited for people like them. Furthermore, interviews or focus groups might probe on how messages from the graduate school may (or may not) influence perceptions of the value of an MBA or other business master's degree.

Geography

To date, almost all studies of graduate school enrollment have drawn conclusions from one country (e.g., English & Umbach, 2016; Mullen et al., 2003; Perna, 2004; Torche, 2011) given the lack of robust multinational data sets about educational achievement. However, international students are an important segment of graduate school enrollment, representing 9% of total graduate school enrollment in the United States in 2011–2012 (Baum & Steele, 2017b) and roughly a third of all students in top-ranked, full-time MBA programs (U.S. News & World Report, 2020). By relying on a common survey instrument to gather data from potential applicants in five countries, this study found characteristics such as gender, parent education, personal income, and

educational debt varied by country in explaining interest in graduate school (see Table 25).

A cross-country survey such as this has some inherent limitations as noted in Chapter 3. It is difficult to construct a sample of potentially qualified applicants to a program that is representative of the broader population from which graduate schools might draw students. Future cross-national studies such as this should incorporate more measures of social and cultural capital to help explain patterns of interest and enrollment across countries. Admittedly, however, this is difficult given how societal norms and values may vary by country. Indeed, follow-on qualitative interviews with respondents could complement these quantitative findings by adding more understanding of cultural and social capital as well as deterrents to applying to a full-time MBA—nuances that might help schools better address those deterrents.

More cross-country studies are needed to affirm and unpack the social, cultural, and structural dimensions that lead to different pathways and barriers to graduate school access by country, especially for programs in which international students are a large proportion of students. Although these five countries vary on important dimensions that provide breadth of insight, studying additional countries would likely reveal additional differences in student pathways particular to that home country. For researchers based in the United States, additional countries worth studying may include India, South Korea, Saudi Arabia, and Canada, which, after China, send the most students to the United States for higher education (Ruiz, 2014).

Within the countries studied, future research should consider the influence of structural and macroeconomic factors on educational aspirations and enrollment beyond a

bachelor's degree. For example, access to education, or the value ascribed to it, may vary by country in social networks and in the labor market. College and graduate school may have different structures and communicate different meaning in society by country. Governments may subsidize higher education at the undergraduate and graduate levels at different rates, and economic realities (e.g., income, inequality) and demographic trends may also vary and influence the perception of costs and benefits of pursuing graduate school. Given that country was found to have a significant mediating relationship with other variables in this study, future research could focus on uncovering the structural, demographic, cultural/social, and macroeconomic explanations.

Financial Considerations

Of particular need is more research beyond Seibert et al. (2013) and this study that focuses on bachelor's degree holders (mostly working adults) contemplating graduate school. For a full-time program, these individuals must forego a salary and thus face higher apparent opportunity costs than graduating seniors. Yet, little is known about how working adults weigh direct costs versus opportunity costs when considering whether to return to graduate school and, if they decide to return, how they select the program type, field, and format (e.g., part-time, full-time).

Findings here suggest opportunity costs do come into play as income rises—though those with incomes $50,000 and above are more interested in a top-ranked MBA than those who make less than $25,000, the coefficient peaked for those earning $75,000 to $100,000 (see Table 24). Although the coefficients were not statistically different for those earning $100,000 or more, they did fall, suggesting opportunity costs may begin to overshadow the perceived benefits of attending graduate school for some. Additional

research is required to substantiate (or refute) these findings, perhaps by asking more directly about the direct costs of graduate school (e.g., tuition and fees) and the interplay with opportunity costs applicants differentially face. Both additional quantitative surveys and qualitative interviews are likely to provide important insights.

Additional research is also required to establish how well prospective students understand the cost of graduate school, including any scholarships or other financial aid that may be available. For example, a higher percentage of women than men cited "not enough money" (18% vs. 11%) as their main deterrent to applying to a full-time MBA program. However, it is not known whether this is due to differences in how they estimated the cost of graduate school, their likelihood of receiving grant aid, or other considerations driving the differential deterrent impact. Future studies of this type could use examples from the undergraduate literature as a guide (e.g., Grodsky & Jones, 2007).

Debt for graduate school is rising in absolute terms and as a share of the total outstanding student debt (Belasco et al., 2014; Miller, 2020). Given educational debt is not held proportionally by race/ethnicity (Belasco et al., 2014; Chen & Bahr, 2020; Miller, 2020), future studies should explore interactions with educational debt and race/ethnicity. Similarly, new studies are needed to understand how the prospect of taking on debt for graduate school may deter some groups from applying. Although there are many studies of how existing educational debt (from a bachelor's degree) may affect enrollment in graduate school (e.g., Chen & Bahr, 2020; Malcom & Dowd, 2012; Weiler, 1994; Lei Zhang, 2013), none to my knowledge considers how potential graduate students weigh the prospect of more debt as they decide whether or not to apply. This study found those with a moderate amount of debt ($20,000–$40,000) were more likely

to report interest in a full-time MBA. Yet, those with $20,000 or more in undergraduate loans were more likely to cite "too much [graduate] debt required" as the main barrier to pursuing an MBA. As debt has become an increasingly prominent feature of higher education, at least in the United States, future studies are needed to explain how undergraduate debt interacts with the prospect of more debt for graduate school to influence the decision to attend graduate school.

Concluding Note

Students at selective MBA programs represent a small segment of the graduate student population, but one that is important to stratification patterns given their overrepresentation among wealthy and influential members of society when they graduate. By studying individuals screened as potential applicants for top-ranked, full-time MBA programs, this study helped to explain why women, underrepresented minorities, and individuals from low socioeconomic backgrounds are not enrolling in higher numbers. The overarching finding of this study was that interest in graduate business school varies by gender, race/ethnicity, socioeconomic status, and by home country, even after controlling for other variables in logistic regression models. These groups also reported different barriers to pursuing graduate school.

Business and other graduate schools can use these findings to address and work to dismantle barriers faced by potential applicants from all backgrounds. As they do so, rather than perpetuating power and wealth inequities in society, selective graduate and professional schools can be catalysts for social mobility—helping to launch talented students from many backgrounds into positions of influence in business, government, and society.

APPENDIX A

SURVEY INSTRUMENT

Questions not used in this study and some programming notes are omitted from this appendix for length and clarity.

In what country do you currently live?

01 Brazil
02 Canada
03 China
04 Germany
05 Japan
06 Mexico
07 Nigeria
08 South Africa
09 Spain
10 United States
97 Another country
99 Web Blank

Which of the following best describes you?

1 I speak English very well
2 I speak English well
3 I do not speak English well
4 I do not speak English at all
9 Web Blank

What is your gender?

1 Male
2 Female
3 Another identity
9 Web Blank

What is your age? (Please type your age in the space provided.)

___ years old
99 Web Blank

[U.S. respondents]
Are you of Hispanic or Latino origin or descent?

1 Yes
2 No

[U.S. respondents]
Do you consider yourself to be: (Please select as many as apply.)

1 White or Caucasian
2 Black or African American
3 Asian/Chinese/Japanese
4 Native American/American Indian/Alaska Native

5 Native Hawaiian and other Pacific Islander
7 Other race (please specify)
9 Web Blank

[U.S. respondents]
In which state do you currently reside?
[selected from drop-down menu]

What is the highest level of school you have completed or the highest degree you have received?

1 [PN: IF U.S. (COUNTRY=10):] Less than a high school diploma
[PN: IF NON-U.S. (COUNTRY=1,3,4,8):] A few years of secondary education or less, including no formal education
2 [PN: IF U.S. (COUNTRY=10):] High school degree or equivalent (e.g. GED)
[PN: IF BRAZIL, CHINA, GERMANY (COUNTRY=1,3,4):] Completed secondary education
[PN: IF SOUTH AFRICA (COUNTRY=8):] Completed secondary education/Matric/Grade 12
3 [PN: IF U.S. (COUNTRY=10):] Some college, no degree
[PN: IF NON-U.S. (COUNTRY=1,3,4,8):] Some University education after secondary schooling, no degree
4 [PN: IF U.S. (COUNTRY=10):] Associate degree (e.g. AA, AS)
[PN: IF NON-U.S. (COUNTRY=1,3,4,8): SUPPRESS]
5 [PN: IF U.S. (COUNTRY=10):] Bachelor's degree (e.g. BA, BS)
[PN: IF NON-U.S. (COUNTRY=1,3,4,8):] University degree
6 Some master's/doctoral/post-graduate studies, no degree
7 Master's degree, doctoral degree, or other post-graduate degree
9 Web Blank

[Respondents who selected post-grad schooling or degree]
What type(s) of master's degree or other post-graduate degree(s) have you received? If you are currently enrolled in post-graduate studies, please indicate the type of degree you are pursuing. (Please select as many as apply.)

1 Master's in Business Administration (MBA)
2 Other business degree (e.g., MS Management, MS Finance)
3 Law degree (JD, LLM, etc.)
4 Medical degree (e.g., MD, DVM, DDS)
5 Doctorate (e.g., PhD, EdD, etc.)
6 Other master's degree (e.g., MS Education, MS Engineering, etc.)
9 Web Blank

[G.P.A. questions specific to country and institution where undergraduate degree was earned]

How interested, if at all, are you in a business-related career or a management position in any profession or industry?

1 Extremely interested
2 Very interested
3 Somewhat interested
4 Not too interested

5 Not at all interested
9 Web Blank

[Note: From this point in the survey, all respondents are potentially qualified applicants; they are:

- In age band (21-35)
- Have an undergraduate degree
- Do not yet have an MBA
- Have 3.0+ or equivalent undergrad GPA
- Are business/management interested
- English-proficient]

In what field(s) of employment do you currently work? (Please select as many as apply.)

01 Automobiles and Auto Parts
02 Capital Goods (Aerospace, Defense, Building Products, Electrical Equipment, Machinery)
03 Commercial and Professional Services
04 Communications, Media, and Entertainment
05 Consumer Packaged Goods, Food, Beverage, and Apparel
06 Education
07 Energy
08 Financial Services and Real Estate
09 Health Care, Biotechnology, and Pharmaceuticals
10 Hospitality (Hotels, Restaurants, etc.)
11 Materials (Chemicals, Construction Materials, Containers, Metals, Mining, Paper, Forest Products)
12 Manufacturing
13 Retail
14 Technology (IT Services, Software, Hardware, Semiconductors)
15 Transportation
16 Utilities
97 Other (please specify)
17 I am currently a student
98 Not currently working/Never previously employed
99 Web Blank

[U.S. respondents only]
Which undergraduate institution did you attend? (Please select from the list below. If your institution is not on the list, please select "Other institution" and type in the full name of the institution in the space provided. If you have attended more than one undergraduate institution, please select the institution which conferred your undergraduate degree.)

Are you interested in any of the following types of graduate business programs? (Please select as many as apply.)

01 Full-time MBA, two years
02 Full-time MBA, less than two years
03 Part-time MBA
04 MS in Management

05 MS in Finance
06 MS in Business/Data Analytics
07 Executive MBA
08 Online/distance learning MBA
09 MS in Accounting
97 Other (please specify)
98 None of these
99 Web Blank

[Respondents who indicated interest in full-time MBA]
Which of these full-time-MBA programs, if any, would you be interested in applying to? (Please select as many as apply.)

01 China Europe International Business School (CEIBS)
02 Columbia Business School
03 Dartmouth (Tuck)
04 Duke (Fuqua)
05 Harvard Business School
06 INSEAD
07 London Business School
08 Massachusetts Institute of Technology, MIT (Sloan)
09 New York University (Stern)
10 Northwestern (Kellogg)
11 Stanford (GSB)
12 University of California, Berkeley (Haas)
13 University of Chicago (Chicago Booth)
14 University of Michigan (Ross)
15 University of Pennsylvania (Wharton)
16 University of Virginia (Darden)
17 Yale (School of Management)
97 Other programs
98 I'm not sure yet
99 Web Blank

[Respondents who indicated interest in full-time MBA]
There are many reasons why some people apply for full-time MBA programs and others do not. For each of the following, please indicate whether it is a reason that might deter you from applying to a full-time MBA program.

1 Major deterrent to applying
2 Minor deterrent to applying
3 Not a deterrent to applying
9 Web Blank

FINANCIAL CONSIDERATIONS

a. I do not have enough money to pay for business school right now.
b. I may have to take on a large amount of debt to attend business school.
c. I don't believe I would receive enough financial aid to make the program affordable for me.
d. The financial return is not worth it.
e. My compensation in my current job is enough right now.

r. The $200-$300 application fee per school is too much for me to afford right now.

PERSONAL CONSIDERATIONS

f. Attending business school may require me to postpone life events (such as marriage, children, buying a home, etc.).
g. The demands on my time would be too great.
h. These programs are not for people like me.
i. I may not be able to work in the U.S.
j. I am unable to relocate.
p. For security purposes, please select Not a deterrent for this item.

CAREER CONSIDERATIONS

k. Attending business school could delay me from accepting career opportunities that may come up before I would finish the program.
l. I am satisfied enough with my current job for now.
m. An MBA is not relevant in my field.
n. My post-MBA job prospects are not appealing enough.

PROCESS/QUALIFICATION CONSIDERATIONS

o. I don't believe I have the qualifications to be admitted to a top-ranked program.
s. I don't have the time required to complete a competitive application right now.
t. Taking the required standardized test (typically GMAT or GRE) is too daunting.

OTHER

q. Some other reason (please specify)

[Respondents who indicated interest in full-time MBA]
Which **one** of these would you say is the **main** deterrent for you to apply for a full-time MBA program?

01 I do not have enough money to pay for business school right now.
02 I may have to take on a large amount of debt to attend business school.
03 I don't believe I would receive enough financial aid to make the program affordable for me.
04 The financial return is not worth it.
05 My compensation in my current job is enough right now.
17 The $200-$300 application fee per school is too much for me to afford right now.
06 Attending business school may require me to postpone life events (such as marriage, children, buying a home etc.).
07 The demands on my time would be too great.
08 These programs are not for people like me.
09 I may not be able to work in the U.S.
10 I am unable to relocate.
12 Attending business school could delay me from accepting career opportunities that may come up before I would finish the program.
13 I am satisfied enough with my current job for now.
14 An MBA is not relevant in my field.
15 My post-MBA job prospects are not appealing enough.
16 I don't believe I have the qualifications to be admitted to a top-ranked program.
18 I don't have the time required to complete a competitive application right now.

19 Taking the required standardized test (typically GMAT or GRE) is too daunting.
97 Some other reason (please specify)
99 Web Blank

[Respondents who did not indicate interest in full-time MBA]
There are many reasons why some people apply for full-time MBA programs and others do not. For each of the following, please indicate if it is a major reason, a minor reason, or not a reason why you are not currently interested in applying for a full-time MBA program.

1 Major deterrent to applying
2 Minor deterrent to applying
3 Not a deterrent to applying
9 Web Blank

FINANCIAL CONSIDERATIONS

a. I do not have enough money to pay for business school right now.
b. I may have to take on a large amount of debt to attend business school.
c. I don't believe I would receive enough financial aid to make the program affordable for me.
d. The financial return is not worth it.
e. My compensation in my current job is enough right now.
r. The $200-$300 application fee per school is too much for me to afford right now.

PERSONAL CONSIDERATIONS

f. Attending business school may require me to postpone life events (such as marriage, children, buying a home, etc.).
g. The demands on my time would be too great.
h. These programs are not for people like me.
i. I may not be able to work in the U.S.
j. I am unable to relocate.
p. For security purposes, please select Not a deterrent for this item.

CAREER CONSIDERATIONS

k. Attending business school could delay me from accepting career opportunities that may come up before I would finish the program.
l. I am satisfied enough with my current job for now.
m. An MBA is not relevant in my field.
n. My post-MBA job prospects are not appealing enough.

PROCESS/QUALIFICATION CONSIDERATIONS

o. I don't believe I have the qualifications to be admitted to a top-ranked program.
s. I don't have the time required to complete a competitive application right now.
t. Taking the required standardized test (typically GMAT or GRE) is too daunting.

OTHER

q. Some other reason (please specify)

[Respondents who did not indicate interest in full-time MBA]
Which **one** of these would you say is the **main** reason why you are not currently interest in applying for a full-time MBA program?

01 I do not have enough money to pay for business school right now.
02 I may have to take on a large amount of debt to attend business school.
03 I don't believe I would receive enough financial aid to make the program affordable for me.
04 The financial return is not worth it.
05 My compensation in my current job is enough right now.
17 The $200-$300 application fee per school is too much for me to afford right now.
06 Attending business school may require me to postpone life events (such as marriage, children, buying a home etc.).
07 The demands on my time would be too great.
08 These programs are not for people like me.
09 I may not be able to work in the U.S.
10 I am unable to relocate.
12 Attending business school could delay me from accepting career opportunities that may come up before I would finish the program.
13 I am satisfied enough with my current job for now.
14 An MBA is not relevant in my field.
15 My post-MBA job prospects are not appealing enough.
16 I don't believe I have the qualifications to be admitted to a top-ranked program.
18 I don't have the time required to complete a competitive application right now.
19 Taking the required standardized test (typically GMAT or GRE) is too daunting.
97 Some other reason (please specify)
99 Web Blank

We'd like to know more about your previous experience with paying for your education. What is your current total amount of debt, if any, from your education? Please include any undergraduate debt, as well as any debt from graduate education you have already completed. If you are still enrolled in a program, please estimate the total amount you will owe when you have graduated. (Your best estimate is fine.)

___ Real (R$) [PN: SHOW IF BRAZIL]
___ Yuan/Renminbi (RMB) [PN: SHOW IF CHINA]
___ Euros (€) [PN: SHOW IF GERMANY]
___ Rand [PN: SHOW IF SOUTH AFRICA]
___ dollars (USD) [PN: SHOW IF U.S.]
9 Web Blank

Keeping in mind that this is a completely confidential survey. Before taxes, what was your total personal income in 2018? If you are not sure, please provide your best estimate.

01 Less than $25,000
02 $25,000 to less than $50,000
03 $50,000 to less than $75,000
04 $75,000 to less than $100,000
05 $100,000 to less than $125,000
06 $125,000 to less than $150,000
07 $150,000 to less than $175,000
08 $175,000 to less than $200,000
09 $200,000 or more
99 Web Blank

What is the highest level of educational attainment either of your parents has attained?

01 [PN: IF U.S. (COUNTRY=10):] Less than a high school diploma
[PN: IF NON-U.S. (COUNTRY=1,3,4,8):] A few years of secondary education or less, including no formal education

02 [PN: IF U.S. (COUNTRY=10):] High school degree or equivalent (e.g. GED)
[PN: IF BRAZIL, CHINA, GERMANY (COUNTRY=1,3,4):] Completed secondary education
[PN: IF SOUTH AFRICA (COUNTRY=8):] Completed secondary education/Matric/Grade 12

03 [PN: IF U.S. (COUNTRY=10):] Some college, no degree
[PN: IF NON-U.S. (COUNTRY=1,3,4,8):] Some University education after secondary schooling, no degree

04 [PN: IF U.S. (COUNTRY=10):] Associate degree (e.g., AA, AS)
[PN: IF NON-U.S. (COUNTRY=1,3,4,8): SUPPRESS]

05 [PN: IF U.S. (COUNTRY=10):] Bachelor's degree (e.g., BA, BS)
[PN: IF NON-U.S. (COUNTRY=1,3,4,8):] University degree

06 Some master's/doctoral/post-graduate studies, no degree

07 Master's degree, doctoral degree, or other post-graduate degree

08 I don't know

99 Web Blank

Exchange rates used in survey analysis

United States	Brazil	China	Germany	South Africa
Exchange rate[a]	(0.2445 rate)	(0.1386 rate)	(1.0638 rate)	(0.066 rate)
Example amounts				
$200 USD	820 Real	1,445 Yuan	190 EUR	3030 Rand
$300 USD	1,225 Real	2,165 Yuan	280 EUR	4545 Rand
$25,000 USD	102,250 Real	180,375 Yuan	23,500 EUR	378,790 Rand
$30,000 USD	122,700 Real	216,450 Yuan	28,200 EUR	454,545 Rand
$35,000 USD	143,150 Real	252,525 Yuan	32,900 EUR	530,305 Rand
$40,000 USD	163,600 Real	288,600 Yuan	37,600 EUR	606,060 Rand
$45,000 USD	184,050 Real	324,675 Yuan	42,300 EUR	681,820 Rand
$50,000 USD	204,500 Real	360,750 Yuan	47,000 EUR	757,575 Rand
$55,000 USD	224,950 Real	396,825 Yuan	51,700 EUR	833,335 Rand
$60,000 USD	245,400 Real	432,900 Yuan	56,400 EUR	909,090 Rand
$65,000 USD	265,850 Real	468,975 Yuan	61,100 EUR	984,850 Rand
$70,000 USD	286,300 Real	505,050 Yuan	65,800 EUR	1,060,605 Rand
$75,000 USD	306,750 Real	541,125 Yuan	70,500 EUR	1,136,365 Rand
$100,000 USD	409,000 Real	721,500 Yuan	94,005 EUR	1,515,150 Rand
$110,000 USD	449,900 Real	793,650 Yuan	103,405 EUR	1,666,665 Rand
$125,000 USD	511,245 Real	901,875 Yuan	117,505 EUR	1,893,940 Rand
$150,000 USD	613,495 Real	1,082,250 Yuan	141,005 EUR	2,272,725 Rand
$175,000 USD	715,745 Real	1,262,625 Yuan	164,505 EUR	2,651,515 Rand
$200,000 USD	817,995 Real	1,443,000 Yuan	188,005 EUR	3,030,305 Rand

[a] https://www.bankofamerica.com/foreign-exchange/exchange-rates.go, accessed 4/8/2019.

BIBLIOGRAPHY

Abelson, M., Holman, J., Spada, W., & Sirtori-Cortina, D. (2020, August 7). *Wall Street's top ranks look nothing like the nation they serve.* Bloomberg. https://www.bloombergquint.com/markets/wall-street-s-top-ranks-look-nothing-like-the-nation-they-serve

AccessLex Institute. (2019). *Legal education data deck: Key trends on access, affordability, and value*. AccessLex Institute.

Allison, R., & Ralston, M. (2018). Gender, anticipated family formation, and graduate school expectations among undergraduates. *Sociological Forum*, *33*(1), 95–117. https://doi.org/10.1111/socf.12400

Ammerman, C., & Groysberg, B. (2021). *Glass half-broken: Shattering the barriers that still hold women back at work*. Harvard Business Review Press.

Andrieu, S. C., & St. John, E. P. (1993). The influence of prices on graduate student persistence. *Research in Higher Education*, *34*(4), 399–425. https://doi.org/10.1007/BF00991852

Angrist, J. D., & Pischke, J.-S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press.

Arbesman-Gold, T. (2016). *How do you choose? How rankings and other factors influence MBA program choice at elite business schools* (Publication No. 10129603) [Doctoral dissertation, New York University]. ProQuest Dissertations and Theses Global.

Baum, S., & Steele, P. (2017a). *The price of graduate and professional school: How much students pay*. AccessLex Institute, Urban Institute.

Baum, S., & Steele, P. (2017b). *Who goes to graduate school and who succeeds?* AccessLex Institute, Urban Institute.

Baum, S., & Steele, P. (2018a). *Financing graduate and professional education: How students pay*. AccessLex Institute, Urban Institute.

Baum, S., & Steele, P. (2018b). *How students fare in the labor market*. AccessLex Institute, Urban Institute.

Beal, S. J., & Crockett, L. J. (2013). Adolescents' occupational and educational goals: A test of reciprocal relations. *Journal of Applied Developmental Psychology*, *34*(5), 219–229. https://doi.org/10.1016/j.appdev.2013.04.005

Becker, G. S. (1975). *Human capital: A theoretical and empirical analysis, with special reference to education* (2nd ed.). National Bureau of Economic Research. http://www.nber.org/books/beck75-1

Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). The University of Chicago Press.

Belasco, A. S., Trivette, M. J., & Webber, K. L. (2014). Advanced degrees of debt: Analyzing the patterns and determinants of graduate student borrowing. *The Review of Higher Education*, *37*(4), 469–497. https://doi.org/10.1353/rhe.2014.0030

Bielby, R., Posselt, J. R., Jaquette, O., & Bastedo, M. N. (2014). Why are women underrepresented in elite colleges and universities? A non-linear decomposition analysis. *Research in Higher Education*, *55*(8), 735–760. https://doi.org/10.1007/s11162-014-9334-y

Binder, A. J., Davis, D. B., & Bloom, N. (2016). Career funneling: How elite students learn to define and desire "prestigious" jobs. *Sociology of Education*, *89*(1), 20–39. https://doi.org/10.1177/0038040715610883

Blackburn, G. (2011). Which Master of Business Administration (MBA)? Factors influencing prospective students' choice of MBA programme – An empirical study. *Journal of Higher Education Policy and Management*, *33*(5), 473–483. https://doi.org/10.1080/1360080X.2011.605222

Blagg, K. (2018). *The rise of master's degrees* (p. 19). Urban Institute.

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood Press.

Bourdieu, P., & Passeron, J.-C. (1977). *Reproduction in education, society and culture* (2nd ed.). SAGE Publications.

Brint, S., & Yoshikawa, S. R. K. (2017). The educational backgrounds of American business and government leaders: Inter-industry variation in recruitment from elite colleges and graduate programs. *Social Forces*, *96*(2), 561–590. https://doi.org/10.1093/sf/sox059

Byrne, J. A. (2021, May 5). *The MBA premium: What MBAs earn over a lifetime will shock you.* Poets&Quants. https://poetsandquants.com/2021/05/05/lifetime-earnings-of-mbas/

Cappelli, P., & Hamori, M. (2004). *The path to the top: Changes in the attributes and careers of corporate executives, 1980-2001* (NBER Working Paper No. w10507). National Bureau of Economic Research. https://doi.org/10.3386/w10507

Cappelli, P., Hamori, M., & Bonet, R. (2014, March 1). *Who's got those top jobs?* Harvard Business Review. https://hbr.org/2014/03/whos-got-those-top-jobs

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011). *The college payoff: Education, occupations, lifetime earnings*. Georgetown University, Center on Education and the Workforce. https://cew.georgetown.edu/cew-reports/the-college-payoff/

Carvajal, D. (2007, April 11). *English as language of global education.* The New York Times. https://www.nytimes.com/2007/04/11/education/11english.html

Chen, R., & Bahr, P. R. (2020). How does undergraduate debt affect graduate school application and enrollment? *Research in Higher Education, 62*(4), 528–555. https://doi.org/10.1007/s11162-020-09610-y

Chetty, R., Friedman, J. N., Saez, E., Turner, N., & Yagan, D. (2017). *Mobility report cards: The role of colleges in intergenerational mobility* (NBER Working Paper No. 23618). National Bureau of Economic Research. https://doi.org/10.3386/w23618

Clune, M. S., Nuñez, A.-M., & Choy, S. P. (2001). *Competing choices: Men's and women's paths after earning a bachelor's degree* (Statistical Analysis Report NCES 2001–154; Postsecondary Education Descriptive Analysis Reports, p. 99). National Center for Education Statistics.

Colby, S., Bruggeman, P., Schoenfeld, G., White, S., & Coppock, C. (2017). *What women want: A blueprint for change in business education*. Graduate Management Admissions Council. http://www.gmac.com/market-intelligence-and-research/research-library/diversity-enrollment/what-women-want-blueprint-change-business-education

Collins, E. (2012). *Beyond the baccalaureate: Black students' decisions to pursue a graduate education* [Doctoral dissertation, University of Nevada, Las Vegas]. Digital Scholarship@UNLV. https://digitalscholarship.unlv.edu/thesesdissertations/1550/

Cruikshank, J. L. (1987). *A delicate experiment: The Harvard Business School 1908-1945.* Harvard Business Press.

Dale, S. B., & Krueger, A. B. (2002). Estimating the payoff to attending a more selective college: An application of selection on observables and unobservables. *Quarterly Journal of Economics*, *117*(4), 1491–1527. https://doi.org/10.1162/003355302320935089

Daniel, R., Hazenbush, M., Schoenfeld, G., Williams, T., & Caruthers, D. (2019). *Demand for MBA and business master's programs: Insights on candidate decision making*. Graduate Management Admission Council. https://www.gmac.com/-/media/files/gmac/research/admissions-and-application-trends/demand-for-mba-and-business-masters-programsinsights-on-candidate-decision-making-summary-reportmbac.pdf

Datar, S., Garvin, D. A., & Cullen, P. G. (2010). *Rethinking the MBA: Business Education at a Crossroads*. Harvard Business Press.

Dela Cruz, A. J. (2012). *Women and graduate program choice: The decision to apply to full-time MBA programs* [Doctoral dissertation, University of California, Los Angeles]. UCLA Electronic Theses and Dissertations. https://escholarship.org/uc/item/1v51n3x4

Eagan, M. K., Jr., & Newman, C. B. (2010). *Investing in human capital: Underrepresented racial minorities' intentions to attend graduate school in stem fields*. University of California, Los Angeles, Higher Education Research Institute. https://www.heri.ucla.edu/nih/downloads/AERA2010-Investing-in-human-capital.pdf

Edgington, R., & Garcia, V. (2005). *What leads to minority enrollment into b-school?* Graduate Management Admissions Council. https://www.gmac.com/-/media/files/gmac/research/research-report-series/rr-05-04_minorityenrollment.pdf

Eide, E., Brewer, D. J., & Ehrenberg, R. G. (1998). Does it pay to attend an elite private college? Evidence on the effects of undergraduate college quality on graduate school attendance. *Economics of Education Review*, *17*(4), 371–376. https://doi.org/10.1016/S0272-7757(97)00037-X

Ely, R. J., Stone, P., & Ammerman, C. (2014, December 1). *Rethink what you "know" about high-achieving women.* Harvard Business Review. https://hbr.org/2014/12/rethink-what-you-know-about-high-achieving-women

Ely, R. J., Stone, P., Shannon, L., & Ammerman, C. (2015). *Life and leadership after HBS*. Harvard Business School. https://www.hbs.edu/women50/docs/L_and_L_Survey_2Findings_13final.pdf

EMI Research Solutions. (2016). *Global Panel Book*. https://emi-rs.com/wp-content/uploads/2016/09/EMI_PanelBook.pdf

English, D. J. (2012). *Graduate school choice: An examination of individual and institutional effects* (Publication No. 3520841) [Doctoral dissertation, North Carolina State University]. ProQuest Dissertations and Theses Global.

English, D. J., & Umbach, P. D. (2016). Graduate school choice: An examination of individual and institutional effects. *The Review of Higher Education*, *39*(2), 173–211. https://doi.org/10.1353/rhe.2016.0001

Ethier, M. (2019, March 27). *U.S. schools see continual drop In international applicants and students.* Poets & Quants. https://poetsandquants.com/2019/03/27/leading-b-schools-with-the-most-international-students/

Ethier, M. (2020a). *U.S. MBA programs with the most international students.* Poets & Quants. https://poetsandquants.com/2020/03/29/u-s-mba-programs-with-the-most-international-students/

Ethier, M. (2020b, November 19). *The leading b-schools with the most women.* Poets & Quants. https://poetsandquants.com/2020/11/18/leading-b-schools-with-the-most-women/

Financial Times. (2020). *Global MBA ranking.* http://rankings.ft.com/businessschoolrankings/global-mba-ranking-2020

Frey, W. H. (2018). *The Millennial generation: A demographic bridge to America's diverse future* (Metropolitan Policy Program). Brookings Institution. https://www.brookings.edu/wp-content/uploads/2018/01/2018-jan_brookings-metro_millennials-a-demographic-bridge-to-americas-diverse-future.pdf

Gee, K. (2019, June 5). *More universities shut down traditional M.B.A. programs as popularity wanes.* The Wall Street Journal. https://www.wsj.com/articles/more-universities-shut-down-traditional-m-b-a-programs-as-popularity-wanes-11559727000

Glasner, J. (2021, March 19). *Here's where funded founders went to school.* Crunchbase News. https://news.crunchbase.com/news/heres-where-funded-founders-went-to-school/

Goyette, K. A. (2008). College for some to college for all: Social background, occupational expectations, and educational expectations over time. *Social Science Research*, *37*(2), 461–484. https://doi.org/10.1016/j.ssresearch.2008.02.002

Greenberg, A. E., & Mogilner, C. (2020). Consumer debt and satisfaction in life. *Journal of Experimental Psychology: Applied, 27*(1), 57–68. https://doi.org/10.1037/xap0000276

Grodsky, E., & Jones, M. T. (2007). Real and imagined barriers to college entry: Perceptions of cost. *Social Science Research*, *36*(2), 745–766. https://doi.org/10.1016/j.ssresearch.2006.05.001

Gross, E. L. (2019). *The top five graduate schools for this year's Forbes 400*. Forbes. https://www.forbes.com/sites/elanagross/2019/11/02/the-top-five-graduate-schools-for-this-years-forbes-400/

Hanson, J. M., Paulsen, M. B., & Pascarella, E. T. (2016). Understanding graduate school aspirations: The effect of good teaching practices. *Higher Education*, *71*(5), 735–752. https://doi.org/10.1007/s10734-015-9934-2

Hazenbush, M. (2016). *Connecting with the core motivations of business school candidates*. Graduate Management Admissions Council. https://www.gmac.com/-/media/files/gmac/research/research-report-series/rr-16-04-global-segmentation-white-paper.pdf

Hazenbush, M. (2018). *Unpacking the appeal of for-profit GME to U.S. underrepresented populations*. Graduate Management Admissions Council. https://www.gmac.com/-/media/files/gmac/research/diversity-enrollment/unpackingtheappealofforprofitgraduatebusinessprogramstousunderrepresentedpopulationsjune2018.pdf

Hazenbush, M. (2019). *Application trends survey report*. Graduate Management Admissions Council. https://www.gmac.com/-/media/files/gmac/research/admissions-and-application-trends/application-trends-survey-report-2019.pdf

Hazenbush, M., & Schoenfeld, G. (2018). *Global candidate segmentation playbook*. Graduate Management Admissions Council. https://www.gmac.com/-

/media/files/gmac/research/admissions-and-application-trends/global-candidate-segmentation-playbook_june-2018.pdf

Heath Anderson, R. (2020, August 10). *Choosing between an executive MBA, part-time, or full-time MBA.* Poets & Quants. https://poetsandquants.com/2020/08/10/choosing-between-executive-part-time-or-full-time-mbas/

Heller, D. E. (1997). Student price response in higher education: An update to Leslie and Brinkman. *The Journal of Higher Education*, *68*(6), 624–659. https://doi.org/10.2307/2959966

Hemelt, S. W., & Marcotte, D. E. (2011). The impact of tuition increases on enrollment at public colleges and universities. *Educational Evaluation and Policy Analysis*, *33*(4), 435–457. https://doi.org/10.3102/0162373711415261

Hersch, J. (2013). Opting out among women with elite education. *Review of Economics of the Household*, *11*(4), 469–506. https://doi.org/10.1007/s11150-013-9199-4

Hoxby, C. (1997). *How the changing market structure of U.S. higher education explains college tuition*. National Bureau of Economic Research. https://doi.org/10.3386/w6323

Jackson, G. A., & Weathersby, G. B. (1975). Individual demand for higher education: A review and analysis of recent empirical studies. *The Journal of Higher Education*, *46*(6), 623–652. https://doi.org/10.2307/1979059

Kane, T. J. (2003). *A quasi-experimental estimate of the impact of financial aid on college-going* (NBER Working Paper No. 9703). National Bureau of Economic Research. https://www.nber.org/papers/w9703

Kennedy, R. (2013). *For discrimination: Race, affirmative action, and the law*. Pantheon Books.

Kuh, G. D., & Pascarella, E. T. (2004). What does institutional selectivity tell us about educational quality? *Change: The Magazine of Higher Learning*, *36*(5), 52–59. https://doi.org/10.1080/00091380409604986

Lee, J., & Mueller, J. A. (2014). Student loan debt literacy: A comparison of first-generation and continuing-generation college students. *Journal of College Student Development*, *55*(7), 714–719. https://doi.org/10.1353/csd.2014.0074

Leopold, T. A., Ratcheva, V., & Zahidi, S. (2017). *The global gender gap report.* World Economic Forum.

Leslie, L. L., & Brinkman, P. T. (1987). Student price response in higher education: The student demand studies. *The Journal of Higher Education*, *58*(2), 181–204. https://doi.org/10.2307/1981241

Li, A. (2018). *Dollars and sense: Student price sensitivity to law school tuition* (ID 3216204). AccessLex Institute. https://papers.ssrn.com/abstract=3216204

Ma, J., Pender, M., & Welch, M. (2019). *Education pays* (Trends in Higher Education, p. 44). CollegeBoard.

Malcom, L. E., & Dowd, A. C. (2012). The impact of undergraduate debt on the graduate school enrollment of STEM baccalaureates. *The Review of Higher Education*, *35*(2), 265–305. https://doi.org/10.1353/rhe.2012.0007

Mare, R. D. (1980). Social background and school continuation decisions. *Journal of American Statistical Association*, *75*(370), 295–305. https://doi.org/10.1080/01621459.1980.10477466

McCallum, C. M. (2016). "Mom made me do it": The role of family in African Americans' decisions to enroll in doctoral education. *Journal of Diversity in Higher Education*, *9*(1), 50–63. https://doi.org/10.1037/a0039158

Miller, B. (2020). *Graduate school debt*. Center for American Progress. https://www.americanprogress.org/issues/education-postsecondary/reports/2020/01/13/479220/graduate-school-debt/

Millett, C. M. (2003). How undergraduate loan debt affects application and enrollment in graduate or first professional school. *The Journal of Higher Education*, *74*(4), 386–427. https://doi.org/10.1080/00221546.2003.11780854

Monaghan, D., & Jang, S. H. (2017). Major payoffs: Postcollege income, graduate school, and the choice of "risky" undergraduate majors. *Sociological Perspectives*, *60*(4), 722–746. https://doi.org/10.1177/0731121416688445

Moshiri, F., & Cardon, P. W. (2016). A study of faculty racial diversity in business schools: Perceptions of business deans. *Journal of Education for Business*, *91*(5), 1–250. https://doi.org/10.1080/08832323.2016.1175410

Mullen, A. L., Goyette, K. A., & Soares, J. A. (2003). Who goes to graduate school? Social and academic correlates of educational continuation after college. *Sociology of Education*, *76*(2), 143–169. https://doi.org/10.2307/3090274

National Center for Education Statistics. (n.d.). *The Integrated Postsecondary Education Data System*. Retrieved April 11, 2020, from https://nces.ed.gov/ipeds/about-ipeds

National Center for Education Statistics. (2018a). *Digest of Education Statistics, 2018*. https://nces.ed.gov/programs/digest/d18/tables/dt18_326.27.asp

National Center for Education Statistics. (2018b). *Master's degrees conferred by postsecondary institutions, by field of study: Selected years, 1970-71 through 2016-17* (Table 323.10; Digest of Education Statistics). https://nces.ed.gov/programs/digest/d18/tables/dt18_323.10.asp

National Center for Education Statistics. (2019). *Bachelor's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2017-18*. https://nces.ed.gov/programs/digest/d19/tables/dt19_322.20.asp

OECD. (2016). *Education at a glance 2016*. https://doi.org/10.1787/eag-2016-en

OECD. (2019). *Pensions at a glance 2019: OECD and G20 indicators*. https://doi.org/10.1787/b6d3dcfc-en

OECD. (2020). *Education at a glance 2020*. https://doi.org/10.1787/69096873-en

Perna, L. W. (2004). Understanding the decision to enroll in graduate school: Sex and racial/ethnic group differences. *The Journal of Higher Education*, *75*(5), 487–527. https://doi.org/10.1353/jhe.2004.0032

Perna, L. W. (2006). Studying college access and choice: A proposed conceptual model. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 99–157). Springer.

Posselt, J. R., & Grodsky, E. (2017). Graduate education and social stratification. *Annual Review of Sociology*, *43*(1), 353–378. https://doi.org/10.1146/annurev-soc-081715-074324

Pyne, J., & Grodsky, E. (2020). Inequality and opportunity in a perfect storm of graduate student debt. *Sociology of Education*, *93*(1), 20–39. https://doi.org/10.1177/0038040719876245

Reynolds, J. R., & Johnson, M. K. (2011). Change in the stratification of educational expectations and their realization. *Social Forces*, *90*(1), 85–109. https://doi.org/10.1093/sf/90.1.85

Ruiz, N. G. (2014). *The geography of foreign students in U.S. higher education* (Global Cities Initiative, p. 52). Brookings Institute.

Sasson, A. (2017). Understanding the motivations: A qualitative analysis of Israelis holding a bachelor's degree who pursue an MBA abroad. *Qualitative Research in Education*, *6*(2), 179–213. https://doi.org/10.17583/qre.2017.2475

Savoca, E. (1990). Another look at the demand for higher education: Measuring the price sensitivity of the decision to apply to college. *Economics of Education Review*, *9*(2), 123–134. https://doi.org/10.1016/0272-7757(90)90040-C

Schleef, D. (2000). "That's a good question!" Exploring motivations for law and business school choice. *Sociology of Education*, *73*(3), 155–174. https://doi.org/10.2307/2673214

Schmitt, J. (2017, July 17). *MBA admissions: How full-time stats differ from part-time & executive MBAs.* Poets & Quants. https://poetsandquants.com/2017/07/17/mba-admissions-how-full-time-stats-differ-from-part-time-and-executive-programs/2/

Schoenfeld, G., & Daniel, R. (2017). *Trends in U.S. business master's programs*. Graduate Management Admissions Council. https://www.gmac.com/professional-development-and-careers/pd-opportunities/event-archive/webinar-archive/webinar-trends-us-business-masters-programs

Seibert, S. E., Kraimer, M. L., Holtom, B. C., & Pierotti, A. J. (2013). Even the best laid plans sometimes go askew: Career self-management processes, career shocks, and the decision to pursue graduate education. *Journal of Applied Psychology*, *98*(1), 169–182. https://doi.org/10.1037/a0030882

Silverman Hodara, J. (2019). *Deferred MBA admissions at the top 7 programs.* Poets & Quants. https://poetsandquants.com/2019/10/22/how-to-secure-deferred-mba-admission-at-the-top-7-programs/

SSRS. (2020). *SSRS clients*. https://ssrs.com/ssrs-clients/

St. John, E. P., & Andrieu, S. C. (1995). The influence of price subsidies on within-year persistence by graduate students. *Higher Education*, *29*(2), 143–168. https://doi.org/10.1007/BF01383836

Stolzenberg, R. M. (1994). Educational continuation by college graduates. *American Journal of Sociology*, *99*(4), 1042–1077. https://doi.org/10.1086/230371

Stolzenberg, R. M., & Giarrusso, R. (1988). *What students want from an MBA and what they expect from post-MBA employment: First results from the GMAC's new matriculants survey*. Graduate Management Admissions Council.

Stolzenberg, R. M., Giarrusso, R., & Lehman, J. (1988). *An overview of demographic and family characteristics of first-year students in U.S. MBA programs: First results from the GMAC's new matriculants survey*. Graduate Management Admissions Council.

Svancer, D., Chan, H., Williams, T., & Schoenfeld, G. (2019). *Profile of GMAT testing: Residence TY2015-TY2019*. Graduate Management Admissions Council. https://www.gmac.com/-/media/files/gmac/research/gmat-test-taker-data/profile-of-gmat-testing-residence-ty2015-ty2019.pdf

Thomas, P. (2020, November 10). *M.B.A. applications are up because the job market is down.* Wall Street Journal. https://www.wsj.com/articles/applications-to-u-s-business-schools-rise-for-first-time-in-five-years-11605034179

Thomas, R., Cooper, M., Cardazone, G., Urban, K., Bohrer, A., Long, M., Yee, L., Krivkovich, A., Huang, J., Prince, S., Kumar, A., & Coury, S. (2020). *Women in the workplace*. McKinsey & Company and Lean In. https://wiw-report.s3.amazonaws.com/Women_in_the_Workplace_2020.pdf

Tienda, M., & Zhao, L. (2017). Institutional and ethnic variations in postgraduate enrollment and completion. *The Journal of Higher Education*, *88*(4), 561–592. https://doi.org/10.1080/00221546.2016.1272332

Torche, F. (2011). Is a college degree still the great equalizer? Intergenerational mobility across levels of schooling in the United States. *American Journal of Sociology*, *117*(3), 763–807. https://doi.org/10.1086/661904

Torche, F. (2018). Intergenerational mobility at the top of the educational distribution. *Sociology of Education*, *91*(4), 266–289. https://doi.org/10.1177/0038040718801812

U.S. Census Bureau. (2019). *International data base*. https://www.census.gov/programs-surveys/international-programs/about/idb.html

U.S. News & World Report. (2020). *Best business schools*. https://www.usnews.com/best-graduate-schools/top-business-schools/mba-rankings

University of Pennsylvania. (2021). *International students, Wharton MBA*. https://mba.wharton.upenn.edu/international-students/

van de Werfhorst, H. G., & Luijkx, R. (2010). Educational field of study and social mobility: Disaggregating social origin and education. *Sociology*, *44*(4), 695–715. https://doi.org/10.1177/0038038510369362

Wai, J. (2013). Investigating America's elite: Cognitive ability, education, and sex differences. *Intelligence*, *41*(4), 203–211. https://doi.org/10.1016/j.intell.2013.03.005

Wai, J., & Lincoln, D. (2016). Investigating the right tail of wealth: Education, cognitive ability, giving, network power, gender, ethnicity, leadership, and other characteristics. *Intelligence*, *54*, 1–32. https://doi.org/10.1016/j.intell.2015.11.002

Wakeling, P., & Laurison, D. (2017). Are postgraduate qualifications the 'new frontier of social mobility'? Postgraduate qualifications. *The British Journal of Sociology*, *68*(3), 533–555. https://doi.org/10.1111/1468-4446.12277

Weeden, K. A. (2002). Why do some occupations pay more than others? Social closure and earnings inequality in the United States. *American Journal of Sociology*, *108*(1), 55–101. https://doi.org/10.1086/344121

Weiler, W. C. (1994). Expectations, undergraduate debt and the decision to attend graduate school: A simultaneous model of student choice. *Economics of Education Review*, *13*(1), 29–41. https://doi.org/10.1016/0272-7757(94)90021-3

Winston, G., & Zimmerman, D. (2004). Peer effects in higher education. In C. Hoxby (Ed.), *College choices: The economics of where to go, when to go, and how to pay for it* (pp. 395–424). The University of Chicago Press. https://www.nber.org/chapters/c10105

World Bank. (n.d.). *World Bank open data*. Retrieved October 10, 2020, from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

World Education Services. (2019). *Country resources*. https://applications.wes.org/country-resources/resources.asp

Zhang, Lei. (2013). Effects of college educational debt on graduate school attendance and early career and lifestyle choices. *Education Economics*, *21*(2), 154–175. https://doi.org/10.1080/09645292.2010.545204

Zhang, Liang. (2005). Advance to graduate education: The effect of college quality and undergraduate majors. *The Review of Higher Education*, *28*(3), 313–338. https://doi.org/10.1353/rhe.2005.0030