Batting Average of a Business Degree: Evidence from a Matching Study of Liberal Arts Business Major Alumni

A Thesis in Business

By

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Abstract

This thesis explores the placement rate of Drew University business graduates into business or business-related occupations based on Abel & Dietz's 2014 Fed matching study of occupation and college major. Using data on Drew alumni obtained from the University Registrar and Office of Advancement as well as social media websites (e.g., LinkedIn), this thesis matched the placement of Drew Business majors into Business or Business-related occupations using the Bureau of Labor Statistics' *Occupational Outlook Handbook* (2019)

Multiple aspects of the Drew University undergraduate Business major were explored including participation in the Wall Street Semester, membership in the Economics or honors society (i.e., Omicron Delta Epsilon), and majoring in more than one subject area. Given the pioneering nature of this research, no similar previous study has ever been conducted analyzing the placement of Drew University graduates, there are numerous implications for future research, including how to assess the relative success of the Business program in placing graduates into Business-related occupations.

Introduction

This thesis aims to estimate the placement of Drew University Business Majors into business and business-related occupations. To date, Drew University has never conducted this kind of study, meaning this thesis will present valuable information regarding the relative success rate of Drew University Business majors being placed in

business-related occupations as well as possible implications for future research and curricular planning and revision.

Some research suggests that college major is not a good predictor of future employment or that a college degree will not necessarily lead to a specific type of job (Goyette & Mullen, 2006; Selingo, 2017). This raises the question as to the occupational outcomes of Drew business majors. This study will therefore assess the relative success of the Business program at Drew in placing business graduates into business jobs.

Literature Review

Emergence of Business in Higher Education

Enrollment in business schools rose sharply after World War II, fueled in part by the GI Bill and the postwar expansion of large industrial organizations. By 1955, business had become the most popular undergraduate major in the United States, surpassing education, and since then has not turned back. While some strongly opposed adding business curriculums to colleges and universities (Cheit, 1985), opposition began to fade as the demand for business graduates began to rise. However, in order to better understand this debate, it helps to understand how and why business first emerged in American higher education.

While Thomas Jefferson had initially planned to include a school of commerce at the University of Virginia, which opened its doors in 1825, due to lack of funds a business school was not established until nearly a century later in 1921. Instead, the

nation's first business school emerged in 1881 at the University of Pennsylvania, due in large part to the efforts of the industrialist Joseph Wharton (Cheit, 1985)

Wharton, who co-founded the Bethlehem Steel Corporation, saw an investment opportunity to open a new space at Penn. His original intent for the space was for university-level instruction. Characteristic at that time, the "purpose of the university was to teach students how to think, not how to get rich by 40" (Cheit, 1985). At that moment there were only two professorships at the University deemed "vocational or professional" – accounting and mercantile law. Historian Edward Chase Kirkland observed that, "In light of modern practice," the Wharton School was largely, "a device to give students at the University of Pennsylvania a major in history and social science" (Cheit, 1985). Yet, one of the main concerns at the time was that these business majors set what William H. Whyte (1956) would call a "flagrant example" of students who would not receive a vocational education and in turn, destroy the culture of the humane arts at Penn.

A university degree in business, once a rarity, soon became commonplace within a few decades of Wharton opening its doors. A study of business schools published in 1930 reported that between 1915 and 1924, 143 more business schools were established in the U.S. and by the beginning of 1925, 183 (probably more) American colleges had "departments, schools, or some other formally organized unit of instruction (for business studies)" (Cheit, 1975).

The Ford Foundation's *The Education of American Business* and the Carnegie Corporation's *Higher Education for Business*, both published in 1959, were immensely important in the future of the education for business. These documents confirmed the

weak academic quality of the of the rapidly growing field and put forth recommendations on how to re-vamp the business curriculum nationwide. Incorporating aspects such as more academically trained faculty, more rigorous course work, and less undergraduate specialization would give the business major the credit it would need to continue as an academic major.

American business schools responded to these criticisms rapidly. By the 1970's, continuing changes in the standards and the practices of business courses gave the academic field more credibility than ever. The quality of students began to become much more competitive in all fields of business studies as well as overall participation in business graduate programs nationwide (Pierson, Bowen, 1959).

The University in the Forest

Drew University first opened as a Methodist seminary mainly through the blending of two polar personalities: Daniel Drew and Reverend John McClintock. Drew fronted the payment while McClintock was assigned to build the seminary (Cunningham, 2002). The rich robber baron industrialists like Wharton, Carnegie and Dickinson were getting involved in philanthropy and higher education along with Daniel Drew. During the Second Industrial Revolution, favorable legislation lead to great advancements in technology, industry, and technology. With favorable government policies, the focus soon turned to big business. Before this, law, medicine, and religion were all one could study, so the rich were both social and politically powerful enough to change the standard.

Drew and McClintock settled on a couple of locations before an announcement in the *New York Christian Advocate* for June 27, 1867, announced, "the site of the Drew Theological Seminary is finally settled by the purchase of the magnificent estate named 'The Forest'" bought by Daniel Drew (Cunningham, 2002). In the very early stages of the education, Drew University graduated men that would join the ministry in the Methodist Church. From "the hills of New Jersey, from the mining town of West Virginia, and from the fishing villages of New England, the young Methodists came to Drew" (Cunningham, 2002). Following the armistice of World War I, Drew's leaders knew that broader academic programs were needed despite lack of financial resources at the time. Accordingly, they undertook two major alterations in the seminary program: the start of College of Missions and offering programs for female students for the first time (Cunningham, 2002).

On February 7, 1928, Arthur and Leonard Baldwin executed the deal that would that would begin the construction of Brother's College and turn Drew into a liberal arts college. Much to the dismay of the Seminary, faculty, and alumni, no words were ever mentioned about the plan to ensure Drew's financial security. Others viewed Brother's College as "an adventure of excellence…to become great in the quality of its faculty, its student body, and its standards of scholarship, culture and conduct" (Cunningham, 2002). These were all aspects of the undergraduate experience that prospective students would be seeking, even today. At this point, though, much was still left to be done before Drew could be considered a University.

Upon the expansion of the school, paired with increased enrollment, Drew began to put itself on the map and began to create a climate of financial stability. During the 1960's, Drew University turned its full attention to the undergraduate experience. Educational horizons broadened with the introduction of the United Nations Semester (1962), the London Semester (1963), a Political Science Semester in Washington (1963), a European Common Market Semester in Brussels (1966), and the New York Semester on Art (1968) (Cunningham, 2002). The evolution in the academic curriculum at Drew eventually lead to the Economics department's creation of the Semester on Wall Street (1996), which preceded the eventual creation of the current Business major.

Drew University Creates a Business Major

Business education at Drew evolved over many years, "designed from its inception to help students to analyze business problems through a multitude of perspectives and to solve these problems in creative, even nontraditional ways" (Kohn, 2013). After Drew's first business majors graduated in 2010, Drew seriously invested time and energy into the business program, completely revising the major in 2013. Professor Jennifer Kohn, along with affiliated faculty in other departments across the campus, set about to create a business minor that was "attractive to humanities students" (Kohn, 2013). This is clearly illustrated in the curriculum through required courses in the social sciences, along with dozens of electives in computer science, political science, psychology, and math to name a few, giving it a wholly interdisciplinary quality. The business curriculum also stresses the importance of not only learning in the classroom, but learning through real life experiences and examples (i.e., experiential learning). And

unlike most traditional business programs, the major is built around the fundamentals of economics, rather than the "instrumental disciplines of accounting, finance, management and marketing" (Kohn, 2013).

Today, Drew University is home to many different majors under the umbrella of a liberal arts education. Currently there are 47 majors with implications for future areas of study such as digital humanities, data science, and graphic design just to name a few. For the purpose of this study, however, the author is narrowly focusing on the occupational outcomes or placements of Drew business majors into business or business-related occupations.

College Major and Occupational (Mis)Match

One of the more interesting studies on the placement of graduates into occupations that match their major field of study involves science, technology, engineering, and mathematics majors or what are commonly referred to as STEM majors. In a survey including 3.5 million homes, nearly 75% of all holders of bachelor's degrees in STEM disciplines reported that they were not employed in STEM occupations (Robinson, 2014). While these STEM majors were not necessarily employed in STEM jobs, this did not mean they were unemployed, as STEM graduates themselves have a relatively low unemployment rate. How, then, can an industry with such specific information and relied on so heavily for a country's economic advancement have such a low match rate with actual STEM-related jobs? One answer could be there are simply not enough jobs (Lohr, 2017, see table 2.1). Another could be the chase for a high paying job out of college, just to find out the negatives of the job outweighs the positives of the

paycheck. Another factor could be changes in the workplace that occur while future employees are still in school (e.g., learning a computer programming language that becomes automated or replaced by another one that is more sought after by employers). Yet another reason could lay in the upbringing of each individual in society, as growing up with different levels of socio-economic status can influence decisions made later in life; as well as your choice of selectiveness of college (Goyette & Mullen 2006). Finally, and perhaps most troubling to some, what you major in college just might not matter at all.

What does the evidence suggest? As we see in table 2.1, there are many more STEM degrees being earned than there are available occupations in the STEM field. This in itself will negatively skew the match rate relating to the fact that many of these graduates must find other work. In other words, it may be impossible to find yourself in an occupation related to your major simply due to the unavailability of jobs in a given labor market.

What about money? After all, many college students work hard to not only one day be able to put all their skills to the test and positively affect a company's bottom line, but also to make money doing it. Accordingly, going into college, STEM and business jobs are at the forefront of many, with a big pay out in entry-level positions and opportunity for advancement. Becoming a Chief Executive, Partner, or Vice President of any business would be the goal for anyone looking for the highest pay checks within the first 10 years (Elkins, 2016).

However, events during a student's college experience may turn them away from an industry as a whole, whether it be in the form of a tough class or a challenging professor. To illustrate this point, a study by the Brookings Institution (year) listed the top 25 most-cited skills listed by college alumni on LinkedIn profiles and how they influenced their earning potential. The study demonstrated that differentiated skill development through college has more influence on potential earnings than major choice; in other words, supply and demand curves and other fundamental theories rule the curriculum in the classroom, but the skills around the learning process of time-management, communication and writing skills are the skills that set a student up for success (Rothwell, 2015).

Another factor that may explain lower match rates of major and occupation is a student's socio-economic status (SES). Growing up in different SESs has pivotal influence on a person's employment decision, regardless of their major. In a recent study of "Who Studies the Arts and Sciences" (Goyette & Mullen, 2006), the authors found that a student that came from a lower SES was more likely to take on vocational occupations even after other factors like tested proficiency, college characteristics, expectations, and work values were considered. Vocational occupations are generally paired with smaller entry-level salaries, which in turn may turn away students from lower SES backgrounds who are seeking a larger paycheck.

The study also notes that students with a large portion of required courses in the arts and sciences fields experienced the greatest gains to critical thinking skills. Students in the arts and sciences fields accumulate cultural capital in the form of familiarity with

high culture, sophisticated use of verbal and written language, and confidence in their broad knowledge of history, culture, and politics. This cultural capital also includes the status value of a degree from a selective university or college and provides resources to apply for graduate schools and obtain prestigious careers out of college or graduate schools. These high-SES students are also armed with certain social skills such as comfort in navigating certain social situations, participation in exclusive social networks and the feeling of empowerment to make a difference in his or her own life and others. Whereas vocational students earn degrees with a high *use value* making it easier for them to have a stable income, arts and sciences majors carry credentials with a high *exchange value*, the status noticeable through exposure to abundant social capital paired with a degree from a prestigious university or college.

Goyette & Mullen's (2006) study also raises an interesting question about how much stratification in higher education may serve to perpetuate existing social inequalities. Clearly, those from a higher SES backgrounds have access to more cultural and social capital and are therefore more used to being in a professional setting before they even get there. Vocational students with lower SES may find themselves feeling isolated with no social networks, having to do most of their job search on their own with no proverbial "foot in the door".

For example, in a case study of two students by Chang (2017), we see the selectiveness of the university or college itself has a big influence on selection of a major. A low-SES student named Vini and a high-SES student, Ian, shared their college and choice of major experiences. Vini, from Clifton, NJ, decided to take her talents to Stevens

Institute of Technology; knowing she would have to pay for her entire experience, she decided to commute and major in electrical and computer engineering technology, a profession she knew had a high starting salary. Vini's college experience was not easy, and she graduated in six years with two-part time jobs. However, Ian, from Wellesley, Massachusetts, was encouraged by his parents to explore his passion and interests at Dartmouth, an elite private institution. He studied social and cultural anthropology, a decision that was not driven by financial factors. The vastly different career and educational paths taken by Vini and Ian show that people choose colleges for different reasons. Some see it as a beneficial financial decision for them later in life, sometimes based on SES, and others hope that their profession will bring them financial benefits, but focus more on the intellectual and social aspects of the undergraduate experience (Cheng, 2017).

These varied approaches and desires for the undergraduate experience are clearly moderated by the type of school, individual SES, and future goals. According to data from the Federal Education Department (2015), students at elite universities are much more likely to pursue degrees in the humanities, arts, and social sciences than students in less selective schools who tend to be more interested in going into a good paying job right out of college. The most popular fields of study among students at selective schools are the social sciences, with 19.4% of degrees going to political science, economics and sociology. Career-focused majors, such as business and education, are much more prevalent in less selective schools than at top tier schools; among less selective colleges, degrees in business, management, marketing and related support services makes up

19.3% of all degrees from these universities or colleges, while among more selective schools, these degrees only account for 9.8% of all degrees (see table 2.3).

A somewhat more controversial argument suggests that college major does not have significant influence on future career choice. The following quote from *The Washington Post* puts this argument into perspective::

"Picking a major is not like buying a new car. You can't easily test-drive a major, unless you plan to stay in college for many more than four years. A major reflects your interest at one moment in your life. Where you end up in a career is the result of a meandering pathway that most college graduates are destined to take after graduation" (Selingo, 2017)

In other words, just as a young employee learns so much in their first job, students may never really know what a given occupation entails until they actually enter it.

As Selingo (2017) points out, college majors are quite unfamiliar to the majority of students entering college. There is no way to understand what a business curriculum actually includes without going through it. Many college majors also do not have directly corresponding occupations; no one is ever employed as an "English major", a "Biology major", or even a "Business major". Indeed, although few fields correspond with professions (e.g. engineering and nursing), most liberal arts degrees do not point a student towards a specific occupation. Rather, they provide a set of skills that help job seekers navigate their professional landscape and fine-tune them into the employee they see best fit in the company (Koenig, 2018). For example, in a 2015 Association of American Colleges & Universities survey of 400 employers, 91% agreed that, "a candidate's

demonstration to think critically, communicate clearly and solve complex problems is more important than his or her undergraduate major" (AACU, 2015). According to the study, the skills one gains through the process of working towards a specific major in your undergraduate study is what sets you apart as a job applicant. For example, if you are a mathematician but have great pride in your soft skills like building relationships and remembering small details about people, you may be better suited to work in sales or marketing.

Theory & Hypotheses

Drew University in itself is an interesting place to study the placement of business majors. It has always been a part of the liberal arts curriculum at Drew to go out and achieve real world experiences in students' fields of study before graduation. Being next to one of the largest centers of economic activity in the world, New York City certainly shaped the author's decision to become a business major. Across the geographic spectrum of the United States, there are clearly some differences in the probability of having a major match one's occupation based on one's location. In table 2.2 (Abel & Dietz, 2013), one can clearly observe a correlation between being proximate to a large metropolitan area and finding an occupation that matches one's college major. The liberal arts education paired with the hands-on experience so close to New York City theoretically means Drew should have an above average match rate.

Hypothesis 1: Drew's business majors are more likely to find themselves in business-related occupations after graduation than not.

Another aspect of the Drew education that would lead one to hypothesize higher match rates among Business majors is the overall liberal arts experience as a whole. Under the business umbrella, students are exposed to management, marketing business ethics, finance and other electives. This, in turn, provides students the opportunity to enter a broader field of "business" and to specify their "liberal arts" skills once they are hired.

In summary, all aspects of the research literature on college majors and occupational matching lead me to believe Drew will have a relatively high placement of business majors into actual business or business-related occupations. In addition, the author predicts that a significant portion of the non-business related occupations will end up being vocational occupations, meaning that they are still economically valued occupations for college graduates.

The aforementioned Fed study suggests students majoring in business-related topics are significantly more likely to end up working in related fields relative to other majors (Abel and Deitz 2012). This study could therefore easily be replicated to determine the match rates of Drew Business majors.

On the other hand, with the knowledge that 43 of the 219 (20%) subjects in this study's sample are double majors with interests in more than one area of study, having a double major may encourage graduates to seek employment outside of business; for example, a student majoring in both biology and business may end up seeking employment in the medical or health care industries rather than business or finance. In

addition, there are multiple sources that indicate overall college major may be a poor predictor of future occupational status (Goyette & Mullen, 2006, Selingo, 2017, AACU, 2015).

Hypothesis 2: Drew business graduates who had 2+ majors are more likely to end up in non-business related occupations.

Methods

Data Collection

The population of Business Graduates (n=219) was obtained from the Alumni House through a software named "Raiser's Edge". This platform is primarily used for data collection of all alumni actively in communication with the University and is updated every time an alum gives a donation or updates their employment information. Raiser's Edge also supplied me with Drew's living alumni list (n=17,410). This list allowed me to filter by major and get my accurate list of all business majors that graduated from Drew University.

For the purpose of my research, I attained most information from LinkedIn[1], a social network for professionals. This platform is used by first year college students, seasoned veterans in all industries, and many more people far and wide between. The platform can be seen as the high-tech equivalent to a traditional networking event, being able to filter searches for specific people, job opportunities and "connect" with

[1] LinkedIn is a platform for professionals mainly used for job postings from employers and job-seekers, and networking in an industry by making "connections". On LinkedIn, one can update their occupational status as well as credentials earned along the way to promote themselves in the professional job market.

individuals, much like becoming friends with them on Facebook. LinkedIn is where subjects' current occupations were identified and for some, past entry level positions to see where their career path had taken them.

For those instances where current employment information was not available, the author reached out to some subjects via direct message on Facebook, Instagram, or LinkedIn. This communication as feasible on a personal level since the author personally knew most of the recent Drew Business majors and was connected with them on different social media platforms. Most, but not all, answered, and were open to sharing their current occupational status with me. (8 subjects).

The author obtained all of the information of subjects' participation in the Wall Street Semester from Professor Marc Tomiljanovich here at Drew. Professor Tomiljanovich has run the Wall Street Program for 12 years to this point. The Wall Street Semester began at Drew in 1996.

The author obtained information on students with a 3.0+ GPA through past commencement booklets for records on members of Omicron Delta Epsilon (ODE), the International Society for Economics, and past winners of the business award, given to the student with the highest GPA in the business major each year. In order to be inducted into ODE, you must have completed 12 credits worth of economics courses with a GPA of over 3.0, as well as having an overall GPA of 3.0. Many of the business majors fall into the requirement upon satisfactory completion of courses through their college experience. For the business award winners, it is safe to say that caliber of student would carry above

a 3.0, graduating with the highest GPA in the business major of all students in their graduating class.

Description of Sample

There were 17,410 living alumni of Drew University. For the purposes of this study, the focus was narrowed to the 219 business majors, graduated from 2010-2018. Business graduates are 1.26% of all Drew graduates at this time. Of the 219 subjects, 117 of them are male and 100 are female. 2 of the subjects' sexes were undeterminable. Of the 219 subjects, 71 of them participated in the Wall Street Semester. Of the 219 subjects, 42 of them were double majors. Of the 219 subjects, 52 of them were members of ODE or business award winners, meaning they had a GPA of 3.0 or above. Of those 52 with above a 3.0 GPA, 25 participated in the Wall Street semester, proving to be some of the higher achieving students in the study. Of the 219 total subjects in the study, 37 subjects were unknown, having no occupational information available online.

Categorization Processes

Once each subjects' occupational status was identified, the author used two methods of categorization for the subjects. First, the author set out to learn the day-to-day activity of a subject in their position, as well as the functions of that company, in order to determine if the subject held a "business occupation". The core of Drew's business program stems from Management, fundamental Economics, Finance and Marketing. These job descriptions and processes were generally available on glassdor.com or

indeed.com, two websites designed to give job-seekers an inside look at a corporation before applying and checking reviews online from current and past employees about the company as a whole and specific positions. Using this information, the author tabbed each subject with their industry, profession, organization name, and position (job title).

In the first method, referring to the Bureau of Labor Statistics', "Occupational Outlook Handbook" (OOH)[2], along with the industries included in the categorization, the author created industry-related categories to group the subjects into. These categories included Financial Services, Consulting/Advising, Sales, Insurance (including underwriting, risk management, employee benefits, brokers), Marketing, and Graduate School for those who were major-occupational matches. They were then grouped into their industry-related categories to show the placements of business graduates into more specific business occupations.

The second method of categorization followed the OOH's 25 occupational clusters (see appendix for full list). These 25 clusters contained any occupation imaginable, so every subject had a category on the list. The author then tabbed each subject by their occupational cluster, as well as their matching occupation within the cluster. For the matches, the most frequent clusters seen were Business & Financial, Management and Sales. This method gave a slightly broader measure of placements

[2] The Bureau of Labor Statistics (BLS) is the main fact-finding agency for the federal government in the broad field of labor economics and statistics. The OOH is a career guide formulated by the BLS. It provides information on a wide range of occupations. For each occupation, it describes working conditions, what workers do on the job, fastest growing industries, training and education requirements, highest paying jobs, and much more (balancecareers.com).

among graduates, but the more effective and accurate method. That being said, the total amount of matches did not vary between either method.

To measure intercoder reliability of Method 2, the author and his thesis advisor independently coded a subsample of forty-five (45) cases, roughly one fifth (20.8%) of the entire sample, using the OOH to classify alumni of the Drew Business major into occupations and occupational groups (e.g., business and finance) and then making a determination whether those suggested that the person was employed in a business or business-related occupation. The author then tested the level of agreement using Krippendorff's alpha and Cohen's kappa using the online program ReCal ((21) Freelon 2010). Approximately eighty-six percent (86.7%) of the cases were coded similarly, with an observed Krippendorf's alpha of .643 and a Scott's pi of .639. According to Landis and Koch ((22) 1977:165), a Krippendorf's alpha of .61 - .80 can be considered "substantial" in terms of strength of agreement, as is a Scott's pi of 0.61 – 0.80 ((23) Wombacher 2017: 752). Together, these statistics suggest that while intercoder reliability was not perfect it was fairly consistent and reliable more often than not (86.7%).

Findings

Of the 219 total subjects, 139 (63%) were currently employed or categorized as being currently employed in a business occupation. Another 7 subjects (3%) were advancing their business degrees in Masters programs. It increased the match rate to 66%. 33 subjects (15%) did not match business occupations. 10 subjects were currently enrolled at a College or University receiving a Master's Degrees with 7 of those subjects

receiving their Masters in Finance or Business Administration, and 4 of the 10 graduated from Drew with a double major. Nearly a third of the 219 subjects participated in the Wall Street Program, 43 of the 71 (60%) were a major-occupational match. 37 of the 52 subjects (71%) with above a 3.0 GPA were major-occupational matches. There were 117 males and 100 females in the study, two subjects are undeterminable. Among the men, 80 of the 117 (68%) were major-occupational matches and among the females, 67 of the 100 (67%) were major-occupational matches. Of the 41 double majors, 25 of them (60%) were major-occupational matches. Among subjects with a 3.0 GPA or higher, and attended the Wall Street Program, 19 of 22 (82%) were major-occupational matches. There are 37 "unknown" cases, where there is no information available online for the subject's current occupational status. This group is 17% of the total sample. Of these 37, 15 appear to be INTO (international) students. Only 3 graduates are underemployed or unemployed. Reports as of April 24th, 2019.

Drew is doing better than the Fed's average for Business-related majors (43%) cited 2012 Fed Study by Jaison R. Abel and Richard Deitz titled "Agglomeration and Job Matching among College Graduates" (20). At a 66% placement, Drew's business graduate's outcomes' are, as hypothesized, better than the national average and a positive outcome for Drew's business department.

Table 1.2 shows Method 1's breakdown of all 139 major-occupational matches. (Table 1.2)

Method 1: Placement of Drew business majors with major-occupational matches

Occupation	# of matches	% of all matches	% of all business graduates
Financial Services	38	27.14%	17.35%
Management	22	15.71%	10.05%
Sales	17	12.14%	7.76%
Marketing	15	10.71%	6.85%
Consulting/Advising	14	10.00%	6.39%
Insurance*	12	8.57%	5.48%
Recruiting/HR	11	7.86%	5.02%
Other	10	7.14%	4.57%
* = includes underwriting, brokers, risk management &employee benefits			

As table 1.2 illustrates, financial services (27%) is the industry most Drew business gradutes are finding themselves in. This was not surprising considering the focal point of the business ciriculum paired with the attention to New York City as a financial center for learning and experience.

Table 1.3 shows Method 2's breakdown of all 139 major-occupational matches, into the OOH's occupational groups.

(Table 1.3)

Method 2: Placement of Drew business majors with major-occupational matches

Occupation Group	# of matches	% of all matches	% of all business grads	Overall Match %
Management	57	41.01%	26.03%	66.67%
Business and Finance	44	31.65%	20.09%	
Sales	28	20.14%	12.79%	
Office/Administrative Support	6	4.32%	2.74%	
Other	4	2.88%	1.83%	

As table 1.3 illustrates, management is the most frequent occupational cluster seen among the major-occupational matches.

Through further investigation into the ShortTRECs at Drew, the author found that 71 of the 219 students (32.4%) participated in the Wall Street Semester. Of those 71 participants, 45 of them (62%) currently hold a business occupation.

Table 1.4 below shows the distribution of those matches into more detailed occupations.

(Table 1.4)

Method 1: Placement of Wall Street Participants with major-occupational matches

Wall Street Participants	Occupation	Number of matches	% of WS participants match
71 total	Financial Services	19	26.76%
	Consulting/Advisor	6	8.45%
	Sales	5	7.04%
	Insurance*	5	7.04%
	Grad School	3	4.23%
	Grad School (non-bus)	3	4.23%
	Marketing	3	4.23%
* = Includes underwiritng, Risk Management & Employee Benefits			

As table 1.4 illustrates, more than one fourth of all business majors who are Wall Street Participants are placing into a job in financial services. That means one out of every four students in the classroom are placing into an occupation the experience may have lead them towards.

Table 1.5 shows Method 2's breakdown of all 71 participants of the Wall Street Program, who are also major-occupational matches.

(Table 1.5)

Method 2: Placement of Wall Street Participants with major-occupational matches

Wall Street Particiapants			
Occupational Group	# of matches	% of Wall Street Part. Matches	% of all Wall Street Part.
Business and Financial	21	46.67%	29.58%
Management	11	24.44%	15.49%
Sales	10	22.22%	14.08%
Office and Administrative Support	2	4.44%	2.82%
Computer and Information Technology	1	2.22%	1.41%

As table 1.5 illustrates, almost half of those subjects with major-occupational matches are in the business and financial cluster.

While 148 other subjects did not participate in the Wall Street semester, 95 of them (64%) nonetheless, currently hold business occupations. While this match rate is slightly higher than those who did participate, we see the breakdown of distribution of occupations slightly differ.

Table 1.6 shows Method 1's breakdown of all 95 subjects who did not participate in the Wall Street Program, who are also major-occupational matches.

(Table 1.6)

Method 1: Placement of Non-Wall Street Participants with major-occupational matches

Non-Wall Street Participants	Occupation	Number of matches	% Occupational match
148 total	Management	25	16.89%
	Financial Services	15	10.14%
	Marketing	12	8.11%
	Sales	11	7.43%
	Recruiting/HR	9	6.08%
	Consulting/Advising	8	5.41%
	Insurance*	7	4.73%
	Other	8	5.41%
* = Includes underwiritng, Risk Management & Employee Benefits			

As table 1.6 illustrates, these major-occupational matches who did not participate in the Wall Street Semester are doing similar in overall placement, but finding themselves in a wider range of industry-related categories. Management takes over financial services as the most common industry among Non-Wall Street Participants.

Table 1.7 shows Method 2's breakdown of all 95 subjects who did not participate in the Wall Street Program, who are also major-occupational matches.

(Table 1.7)

Method 2: Placement of Non-Wall Street Participants with major-occupational matches

Non-Wall Street Participants			
Occupational Group	# of matches	% of non-WS Part. Matches	% of all non-WS Parts.
Management	42	44.21%	28.38%
Business and Financial	26	27.37%	17.57%
Sales	18	18.95%	12.16%
Office Administrative Support	4	4.21%	2.70%
Other	5	5.26%	3.38%

Table 1.7 enhances those in the management cluster, bumping the numbers to almost half of all Non-Wall Street Participant major-occupation matches.

There are 52 subjects that were ODE Members or Business Award winners. Of the 52 subjects, 34 (69%) are currently in business occupations, while another 2 are receiving their MBA and masters in finance.

Table 1.8 shows the amount of matches and non-matches among ODE Members and Business Award Winners.

(Table 1.8)

ODE/Business Award Winner major-occupational match ratings

ODE/Business Award Winner	# of matches	% of ODE/Bus. Award	# of non-matches	% of ODE/Bus. Award
52 total	36	69.23%	8	15.38%

Of the 52 subjects in this category, they were broken down into different occupations. An important note to point out is that of the 52 subjects with GPAs over 3.0, 25 of them (48%), attended the Drew Wall Street semester. 18 of those 22 valid cases are matched in business occupations (82%). 3 cases are unknown. 1 is going to graduate school for industrial engineering. This shows that high achieving students going through the business curriculum as it is planned is having a high success rate into business occupations.

Table 1.9 shows Method 1's occupational breakdown of those 35 subjects who were ODE Members or Business Award Winners, who have major-occupational matches.

(Table 1.9)

Method 1: Placement of ODE/Business Award Winners with major-occupational matches

ODE/Business Award Winner		
Occupation	# of matches	% of ODE/Dus. Award
Financial Services	9	25.71%
Marketing	6	17.14%
Consultant/Advisor	5	14.29%
Insurance*	4	11.43%
Management	3	8.57%
HR/Recruiting	3	8.57%
Other	5	14.29%
* = includes underwriting, risk management		

Table 1.9 illustrates a pretty even breakdown of where these ODE/Business Award Winners are placing in the job field. Thought financial services is still on top, the industries as a whole are quite evenly and interestingly distributed.

Table 1.10 shows Method 2's occupational breakdown of those 35 subjects who were ODE Members or Business Award Winners, who have major-occupational matches.

(Table 1.10)

Method 2: Placement of ODE/Business Award Winners with major-occupational matches

ODE/Business Award Winners		
Occupational Group	# of matches	% of ODE/Bus. Award
Management	15	41.67%
Business and Financial	14	38.89%
Sales	3	8.33%
Computer and Information Technology	1	2.78%
Office and Administrative Support	1	2.78%
Business Masters	2	5.56%

Table 1.10 illustrates a much different story, placing almost all matches into either management or business and financial.

For those subjects that were not placed in business related occupations, it is encouraging to see the outcomes of their career choices as well. A good portion of them are placed in middle wage and/or professional jobs such as engineering, law or nursing. Another good portion of the subjects were in vocational occupations, continuing their careers in aspects of their lives which enhanced their collegiate experience, such as coaching or playing sports, teaching or opening their own photography studio.

Table 1.11 shows Method 2's breakdown of those 35 subjects in the study that do not have a major-occupation match. In this case, Method 1 was very hard to categorize these occupations. There were too many varying job categories for the more specific breakdown. All of these occupations though, had a designated group in the OOH. (Table 1.11)[3]

Method 2: Placement of business majors without major-occupational match

Non Major-Occupational Matches			
Occupational Group	# of matches	% of all non-occ. matches	Overall non-occ. Match
Entertainment and Sports	8	25.00%	14.61%
Education, Training, Library Occupations	5	15.63%	
Office and Administrative Support	4	12.50%	
Legal	4	12.50%	
Non-Business Grad School	3	9.38%	
Engineering	2	6.25%	
Media and Communication	2	6.25%	
Other	4	12.50%	

Table 1.11 illustrates a few interesting trends. First revolving around the idea that many athletes compete in their sports while completing a business education. We see many taking vocational paths into their sports or entertainment interests. The second being that these graduates are still being placed into mostly well respected, middle wage jobs.

While discussing the entirety of the study, (Hyer, 2014) finds that men find themselves in STEM occupations much more frequently than females. The outcomes of

[3] Categorization Method 2 was only used as the 35 occupations varied in frequencies. Formulating categories using Method 1 would have produced findings too broad to understand or findings the author did not find noteworthy.

male and females has also been common place in the business sector, especially in recent years. In my study, there are 117 males and 100 females. Two of the subjects' sexes are undeterminable. Since female participation in the business world has accelerated in recent years, I thought it would be interesting to see the breakdown of male versus female graduates through the years of Drew's business major.

Table 1.12 shows the amount of male and female business graduates through the years of the business major being offered.

(Table 1.12)

Through the Years; Frequencies of Male and Female major-occupational matches

Male vs. Female Business Graduates						
Year	Male Grads	# of Male matches	% match male	Female Grads	# of Female Matches	% match female
2010	2	1	50.00%	0	0	0.00%
2011	6	5	83.33%	3	1	33.33%
2012	7	5	71.43%	7	2	28.57%
2013	17	12	70.59%	12	5	41.67%
2014	22	18	81.82%	13	10	76.92%
2015*	13	9	69.23%	11	8	72.73%
2016	19	11	57.89%	23	18	78.26%
2017*	15	12	80.00%	16	12	75.00%
2018	16	7	43.75%	16	9	56.25%
* = containing 1 subject with unknown sex						

Through the years, males seemed to have plateaued faster than females in the amount of business graduates. It is encouraging to see the amount of females in the business department growing quite steadily, for a longer duration than males. Through the entirety of these times charts, including table 1.11, we can see a small decline in business graduate in recent years (both among males and females) have been declining.

2018 saw a decline in major-occupational matches across the board. It would be interesting to see what kind of measures lead to this outcome in recent years. This could be a facet of future research to be addressed.

I again turned to Method 2 in categorizing the outcomes of males and females into the job market. Literature points to the outcomes of men being higher, as well as having more of a finance and business focus among those matches.

Table 1.13 shows Method 2's breakdown of males who are also major-occupational matches.

(Table 1.13)

Method 2: Male business graduates with major-occupational matches

Male Major-Occpupation Matches			
Occupational Group	# of matches	% of male matches	Overall Male match rate
Business and Financial	31	40.26%	65.81%
Management	26	33.77%	
Sales	16	20.78%	
Computer and Information Technology	2	2.60%	
Art and Design	1	1.30%	
Math	1	1.30%	

Of the 117 male subjects in the study, 77 (65%) of them currently hold business occupations or are furthering their education in a business related study. The field most males are finding themselves in is in the business and financial sector, as expected. This has historically been a field dominated by males in the industry.

Table 1.14 shows Method 2's breakdown of females who are also major-occupational matches.

(Table 1.14)

Method 2: Male business graduates with major-occupational matches

Female Major-Occupation Matches			
Occupational Group	# of matches	% of female matches	Overall female match rate
Management	31	31.00%	62.00%
Business and Financial	13	13.00%	
Sales	12	12.00%	
Office and Adminstative Support	6	6.00%	

Another interesting trend the author saw in the research was among the double major graduates. 25 of the 41 double major graduates are working in business-related occupations and 2 are pursuing a masters in a business-related field. This has implications for the University to inspire other double majors, maybe to get a better sense of what they subject wants to do after college through increased experience in the class room.

Table 1.15 shows Method 1's occupational breakdown of double majors who also are major-occupational matches.

(Table 1.15)

Method 1: Placement of Double Major graduates with major-occupational matches

Double Majors	Occupation	Number of Matches	% occupational match
	Financial Services	7	16.67%
	Marketing	5	11.90%
	Management	4	9.52%
	Sales	3	7.14%
	Consultant/Advisor	2	4.76%
	Insurance*	2	4.76%
	Other	2	4.76%
* = Includes broker, underwriter			

As expected, table 1.15 illustrates a wide range of industry categories among those who took an interest in more than business studies during their experience.

Table 1.16 shows Method 2's occupational breakdown of double majors who also are major-occupational matches.

(Table 1.16)

Method 2: Placement of Double Major graduates with major-occupational matches

DOUBLE MAJORS			
Occupational Group	# of matches	% of all matches	%of all business grads
Management	13	52.00%	30.95%
Sales	7	28.00%	16.67%
Business and Financial	5	20.00%	11.90%

Along with these career matches, there are two subjects in graduate school on an MBA or Master's in finance program as well as one subject in graduate school for industrial engineering. Of the 41 total double majors, 5 subjects were unknown. Only a surprisingly low 9 subjects of the 41 (22%) do not currently find themselves in business

related occupations, with 1 subject unemployed and 1 underemployed. This disproves hypothesis 2 as double majors are still placing into business related occupations more often than not. The others ended up in equally respectable positions in healthcare, law, education and others.

Discussion

Major-Occupational Matches

There are several reasons why Drew's placement of business majors appears to be higher than the Fed reported national average. First, Drew's proximity to New York City, one of the largest Metropolitan areas in the US and a major financial center in the Global Economy. Referring back to table 1.2, as proximity to a large metropolitan area shortens, the predicted major-occupational match positively increases. This may also stem from the ShortTREC that are offered in the liberal arts curriculum at Drew. The hands on experience and expertise exposed to the students in their college careers could be what leads them to a career in their specific field of study.

Another reason could be the focus on the fundamentals of economics in the business department. Economics is often the first discipline to which business students are exposed. All graduates have the general understanding of economic activity and are influenced by their early classes.

Wall Street Participants

Financial Services is the industry we see most Wall Street participants ending up in. 1 out of every 4 students sitting in the classroom on Broadway Street end up in a

Financial Services occupation. Over half (62%) of these subjects are currently employed in business and financial related occupations. For the purposes of future studies, I would love to see if these subjects earned internships or valuable contacts directly through the program that eventually got them hired.

The hands on learning is what makes the Undergraduate liberal arts experience of Drew University shine. With no concentration in one particular field, business majors without exposure to the Wall street program ended up in a more diverse group of fields. Management occupations had a 15% match rate, with a variety of different CEOs, founders and managers on sight (on the floor, scheduling, business managers). This may also speak to the abilities and skilled learned from a diverse group of settings and professors through the undergraduate experience, making them good leaders.

Non-Wall Street Participants

30 subjects who did not participate in the Wall Street Semester fall into the "unknown" category. With no information online available for all of these people, it could be a sizeable enough subject in the group to skew the numbers. It is also a point for future research to stress the importance of getting your information out there so potential employers are aware of your status and credentials. 3 subjects are currently enrolled in graduate school, 2 of which are receiving their Master's in Finance from Drew, the other receiving her theological graduate degree from Drew.

The Liberal Arts nature of Drew's education could lead to a greater major match than the national average. Through receiving a business major, students get a taste of all

aspect of the business world, including marketing, management, finance and other electives to clarify interests and sharpen skills. By broadening the student's undergraduate education, they are not necessarily locked into one aspect of business from the Sophomore year on. They have a chance to learn what they are interested in under the "business umbrella" and find a job that best fits them under the umbrella. A great example of this is that in the Fed's study, the major with the highest occupational match is accounting, with a 53.3% match rate ((18) Abel & Dietz 2014). In my study, only 1 subject even held the position of "accountant" showing an almost humorous difference between a more focused education and the Liberal Arts experience at Drew. But, as we see, this aspect is leading to a favorable turnout of Drew business majors. By arming students with the breath of requirements needed to graduate, they are marketable business people in themselves, being able to find success in different industries.

Drew does a great job of producing hungry students who are put into the real world ready for new experiences on a quest for knowledge. By producing well rounded students out of the liberal arts education, Drew business graduates can take their quest for knowledge and enjoyment out of learning to managers and company's who will fine tune them to mold them into the employee that they are looking for. With a broader understanding of business and its properties, these students take their previous education and passion of knowledge with them through their careers and continue to find the best career path for them.

Non-Major-Occupational Matches

As we see, those who are graduating with business degrees from Drew still have a fair amount of industries to explore after graduation. Of these 39 non-matches, 8 of them (20%) are double majors, which could lead to a larger chance of finding yourself in a non-business industry after graduation. That being said, these occupations and Universities are all great positions to be in, some even with a higher average starting salary than an entry level business job, most frequently legal and engineering occupations. Also, students with a business degree are still following their true passions into more of a vocational occupation. There are many fellow athletes I have crossed paths with in my time at Drew who ended up finding an occupation in line with their athletic career.

Male vs. Female

Of the 100 female subjects in the study, 62 (62%) of them are currently holding business occupations or furthering their education in a business related field. Here we see that females are predominately more likely to end up in the Management field, with nearly a third of all female business graduates ending up in this field.

The most obvious difference among males and females is that 7 of the females in the study find themselves in “Office and Administrative Support” while no males were in this group. Women who are business graduated of Drew also dominate the Management field.

The overall match ratings we almost identical among males and females. That being said, of the the 35 valid unknown subjects, 15 are male and 20 are female. These

are sizable enough numbers to influence findings among males and females. This proves Drew is a great place for equal opportunity and goal accomplishment. Females are beginning to be joined by similar peers in business classes, also having implications on Female major-occupational turnout. I could imagine being more a part of a group in this situation would attract more women to the industry, rather than breaking the soon to be dated "barrier" women face in the business field alone.

Undetermined and Unknown

Of the subjects who were unknown or undetermined, 41% of those subjects are INTO or international students. This leads me to believe the career center at Drew could do a much better job of expressing the importance of having up to date information on themselves available for people doing studies like this, and more importantly, employers in the United States. As it is known these students must be hired after graduation to maintain their VISA status, I believe if their information, resumes and collegiate accomplishments were made available online, they would have much more outreach to possible employers to further their experiences here in the United States. To further this point, a lot of the subjects in this international, unknown category actually had LinkedIn accounts, but nothing was on them to give me any idea of their actual occupation status. With mutual connections, I know that these subjects are indeed the ones I am looking for, but they did not provide the information needed to confirm an occupational status.

Among the 10 subjects who chose to continue their education in graduate programs, 7 of those subjects continued in the business field. The other 3 are receiving

Master's degrees in Industrial Engineering, Education, and one here at Drew, in the Theological School.

Special Cases

A group worth mentioning in the scheme of the entire study are those who fell into "Office and Administrative Support" in Method 2. Some who fell into this category i.e. receptionists, were not classified as business related occupations, as they have no direct contact with the business operations of their company. On the other hand, some of the subjects who fell into this group i.e. Financial Administrator and Executive Assistant to CEO, are connected to the business operations of the company, and find themselves in business support roles. These business support roles were deemed business occupations.

This study could be replicated in other areas of Drew graduates quite easily. It would be interesting to see the outcomes of Drew graduates into other major-related occupations, as Drew seems to be a good fit for business majors looking to go into a related profession. The Fed studies indicate a surprisingly low match rate across the board, and leads me to wonder what the outcome of other major-related occupations are and could be easily done using this study as a blueprint to achieve. With the liberal arts focus of the business degree here at Drew, I would wonder what the occupational match rating would be for a much more specific industry like Biology or Theatre Arts. Future steps that could be taken to enhance the research is getting students to stay in contact more with the University after graduation. Raiser's Edge was a quick and easy program to find the occupational status of those members of the Drew Alumni that stayed in touch

with the University through aid or mentorship. Through this program, information on Drew alumni are easily attainable and the subjects in the study will supply us with up-to-date, accurate occupational information.

Limitations & Future Research

Ambiguity

Due to the limited access to specific occupations, some of the cases were very ambiguous. Just by knowing the subject's position and place of work does not necessarily mean we know exactly what that person is doing day in and day out. For example, there are a lot of subjects in my study who are "consultants". Unlike those in positions like "financial analyst" where it is clear they are doing business related work, these unclear cases are up for interpretation through research on the company and job descriptions provided on the websites. While on LinkedIn, some subjects have a description of their tasks and daily movement through their employment which gave me a good sense of what they actually do day-to-day. When this information was not available, the source I turned to most frequently was Indeed.com, reading descriptions and reviews of the job from ex- and current employees at the same company and position. This is where I viewed the job demands, pros and cons as well as getting a feel for the day in and day out work process from an employee in that position.

Signalling?

Another aspect of study which made data collection hard at times was the titles of jobs. In the workplace, signaling is used by people and organizations through the use of assigning titles which project meaning, status or ranks. Some job titles may not fit or portrait every day tasks a subject is performing everyday, as a result of signaling.

Singalling from the students' perspective is also as aspect of the study to be looked into. Students can focus their undergraduate experience on certain aspects such as community building or the importance of education overall. Students take part in this action to *signal* to employers that community projects and advancing personal education are important aspects of their lives and want to continue practicing them in their professional careers. Spence (1973) discusses job seeking behavior revolving around singalling, and that, "Just as employers have less than perfect information about applicants, so also will applicants be imperfectly informed about the qualities of jobs and work environments". Students signal personal attributes and abilities to employers through the focus on that aspect of their lives through their education experiences. This gives corporations a larger picture of what the job applicant really cares about, even if there is uncertainty around the job itself or from the employer's perspective, if the student is a true fit for the job.

There are aspects of the undergraduate experience at Drew that can be signaled to employers. Extra-circulars in the community, being a civic scholar or focus in one industry through four years are all aspects that come to mind. The author wonders about the success rates of different students projecting different *signals* to future employers.

Availability of Information

One of the main limitations of my study was the availability of information on the INTO population of all Drew Business[i] majors. Of the 37 unknown cases in my study, 15 of them seem to be students in the INTO program at Drew. This leads me to believe Drew needs to stress the importance of self-promotion and advertising online, making their information available for employers to possibly achieve their career-oriented goals.

The 37 unknown subjects are an important group missing, equaling around 17% of the total sample. After reviewing the success rates of business grads being placed into business occupations, I would think the actual students have a lot to do with that. To further explain, students are in control of most aspects of their lives. This includes scheduling interviews, preparing for networking events and sending in applications. Keeping your resume and information available online for perspective employers is an important part of the process of getting a job. A business degree from Drew University is obviously a respectable achievement in the business sector of the real world. I believe Drew should stress to their students to make their information and accomplishments available online on the chance it leads to a potential hire, or just adding to the success of the Drew business department.

Dynamic (Time-Varying) Data

Another flaw with this research is that the facts gained through research are volatile to change quickly and not be reported right away. If someone in the sample changes jobs or drops out of graduate school, we would not know about it until they updated their own information online and if I was actively seeking it. This made it necessary to add a date of the last day of obtaining research. This will always be an issue in this type of study and without constant monitoring, results could be flawed day by day and only get worse.

Upon the final check for the most up to date occupations, nearly 25 people changed occupations in the last 2-3 months of the study. This movement was largely due to young professionals getting a "promotion" into a higher positon at a different company, or beginning a business of their own, i.e. a CEO. It is reasonable to hypothesize that movement in the business world is highly volatile, with a lot of turnover and volume.

Getting a Head Start?

Another aspect of this study that could be researched is the prior experience these subject have had in their industry-related internships. Internships are put in place for students to determine what they really do or don't like before getting in the "real world". Also, internships are a great place for a student to get started in the professional lives as it is normally the first time they are really exposed these experiences. This would be an added measure to the study that would be an interesting effect overtime. Through my exposure around campus, I am very much involved and aware of the changes in the career center here at Drew. This specific study could lead to success rates of the Drew

career center and possibly lead to stronger connections with our alums in the business sector.

Implications for Future Research

One subject to keep in mind for future research is the literature on SES and how that effects people's decision processes while choosing a college major or an occupation. In the terms of my study, none of this information was available to me to determine a student's SES, and from there categorize them into specific groups. One thought was to see who is receiving financial aid, but again, is out of reach for me as a researcher, but also a student of the University. Another aspect of this study that could be manipulated in any department in the future is to exploring the effects of the discounted tuition rate as it pertains to SES with major and occupational matches. With the tuition cut, the author believes it would open up more opportunities for students to attend Drew that would not consider the University before or are going to be qualified for financial aid. In a couple of years, as the tuition reset sets in, it would be interesting to see how the demographic of student changes, and if so, has any effect on the aspirations of business students, leading to different jobs.

A measure in the study which could be added to future research is the availability of jobs in the desired degree-related field. This measure would encompass more of a macro level review of job placement among business graduates. Business is the largest major in the United States, are there enough jobs to fill these graduates? Some of the jobs

they are competing for do not require a college degree and are being taken by those who don't.

A further examination into who these missing cases are and why they have no information available online. This could be a product of the University or more of a personal choice. As a good portion seem to be international, it would be interesting to see if they are using a different type of professional platform in their home countries or bypassing the option to advertise themselves and their successes to possible employers.

A moderator for increased major-occupational match found in this study was participation in the experiential learning program of the Wall Street Semester. With other ShortTREC programs available at Drew in different departments, it would be interesting to see if these programs are associated with higher placement rates across the disciplines.

Conclusion

Drew proves to be outperforming the national average in their placement of business graduates into business related occupations. Hypothesis 1 prevailed after data analysis, with 64% of Drew business graduates working in business related jobs. Drew University lays out a great foundation for students to achieve success and a job they are prepared for. Once a student gets on campus, the more they take advantage of the opportunities Drew has to offer, the higher chance there is of that student finding themselves in business related jobs. No major differences were evident in most of the measures, except the 82% match rating among students with above a 3.0 GPA who participated in the Wall Street Program.

This in fact, proves the business department has laid out a great roadmap for career success and major-occupation matches after the Drew experience. Drew defies Abel and Dietz 2014 Fed study, implying that your college major is not a great indicator of occupational outcome. I would love to see if this is true across all majors here at Drew, which could be easily done following the guidelines of this study.

Works cited

Abel, Jaison R., Deitz, Richard. "*Do Big Cities Help College Graduates Find Better Jobs?"* Liberty Street Economics, 2013, May 20

Abel, Jaison, R. Deitz, Richard, "*Agglomeration and Job Matching among College Graduates"* Federal Reserve Bank of New York Staff Reports, December 2014

Cheit, Earl F. "Business Schools and Their Critics." *California Management Review*, vol. 27, no. 3, Spring 1985, pp. 43–62. *EBSCOhost*,

Cheit, Earl F. "Business Schools and Their Critics." *California Management Review, vol. 27, no. 3,* Spring 1985, pp. 43–62. *EBSCOhost*, "Professor of comparative literature from Rutgers University"

Cheit, Earl F., and Berkeley, CA. Carnegie Commission on Higher Education. "*The Useful Arts and the Liberal Tradition. Last in a Series of Fifteen Profiles*." 1975. *EBSCOhost*,

Cheng, Michelle. *"Students at Most Colleges Don't Pick 'Useless' Majors"* fivethirtyeight. 2017, August 14

Cunningham, John T. (2002) *University of the Forest: The Story of Drew University*

Doyle, Alison. "A Look at the Occupational Outlook Handbook." *The Balance Careers*, The Balance, 27 Dec. 2018, www.thebalancecareers.com/what-is-the-occupational-outlook-handbook-2058465.

Elkins, Kathleen. "*The 15 highest-paying jobs for business majors"* CNBC, 2016, December 1

Freelon, D. 2010. “ReCal: Intercoder reliability calculation as a web service.” *International Journal of Internet Science*, 5(1), 20-33.

Goyette, Kimberly A. & Mullen, Ann L. “*Who studies the Arts and Sciences? Social Background and the Choice of Consequences of Undergraduate Field of Study”* The Journal of Higher Education, Taylor & Francis, Ltd. 2006, May-June

Hart Research Associates. Forthcoming. *Falling Short? College Learning and Career Success*. Washington, DC: Association of American Colleges and Universities.

Home: Occupational Outlook Handbook:” *U.S. Bureau of Labor Statistics*, U.S. Bureau of Labor Statistics, www.bls.gov/ooh/

Howard R. Bowen. “Higher Education for Business Robert Aaron Gordon James Edwin Howell.” *The American Economic Review*, no. 3, 1960, p. 511. *EBSCOhost*,

Hyer, Virginia. *Census Beareau Reports Majority of STEM College Graduates Do Not Work in STEM Occupations”* Newsroom, 2014, July 10

Koenig, Rebecca. “*Your College Major Does Not Define Your Career”* US.News, 2018, September 24

Kohn, J. et al (2013) *The Drew University Business Studies Program: Liberal Learning From the Ground up*

Landis, J. Richard, and Gary G. Koch. 1977 "The Measurement of Observer Agreement for Categorical Data." *Biometrics* 33(1): 159-74.

Lohr, Steve. *Where the STEM jobs are (and Where They Aren’t)* New York Times, 2019, November 1.

Michael Spence, Job Market Signaling, *The Quarterly Journal of Economics*, Volume 87, Issue 3, August 1973, Pages 355–374

National Center for Educational Statistics

Pierson, Frank Cook. *The Education of American Businessmen; a Study of University-College Programs in Business Administration*. New York : McGraw-Hill, 1959., 1959. *EBSCOhost*,

Robinson, Wesley. *Most with college STEM degrees go to work in other fields, survey finds*" The Washington Post, 2014, July 10

Rothwell, Jonathan, & Kulkarni, Siddharth. "*Beyond College Rankings: A Value-Added Apporach to Assessing Two- and Four-Year Schools"* Metropolitan Policy Program at Brookings, 2015, April

Selingo, Jefferey J. *"Business is the most popular college major, but that doesn't mean it's a good choice*" The Washington Post, 2017, January 28.

The Industrial Age in America: Robber Barons and Captains of Industry. (n.d.). Retrieved from https://edsitement.neh.gov/lesson-plan/industrial-age-america-robber-barons-and-captains-industry

Whyte, William H., Jr. *The Organization Man*. Garden City, N.Y. : Doubleday, 1957 [c1956], 1957. *EBSCOhost*,

Wombacher, Kevin. 2017. "Intercoder Reliability Techniques: Scott's Pi." Pgs. 753 755 in *The SAGE Encyclopedia of Communication Research Method*s, edited by Mike Allen. Thousand Oaks, CA: SAGE.

APPENDIX

TABLE 2.1 – Comparison of STEM graduates and STEM occupations available (2015-16) Bureau of Labor Statistics

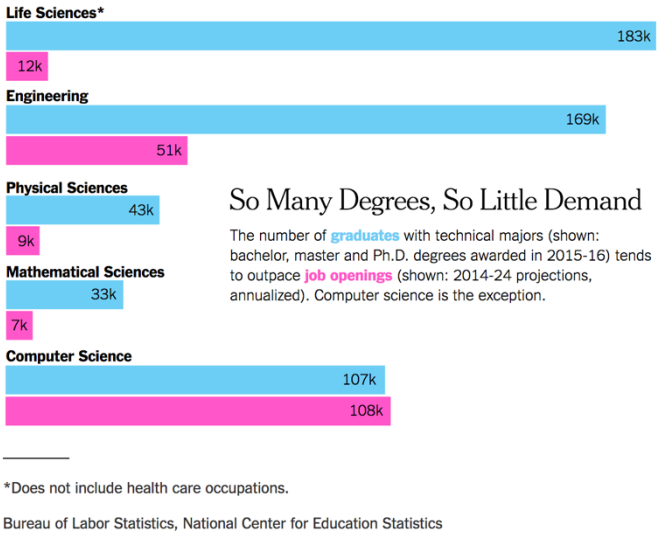

TABLE 2.2 – Probability of job matching degree across Urban Spectrum

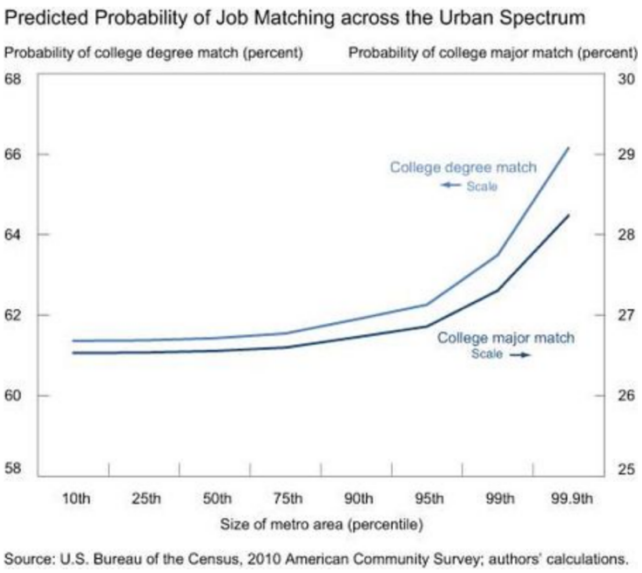

Table 2.3 – Less selective vs. more selective colleges – breakdown of degrees in total, 2016

Less selective colleges

	MAJOR	SHARE OF DEGREES
1	Business, management, marketing and related support services	19.3%
2	Health professions and related programs	11.9
3	Psychology	6.5
4	Social sciences	6.3
5	Education	5.7
6	Biological and biomedical sciences	5.5
7	Engineering	5.2
8	Communication, journalism and related programs	5.1
9	Visual and performing arts	4.8
10	Homeland security, law enforcement, firefighting and related protective service	3.5

More selective colleges

	MAJOR	SHARE OF DEGREES
1	Social sciences	19.4%
2	Biological and biomedical sciences	10.1
3	Engineering	10.1
4	Business, management, marketing and related support services	9.8
5	Psychology	6.3
6	Visual and performing arts	5.6
7	Health professions and related programs	3.8
8	Computer and information sciences and support services	3.6
9	Physical sciences	3.6
10	English language and literature/letters	3.5

Selectivity is based on Barron's selectivity index.

SOURCES: U.S. DEPARTMENT OF EDUCATION, BARRON'S

OOH

Job Categories

- Architecture and Engineering
- Arts and Design
- Building and Grounds Cleaning
- Business and Financial
    - Accountants and Auditors
    - Appraisers and Assessors of Real Estate
    - Budget Analysis
    - Claims, Adjusters, appraisers, Examiners, and Investigators
    - Compensation, Benefits, and Job Analysis Specialists
    - Cost Estimators
    - Financial Analysts
    - Financial Examiners
    - Fundraisers
    - Human Resource Specialists
    - Insurance Underwriters
    - Labor Relations Specialists
    - Loan Officer
    - Logistician
    - Management Analysis
    - Market Research Analysis
    - Meeting, Convention and Event Planners
    - Personal Financial Advisors
    - Purchasing Managers, Buyers and Purchasing Agents
    - Tax Examiners and Collectors, and Revenue Agents
- Community and Social Service

- Computer and Information Technology
- Construction and Extraction
- Education, Training, and Library
- Entertainment and Sports
- Farming, Fishing, and Forestry
- Food Preparation and Serving
- Healthcare
- Installation, Maintenance, and Repair
- Legal
- Life, Physical, and Social Science
- Management
    - Administrative Services Managers
    - Advertising, Promotions, and Marketing Managers
    - Architectural and Engineering Managers
    - Compensation and Benefits Managers
    - Computer and Information Systems Managers
    - Construction Managers
    - Elementary, Middle and High School Principals
    - Emergency Management Directors
    - Farmers, Ranchers and Other Agricultural Managers
    - Financial Managers
    - Food Service Managers
    - Human Resource Managers
    - Industrial Production Managers
    - Lodging Managers
    - Medical and Health Services Managers
    - Natural Sciences Managers
    - Postsecondary Education Administers
    - Public Relations and Fundraising Managers
    - Sales Managers
    - Social and Community Service Managers
    - Top executives
    - Training and Development Managers
- Math
- Media and Communication
- Military
- Office and Administrative Support
- Personal Care and Service
- Production
- Protective Service

- Sales
    - Advertising Sales Agent
    - Cashiers
    - Insurance Sales Agents
    - Models
    - Real Estate Brokers and Sales Agents
    - Retail Sales Workers
    - Sales Engineers
    - Securities, Commodities, and Financial Services Sales
    - Travel Agents
    - Wholesale and Manufacturing Sales Representative
- Transportation and Material Moving

Key for Spreadsheet:

Green = Major-Occupation Match
Red = Non-Major Occupation Match
Gold = Business Graduate Student
Pink = Non Business Graduate Student
Purple = Unknown