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Abstract

Increased employability and salary were not always the focus or goal of higher educational institutions nor the students who attended. However, with time and especially as higher education became more widely available to the masses, often with increased price tags, so did the expectations of the students for a return on their investment.

Given the focus on development and expansion of international education opportunities within the field of higher education, it is important to look further into the actual measurable outcomes and impact these experiences are having for the students embarking on them. Arguably, with increasing global competition the success of college graduates includes the importance of their ability to “outsmart international economic rivals”. The question then arises, is international education a significant factor in student employability?

This dissertation study investigated employability outcomes of students (both undergraduate and graduate) at a liberal arts Higher Education Institute (HEI) in the midwestern U.S. The dependent variables were employability outcomes: salary, employment position, and level respectively. The independent variables examined were study abroad, sex, age, program level, and major.

The initial results from this research begin with standard descriptive statistics, giving a foundational quantitative overview of the data and outcomes. The main results were calculated in an analysis of variance (ANOVA) and were completed for the dependent variable salary with each independent variable separately, known as a one-way ANOVA. Further analysis was conducted using two and three-way ANOVA results when comparing two and/or three independent variables, respectively. Differences among all independent variables were found to be statistically significant, meaning there were differences in reported annual salary between students who participated in study abroad programs and those who did not. Further differences in salary between study abroad participation and the other independent variables were also found to be statistically significant. These differences however, for the most part, did not reflect favorably for the often-assumed premise that studying abroad may have a positive impact on student employability.

Abbreviation

ACCT	Accounting
ANOVA	Analysis of Variance
AAUW	American Association of University Women
BA	Bachelor of Arts
BFA	Bachelor of Fine Arts
BS	Bachelor of Science
COVID-19	Coronavirus Disease 2019
CX	Jenzabar CX: Higher Education Software
EC	European Commission
EHEA	European Higher Education Area
EIS	Erasmus Impact Study
ERASMUS	European Region Action Scheme for the Mobility of University Students
EU	European Union
EUI	European University Institute
FR	Freshman (U.S. student classification)
GDPR	General Data Protection Regulation (European Union)
GPA	Grade Point Average
GRAD	Graduate Programs - students in respective graduate programs
H-1B	U.S. visa: Immigration and Nationality Act, section 101(a)(15)(H)
HEI	Higher Education Institution
HSD	Honestly significant difference (Tukey's statistical test)
ID	Identification
IIE	Institute of International Education
ILO	International Labor Organization
IRB	Institutional Review Board

IWPR	Institute for Women's Policy Research
MA	Master of Arts
MBA	Master of Business Administration
MS	Master of Science
NACE	National Association of Colleges and Employers
NAFSA	National Association for Foreign Student Affairs
NCES	National Center for Educational Statistics
OECD	Organization for Economic Co-Operation and Development
OIE	Office of Institutional Effectiveness
OSA	Office of Study Abroad
PC	Personal Computer
POLT	Political Science
R	Statistical Software
SA	Study Abroad
SIS	Student Information System
STEM	Science, Technology, Engineering and Mathematics
U.K.	United Kingdom
UNDG	Undergraduate programs -students in respective undergraduate programs
U.S.	United States of America
USD	United States Dollar
VOPF	Vocal Performance

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1 Introduction

1.1 Field of Interest

As the world shrinks, many sectors have attempted to adapt to accommodate international competition, whether by expanding or developing in new directions; the education sector is no exception, demonstrated by the growth of international educational opportunities and student exchange programs (i.e. “study abroad”). While higher education’s role and value as an agent of globalization is far from settled, this research operates under the assumption that higher education is indeed a contributing factor to globalization through study abroad programs. Mala Singh wrote about social justice in higher education, and fittingly cited by Case and Huisman stating that “Through teaching, research and community engagement, universities contribute to the flow of information, technology and people across the globe, and in the process, they become key partners in the development of sustainable, equitable societies within and across national borders.” (Singh, 2011; Case & Huisman, 2016, p. 23) This dissertation will investigate factors that affect graduate¹ employability outcomes, and the study will specifically focus on the factor of international education.

Perhaps one step prior to linking international education to employability outcomes is an assumed link between higher education and such desired employability outcomes. As Brown et al. mention, “Through investments in brainpower, it was thought that nations could deliver prosperity, justice, and social cohesion, companies could develop world-class employees, and individuals could secure a better future for themselves and their family.” (Brown et al., 2011, p. 15) Employability and better salary prospects were not always the focus or goal of higher educational institutions, nor the students who attended them; however, over time, especially as higher education has become more widely available, this has changed. As a degree can come with a hefty price tag, students have adjusted, or at least appear to, their expectations of what they are more likely to view now as a return on their investment.

Specific attention to student employment outcomes has been visible in the creation and development of university career centers and services. Brunstein (2007) notes that universities need to help students become globally competent. Further, Friedman (2004) indicates that having globally-competent citizens is key to the prosperous local economy and for students in remaining competitive in the global market and work force.

¹ This term refers to both undergraduate and graduate university students.

One can clearly see Altbach's argument in the financial support as well as in the research on outcomes of international education, specifically in the European Union and in the United States. This appears most evidently when Altbach states, "Industrialized countries are recognizing the need to provide their students with a global consciousness and with experience in other countries in order for them to compete in the global economy." (Altbach, 2016, p. 121) There are numerous prospects available to college students in forms of student-initiated, institutional exchanges (including reciprocal programs), faculty-led programs and also the development of international networks within universities. This research primarily focuses on the international study abroad network of a U.S.-based higher education institution, henceforth labeled HEI.

Given the focus on development among study abroad programs and opportunities in higher education, it is important to look at the measurable outcomes and impact these experiences are having for the students embarking on them. Arguably, with increasing global competition, the success of college graduates includes the importance of their ability to "outsmart international economic rivals". (Brown et al., 2011) So, the question arises, is international education a significant factor in graduate employability?

Though interest in student mobility has seen a steadily upward trend in popularity over the last decade, the idea of an international educational experience is not new. Historians argue that the first student to have such an experience dates back to third century B.C. when Aristotle traveled from North Macedonia to Greece. Perhaps more well-accepted as the "first study abroad" is the experience of Emo of Friesland in 1190, when he journeyed from Holland to study at Oxford. (Lee, 2012) Study abroad in the U.S. dates back to the 1600's in the colonial colleges. Not so dissimilar to today, these young colonial students often went to Europe to study. (Brubacher & Rudy, 1976) More formalized study abroad programs developed in the US in the 1920's. For example, the Foreign Study Plan² at the University of Delaware was established in 1923. (Institute for Global Studies, 2013) This plan paved the way for what became the widespread model known as the "Junior Year Abroad" which remains popular and culturally-accepted among U.S. institutions and students today. (Bowman, 1987) It took the US federal government another thirty years before getting involved in the funding of study abroad programs. In the 1950's, two types of programs were developed: one involved participating in foreign institutions' existing programs (what we may consider today as "direct enrollment"),

² The initial advocate for the Foreign Study Plan was a World War I veteran and professor of modern languages, Raymond W. Kirkbride. As a soldier, he saw firsthand the horrific consequences of international misunderstandings while he also greatly appreciated the French people and culture. His conviction was foreign travel and education would likely foster cross-cultural understanding in the university's students (Hill, 1998).

and the other was the expansion or transplantation of American institutions' curriculum overseas. (Walker, 1999)

Research describing individual study abroad programs and their goals, as well as student self-assessments about the influence of an international educational experience, already exist in abundance. The most frequently cited benefits attributed to study abroad participation typically encompass three areas: maturity, language proficiency, and increased knowledge of a specific culture (Anderson, 1996; Terehoff, 2000). Comparative studies researching participation in study abroad opportunities have portrayed a correlation between enhanced intellectual growth, personal development and global mindedness (Posey, 2003). Similarly, in most research conducted using post study abroad surveys, the participants (students) claim that the experience was a worthwhile investment in their future and that the program had a substantial, positive effect on their lives. Despite the wealth of research on international educational experiences, most research on studying abroad is qualitative and/or descriptive in nature (questionnaires, follow-up surveys and case studies concerning personal or language growth). Even a brief review of the literature reveals a lack of quantitative studies that attempt to measure long-term results of study abroad participation, particularly in the realm of professional outcomes.

Many institutions are involved in ongoing research on international exchanges in higher education and their respective outcomes. This study will be compared to and contrasted with research from the Institute of International Education (IIE) and European Commission. The IIE funded "Gaining an Employment Edge: The Impact of Study Abroad on 21st Century Skills & Career Prospects in the United States" in 2017, a study which investigated the connection between study abroad programs and the development skills that contribute to employment and career development. (Farrugia & Sanger, 2017) The European Commission funded the Erasmus Impact Study (EIS) in 2014, which identified relevant personality traits when employers are recruiting new employees that are go beyond field-specific skills and job-related experience. The EIS research determined that employers looked more closely at personality traits than traditional learning outcomes. (Brandenburg, Berghoff, & Taboadela, 2014)

If universities want their graduates to be competitive in the global market, and students need to have certain skills to be globally competitive, like global competence, can one then presume that studying abroad is a key factor in student employability? This study was rooted in this question and evaluating potential other factors in student employment outcomes.

1.2 Aims and Objectives

This dissertation investigated employability outcomes of students (both undergraduate and graduate) at one HEI in the U.S. The research questions for this study have been designed to provide a better understanding of the employment outcomes of the HEI's students by analyzing their demographic and professional profiles of the students³.

Case and Huisman made observations from their own research that are particularly appropriate for this study: "Whilst improving employment prospects has always been one of the main reasons for students to enroll in higher education, employability has become a more explicit objective for students only recently. Students' increased financial commitment in terms of tuition fees has changed priorities: the previous assumption that higher education would automatically develop the skills that made a graduate employable has now become an explicit requirement that students should leave higher education with the employability skills that allow them to achieve a well-paid job and realize a return on their investment." (Case & Huisman, 2016, p. 125) This study aimed to tackle the exact perception of students today. The following central research questions and sub-questions guided this study:

- ❖ What factors affect the employability outcomes of the students at the HEI?
 - Do differences between study abroad participants and non-participants appear?
 - Do differences among sex⁴ and age groups arise?
 - Do differences between the variables of degree program (major) or level of studies (undergraduate versus graduate) exist?
 - Do differences in the dependent variables of status, level and salary occur?
- ❖ How do the results from this study, one specific HEI's dataset, compare to the findings from IIE and EIS?

Since this study did not aim to compare or evaluate the curriculum or direct pedagogy involved in studying abroad, the connection or relevance for the educational sciences goes beyond the scope of this research. However, when a broader definition or approach to the educational sciences, such as describing, understanding and prescribing educational policy and practice (e.g., including learning outcomes, institutional organization) is utilized, the

³ This will include both undergraduate and graduate student data.

⁴ It should be noted that it is not the position of the author nor the intent of this dissertation to limit demographic analysis to only two identifying factors for gender. For the time over which the data was collected, apart from the last semester of collection, the HEI only offered students two options: male or female. Since the original collection of the data, the HEI now offers students more options for identifying their gender including for official purposes and university records. For the purposes of this research the term sex was selected as the identifying factor as opposed to gender given the HEI's own language but also not to misconstrue the much larger concept of gender.

relationship between education abroad and employability outcomes becomes relevant for the field of education. The concept of education abroad is heavily rooted in higher education institutions and their curriculum. This is evident from the historical development of studying abroad with the expansion and investments in such programs. Similarly, higher education institutions are often the main providers of such programs. This study sought to review the outcome of international educational experiences that directly align with a variety of learning theories that are fundamental in education. The results of this study could contribute to further policy development and funding discussions regarding education abroad programs of higher education institutions.

A general sentiment that is widely shared amongst many higher education institutions, as argued by Paige et al., fuels interest in understanding and evaluating study abroad programs: “collegiate study abroad has been found to be one of the most important experiences students can have during their undergraduate years” (Paige et al. 2009, p. S41). The benefits of studying abroad have undergone extensive reviews. Despite such extensive research, a gap in the literature remains, and the results of this study aim to contribute to filling this gap. There are well-funded and international peer-reviewed studies on the outcomes of studying abroad that have successfully outlined desired personality traits and skills for which employers are looking. Research findings from the EIS and IIE are included in the analysis and comparison to the data from the HEI’s case study. However, the direct link to employability outcomes remains to be fully demonstrated.

1.3 Theoretical Framework

Several theories could be used to assess the relationship between employability and a university education, more specifically international education as a pertinent factor for employment. The most suitable theories for this research, however, were human capital theory and neoclassical theory.

Human capital theory offers significant insight into the approaches that could be made to improve universities’ capacity to secure graduates’ employability. As noted by Case and Huisman, “The evidence on returns to higher education which is rooted in human capital theory is well developed and generally accepted in the economics literature.” (Case & Huisman, 2016, p. 121) Essentially, Case and Huisman indicate that the skills a person has can explain differences in salary when compared to others. It also implies that individuals “invest” in different experiences or opportunities, assuming that employers will compensate more

generously for more skilled employees. Gary Becker and Barry Chiswick have linked education and the distribution of earnings in previous studies (Becker, 2008). Together, they determined an equation⁵ that showed the total earnings of a person after the human capital investment is equal to the sum of the returns on the investment plus the earnings from any original human capital (Becker, 2008). For example, an undergraduate student who studies four years to finish their bachelor's degree would expect the knowledge gained and time invested for that degree to be accounted for in their salary. Becker (1993) further defines human capital as “activities that influence future monetary and psychic income by increasing the resources in people. The skills, knowledge, and qualifications of a person, group, or workforce considered as economic assets.” In other words, human capital is the accumulation of competencies, knowledge, social and personality attributes represented in the ability to perform labor to generate economic value.

According to the theory, the employees' knowledge and experiences must enable them to make their organizations survive (Holden & Biddle, 2017). The theory operates under the assumption that students' experiences must be translated into knowledge and skills. As a result, higher education is often instrumental in increasing the productive capacity of the respective population. In the current labor market, employers often seek employees that have attained high-quality education. Similarly, in surveys⁶ conducted by Hart Research Associates, nearly all employers were in agreement that “all college students should have experiences that teach them how to solve problems with people whose views are different from their own” (2015). It would then make sense that students who study abroad have a higher probability of being employed. Human capital theory asserts that three critical aspects must be provided to ensure high productivity. First, employees should already have a wide range of knowledge and skills. Ideally, these are taught to students during their undergraduate studies and often marketed even more so to those interested in study abroad programs. When such skills and knowledge are accumulated by previous generations, this allows for the next set of college graduates to benefit from a so-called “pay it forward” community approach that enables employees to apply said information to solve similar, contemporary problems.

While this theory is very fitting for student outcomes research, one must keep in mind that some predetermined variables can also influence an individual's final earning capacities, such as family situations and socioeconomic status. Other variables that can have an effect on

⁵ Barry Chiswick and the World Bank would later use this theory to build the “human capital earnings function” (HCEF) that would become a key instrument in educational policy decisions; these decisions would be based on the estimates of the rate of return from schooling. (Chiswick, 1997)

⁶ Online survey with employers (2012, 2013, 2015, 2018) – Hart Research Associates analyze employers' priorities for the “kinds of learning today's college students need to succeed in today's economy.” (Hart, 2013)

employability outcomes (found throughout literature and the focus of other research) include, but are not limited to, race, age, sex, and disability. Therefore, even though human capital theory may explain the calculations of individuals who invest in education, meaning the students themselves, the purpose of mentioning this theory does not imply that it should be the guiding principle of higher education.

In the recent past, as observed by both the International Labor Organization (ILO, 2018) and the Organization for Economic Co-Operation and Development's Employment Outlook (OECD, 2019), the labor market has been shaped to a large extent by the decisions made by institutions, public policies and government regulations. Such decisions influence the output to the labor market, like the preparedness of recent college graduates for employment as well as general availability of open positions needing the next generation of labor force. Brožová (2015) indicates that neoclassical theory evolved from marginalist theories and can be applied to the labor market. In neoclassic theory the labor market is viewed no differently than any other market, its behavior largely dictated by supply and demand. As such, neoclassical theory presupposes maximizing the behavior of agents, flexible wages, and effective regulation all coupled with the demand and supply forces that could lead to a balanced system (Brožová, 2015). For example, for undergraduate or graduate students, study abroad participation would be influenced by the demand of employers requiring skills and experiences gained through international education. The only disadvantage of this approach is that it considers the labor market a perfectly competitive market where the levels of employment and the unit price of labor are controlled by the forces of supply and demand. As Tillman (2015) argues, the field of study abroad is closely linked to the traditional value and return on investment for college degree seekers. He cites one conclusive consequence of studying abroad backed by over ten years of research studies by companies and universities, public and private: employers value education abroad. "Employers value practical skills and competencies which students can develop through their education abroad experience" (Tillman, 2015)

In this context, human capital and neoclassical theory guide this dissertation and study as they provide an effective means of thinking about the role of institutions, policies and the different actors in shaping the influential impact that a university education has on employability.

1.4 Research Design

The methodology used for this research encompassed a quantitative approach using a single case study provided by one institution. After initial descriptive statistical assessments were evaluated, one, two, and three-way Analysis of Variance (ANOVA) were employed to determine whether there was a relationship between the employability outcome salary and the independent variables of study abroad participation, sex, age, program level, and field of study; further analysis checked possible trends in student demographics within the study abroad statistics while also evaluating other dependent variables, for example, employment status and level respectively. The design allowed for analysis between different groups within each variable, comparing differences in means and assessing effects and relationships within and between the various groups. All data were analyzed with R statistical software.

The analysis was drawn from the “raw” data from the single case study of a U.S.-based midwestern liberal arts university, as previously noted, will be mentioned and labeled as HEI (Higher Education Institution). This data has been compiled from the registrar, study abroad office, and office for institutional effectiveness. The registrar information will include “background” information: sex, age, and country of residence. The registrar data also encompasses the unique student ID number (which will be key in keeping student identity protected), degree program, academic standing (GPA), and graduation date. The office of study abroad provided all information regarding students’ international educational experiences, duration and location of study abroad along with student classification (junior, senior, graduate, etc.) and credit hours taken. The office for institutional effectiveness housed the data that is foundational to this study. The data covered student career and employment information, including industry, status, level, and salary. In general, when it comes to studying and attempting to assess student employability outcomes, it is important to acknowledge the difficulties around controlling the variables one needs to in order to isolate the unique contribution of each factor apart from individual student characteristics and predetermined conditions (family status, socioeconomic situation, etc.). This raw data should help contribute to identifying and isolating such factors. A further layer of analysis, in the discussion chapter, compared the findings from the HEI study with the findings from both the IIE impact study and IES. This comparison is necessary to contextualize this study’s findings from a single institution in perspective with two larger and also international research findings.

1.5 Dissertation Structure

As is the case with most postgraduate research within the social sciences, this dissertation will follow a five-chapter structure: introduction, literature review, methodology, results and discussion. The literature review, chapter two, is organized into five main employability factor categories along with a brief overview of other studies and organizations who evaluate international education and employability outcomes. The research design and methodology is covered in the third chapter with careful attention to the data involved in this study. The results in chapter four are also supported with visual tables and charts to better portray the research findings. In the fifth and final chapter, all the main aspects of the dissertation will be reviewed and compiled into a comprehensive conclusion; this discussion will also include a brief section of recommendations as well as suggestions for further research.

1.6 Definitions

For the purposes of this research and for clarification, the following working definitions of key terminology will be defined and applied:

International education: according to Fraser and Brickman, is “a dynamic concept that involves a journey or movement of people, minds or ideas across political and cultural frontiers.” (Hayden and Thompson, 1995, p. 17) Study abroad: all education programs that take place outside the geographical boundaries of the country of origin (Kitsantas, 2004); these programs vary in exact duration and format among institutions. A modest definition would outline studying abroad as learning through experience abroad. (Stone & Petrick, 2013) International education: any type of experience that is conducted outside the home country and sponsored by an educational institution (Kitsantas, 2004). Employability: the capacity to gain and retain formal employment, or find new employment if necessary (Hogan, Chamorro-Premuzic and Kaiser, 2013); alternatively, employability is the enhanced capacity to secure employment. (Glover, Law and Youngman, 2002) Given the restrictions of the dataset used in this research, employability will be quantified by annual reported income, or in other terms, salary. Finally, there is the commonly cited definition of employability as “an individual's ability to gain initial employment, maintain employment, move between roles within the same organization, obtain new employment if required and (ideally) secure suitable and sufficiently fulfilling work.” (Hillage & Pollard, 1998)

2 Literature Review

Several factors are relevant for any literature review of previous research on or related to graduate employability and its related theoretical frameworks; these factors can be described as theoretical or philosophical, external or discriminating, university efforts, individual, and education abroad as a factor itself. This literature review will also review those studies which specifically evaluate international education and graduate employability. Each of the factors above is established by defining terms and followed by breaking down the relevant subtopics pertinent to this study. This chapter begins with a general overview of graduate employability and identifies key factors. It concludes with an examination of the overlap, or rather connection, between the factors' main concepts.

The term employability used in this paper refers to a unique set of skills, understandings, and personal attributes measured in terms of achievements that give graduates due advantage to gain employment and succeed in their fields of specialization for personal gain, workforce benefit, community sustainability, and progress of the economy. (Thijssen et al. 2008) This definition aligns with Erdogan et al.'s (2020) suggestion that society should not view the term employability simply as a conduit for getting a job, but rather the broader set of skills needed to succeed in the workplace and society in general. Employment may be considered more of a short-term outcome, whereas employability is much more of a long-term strategy, especially as it relates to universities and their graduates. As Higgs et al. noted, "Employability is a blend of situatedness and capability. It involves self-management and metacognitive practices to monitor and develop capabilities to enhance potential for employment acquisition, optimization, changes and satisfaction. Employability transcends occupations and a single career and looks to the future of work" (Higgs et al. 2019).

Universities can be seen as ideal institutions for employability development because of their formal programs, which have been designed and tested to provide their students with the skills needed to compete for various employment opportunities. The employability and competence development process requires a strong sense of innovation and collaboration between educators and industry practitioners (Rowe, & Zegwaard, 2017; Venkatraman et al. 2018). This will eliminate any element of mismatch between the skills gained through training and institutional requirements.

The concept of employability has been associated with the widespread perceptions of employability determined predominantly by employers and governments only. The term remains contested as different stakeholders have varying conceptualizations. Different models

are used in the conceptualization of accountability (Higdon, 2016). The dominant definitions of the concept focus on acquiring skills in undergraduate programs for graduates to become employable. The definition emphasizes universities' role in the development of graduates who can meet employers' needs and expectations. The government and employers perceive job placements, internships, and work experience as critical to employability (Higdon, 2016). Therefore, an employer's definition of the term dominates debates over the correct conceptualization. Students' perceptions of what constitutes employability are rarely considered in discourses where the term is used in higher learning. Many experts define the concept as what a potential employer looks for and desires to find in their potential new hires.

The reliance on employers to determine the meaning of the construct opens up room for biased evaluations. Byrne (2020) acknowledges the difficulty of predicting employers' demands in the industry due to their heterogeneity in selecting candidates for employment opportunities. There are instances in which qualified candidates miss out on opportunities due to their religion and ethnicity. It is difficult for universities to control the ethnic and religious diversities they recruit for their undergraduate and post-graduate programs. Byrne (2020) finds that a black graduate needs work placement experience to be considered employable as their White British candidate who lacks such experience to be considered for a position in some organizations in the United Kingdom. In this case, racial discrimination takes precedent as a candidate's job experiences are not prioritized in employment decisions. Moreover, candidates' preferability decreases upon discovering their religious affiliations when they seek employment in some companies (Byrne, 2020). These factors indicate that a candidate's characteristics and employer's preferences other than a potential employee's qualifications determine perceived employability.

In practice, employability refers to the ability of an individual to obtain and keep employment. Moya Clemente, Ribes Giner, and Sanahuja Vélez (2020) illustrate that employability describes a set of accomplishment, understanding and personal attitudes which ensure that an individual is likely to achieve employment and become successful in the profession they choose. Furthermore, employability describes the features that make an individual attractive for a possible employer. In recent years, there has been a demand for employability enhancement, a topic that is especially relevant at a time when unemployment continues to raise significant concern for policy makers around the globe. For example, Koloba (2017) asserts that there was a need to equip students with better employability skills to help them succeed in the labor market. The sentiments presented by Koloba (2017) indicate that there is still a need to evaluate how individuals obtain employable skills in an attempt to better

understand the issue. Oraison, Konjarski, and Howe (2019) show that employers prioritized skills such as communication and problem-solving skills when selecting candidates for employment. The desire to find employment opportunities after school often forces individuals to make choices about the university they attend. Similarly, the employability outcomes also shape the decisions made by the university. Therefore, the following literature review takes a look at the different philosophical theories, external factors, decisions made by universities and policy makers while also the students themselves that affect the employability of students once they complete their education.

2.1 Theoretical/Philosophical Factors

In exploring relevant factors in the literature on graduate employability, a sensible starting point is theoretical or rather philosophical factors. This section will review the theories discussed in the purpose of higher education; it will explore the concepts and roles that knowledge and power play; and finally, it will delve into the notion of academic capitalism.

2.1.1 Purpose of Higher Education

Within the last couple of decades, higher education has experienced a transformation that challenges the relationships with governments, students, and the labor market. There is no longer clarity over higher education purposes (Barnett 2004; Bergan 2004; McArthur 2011), whether it is about democracy, enlightenment, personhood or economic growth (Barnett 2004). With the massification of higher education and implications on each students' return on investment, one may also argue there has been a shift from a more liberal purpose to one that more closely aligns with a vocational objective. The question then remains if employability is or should be the purpose of higher education.

In keeping with Humboldt's idea of the university, the traditional purpose of higher education was the pursuit of impartial truth through research and teaching. Universities were places that pursued knowledge 'for its own sake' as part of an educational ideal that molded the character and personality of the cultivated man (Tomusk 2007). Higher education envisioned holistic development, academic freedom and *Bildung* (Biesta 2002; Karseth and Solbrekke 2016). The concept of *Bildung* points towards the principle of education as nurturing the human person and their individuality (Biesta 2002). The need for universities to keep a distance from the outside world as society's critical conscience was also a feature of the Humboldtian model (Barnett 2004; Karseth and Solbrekke 2016). However, some claim that the university does not

exist as an 'ivory tower' outside the society, but more along the lines of attributing it to a social purpose. In this sense, higher education should be nurturing democratic citizenship as a solution to deal with the social problems affecting modern societies. (Bergan 2004; Klemencic 2010; Zgaga 2005)

The notion of liberal education, standing for objective knowledge, critical thought and autonomous institutions, is currently being questioned (Barnett 2004). Some may argue that the rise of neoliberalism has contributed to a shift in the purpose of higher education and the way its responsibilities are understood in the present day. Such economic and political interests make higher education, according to Naidoo and Jamieson, a much more diversified environment that embraces an increased number of students, various tasks, a large and diverse community (Naidoo and Jamieson 2005; Speight et al. 2013). These social and cultural challenges, as noted by Karseth and Solbrekke, along with the the need to strengthen competitiveness in a global market impelled higher education to open up and become more responsive to employers' interests and students' needs as lifelong learners (Karseth and Solbrekke 2016). Consequently, the debate over the purposes of higher education has become more prevalent (Karseth 2004).

Correspondingly, also gaining popularity recently is the economic purpose of higher education, among others, in the rhetoric of graduate employability. (Pardo-Garcia and Barac 2020) In a digital environment and an environment where education continues to evolve due to the changing demand of the labor market, universities have been forced to consider processes that could enhance students' employability. Pardo-Garcia and Barac (2020) consider the issue in greater detail indicating that universities are investing in innovative training to help students enhance their creativity, which inherently promotes their employability skills. Universities' evolving approaches to improve graduates' employability capacities are seen in more universities' desire to train students to acquire more skills by introducing entrepreneurship courses in the curriculum.

Tomlinson's (2012) study supports the claim that university education is evolving to meet labor market demands. According to Tomlinson, the discourse around the capability of higher education institutions to prepare students with the required skills to prosper in the workplace has become a dominant theme, especially with the structural changes occurring in higher education created by the status of post-industrial capitalism. (Tomlinson, 2012) One could argue that universities changing their approach could be prompted by the faith demonstrated in governments worldwide, which place more responsibilities on higher educational institutions to meet the growing demand for skills in the labor market that would help such governments

meet new economic imperatives (Tomlinson, 2012). Clarke (2018) takes the same point of view, indicating that pressure from the government and the labor market has forced universities and other higher education institutions to adopt courses meant to equip graduates with generic skills that offer them a chance to prosper in the labor markets. According to Clarke (2018), universities are also including work placement and international study in the curriculum to help enhance the employability of their graduates. Rowe and Zegwaard (2017) support the same point of view, showing that universities are now using work-integrated learning as an effective strategy to improve graduates' employability. Work-integrated learning, as a set part of curriculum and degree requirements, is widely practiced in the U.K., Australia, and in New Zealand.

The introduction of new, curriculum-based enhancements to university education effectively ensures that universities produce work-ready and employable graduates. Rowe and Zegwaard (2017) assert that it is a common trend for the notion of employability to be confused with employment outcomes. Essentially, Rowe and Zegwaard (2017) argue that it is common to confuse a graduate's ability to earn a higher income and the individual's capability to find work after they finally graduate. In practice, these two systems of measurement do not indicate the same thing. An individual's employability capacity does not ensure that they will receive a higher salary in their chosen profession. Sachs et al. (2017) present the challenge of meeting labor market demands, showing that there is a need for improving the employability and work-readiness of university graduates. However, offering skills-acquisition-based programs alone is also not enough; while the knowledge and skills should ideally be acquired during university, so must employers offer their newly hired graduates opportunities to certainly utilize and further develop these skills.

A disparity exists between the demands of the market and the qualification that universities provide students. A challenge then arises in creating graduates who are both employable and can put the skills acquired to good use once they are employed. Succi and Canovi (2020) show that employers often prefer employees with the required soft skills to excel. Graduates from universities often lack transferable soft skills, according to Succi and Canovi (2020), which could point to a need to improve access to these skills in order to improve employability possibilities. Hurrell (2016) asserts that employers have blamed universities for the shortage of soft transferable skills among university graduates. Although Hurrell (2016) indicates that universities' available training does too little to equip graduates with soft skills to excel in the workforce, Succi and Canovi (2020) acknowledge that universities have made changes to help graduates acquire the required skills. However, the dynamic between employers

and higher learning institutions presents a new challenge for approaching the issues caused by this soft skills gap. For example, it is easy to argue that universities should not be blamed, but rather, the blame should be allocated to employers, who have failed to implement the required standards when recruiting graduates for positions in their organizations.

There are several reasons why universities are saddled with the blame for inadequately preparing their students for the job market. First, employability skills remain ill-defined. Griffiths et al. (2018) argue that there is limited feedback on employability skills across the tertiary education landscape, made worse by the fact that this ambiguity is not limited to undergraduate studies, but also exists at the doctoral program level. For example, Griffiths et al. (2018) show weak labor market demands for professional doctorates even though universities have introduced such programs at an increasing rate in recent years. This existing ambiguity exists alongside the emergence of new technologies and the evolution of careers which had traditionally been performed in an established way (for example in the fields of journalism, tourism, library and postal services), creating further uncertainty and expanding existing skill gaps. Studies completed by both Griffiths et al. (2018) and Succi and Canovi (2020) show that this is the source of much of the disparity between the skills emphasized by university programs and those which are increasingly sought on the job market.

An examination of work-integrated learning should offer better insight into the use of the practical learning strategy and its effectiveness. Even though there is limited literature on its use in the U.S., most universities employ certain work-integrated learning elements into their curriculums. Cooper et al. (2010) describe work-integrated learning as an approach to learning through cooperation, simulations, clinical placements and practical sessions. Succi and Canovi (2020) define work-integrated learning in the same way, noting that the approach features experimental and practice-based learning models and activities. Helyer and Lee (2014) show that for many institutions, the adoption of work-integrated learning is an excellent place to start when developing graduates with the required employable skills to flourish in a workforce. The strategy is shown to work well, as reported by Succi and Canovi (2020), who indicate that students can build capacity through practice, and the skills developed through work-integrated learning ensure that the student is self-confident in their ability to perform specific duties in the real-world.

By elevating the importance of employability over merely employment, prospective university students may approach university and program selection differently; thus allowing for students to further develop an understanding of why employability skills are necessary. A

student's university choice would more likely be informed by such programs' availability. Universities with work-placement and good internship programs would be prioritized by students seeking to develop those skills further.

2.1.2 Knowledge and Power

As a concept, employability, as stated by Warnock (2005), can be viewed as a series of knowledge and power relations. Tensions arise between and among educational institutions, government policies, employers and their representatives, students who choose between institutions and courses, and academics who control the content of and methods used in said courses. There is an inherent strain, for example, between university curriculum developers' authority to define what is worth teaching and learning in a given subject and potential employers' authority to define the skills they would like graduates of said educational institutions to have. Thus, one can be presented with access to improved outcomes (employability in terms of level and position of employment as well as with remuneration, referred to in this research as salary) at the expense of limiting how one might achieve them. Education, argued Warnock (2005), is unique because it is purposefully directed towards the future. Though she was writing specifically about school-aged children, employability might indicate some currency in higher education sentiment. The concept of employability could embody some sense of concern for the real achievements of students after they have graduated or more specifically taken part in their commencement ceremony. If so, it remains to be seen whether the means of achieving these goals are sufficient to actually be achieved and as such a significant difference. This signals at a tension between a graduate's perceived success, as asserted by those in positions of power over them, and a graduate's potential to succeed in individually satisfying and fulfilling ways.

Foucault's *Archeology of Knowledge* suggests that student employability is a complex and contested notion; further, Foucault explains that employability is constructed at the intersection of knowledge and power, as opposed to a straightforward, pragmatic judgement of the knowledge, skills, and qualities of a graduate. (Foucault, 1995) This challenges the presumption that student employability is a straightforward concept, viewable as an inevitable educational commodity or as an externally imposed objective of higher education. Instead, Foucault locates graduate employability within a series of power relations that are 'imbued, through and through, with calculation' (Foucault, 1978, p.95), and establishes it firmly within the apparatus of higher education's governance of the non-corporal (Foucault, 1995).

The role of the higher education faculty member presents another type of tension. It is perhaps tempting to portray employability as an external, instrumental, politically influenced economic agenda that is anathema to academic freedom. Parker expresses frustration about her job as an educator having been somehow recast as a quality control exercise, and she wonders why higher education faculty have never responded to the skills agenda by saying “that is not what we do” (Parker, 2003, p.530). Parker’s perspective emphasizes the conflict potential between higher education traditions or ideals and employability efforts. However, this does not represent the only possible set of positions that could be taken; university faculty are not merely either pawned instruments of an economic agenda or independent defenders of higher education’s “real” values. Jameson et al. (2012) identify the potential for a middle ground. They advocate for “academics’ taking possession of the situation” (Jameson et al., 2012, p.34) of an external pressure to suit economic and political demands; taking opportunities to apply critical thinking to practice has the potential to help preserve academic freedom. Further, by charting the web of relations that illustrate the concept of employability, it may be that a wider range of potential positions can be identified, ones which reflect the nuance of employability as a concept rather than a black-and-white limited understanding. (Jameson et al., 2012) This could encourage academics to shape a new discourse on employability, one that preserves and defends what is most cherished about higher education without discounting the economic factors which, to borrow John Dewey’s nearly century-old words, “do not cease to operate because we refuse to note them” (Dewey, 1926, p.156).

Arguably, the most relevant tension in the role of higher education’s relationship to employability arises from the conflict between two concurrent aspects. The first is caring for one’s students; in other words, to enable them to flourish, increase the range of positions, behaviors, modes of thinking, and opportunities available to them, to reduce their dependence and increase their freedom. The counter aspect to caring for students is to control them, to mold them, shape them as graduates according to the imperatives and prerogatives of others. Essentially, this tension is a moral dilemma. At its heart is a duality in the faculty member’s role, both as an expert, exercising authority to validate, or similarly invalidate, specific ways of thinking as well as a guide, helping students navigate a formative journey from one state of being to another. Both roles carry different, potentially contradictory, imperatives: the expert regulates, whereas the guide enables. Freire expresses a similar contradiction, and a hope for its resolution, when he writes: “By denying both the pedagogy of hitting and of permissiveness, let us hope that a new democratic practice will take root, one where authority does not surpass

its limits and drown freedom nor is nullified by hypertrophied freedom. Let us hope instead, that by limiting freedom we will limit authority” (Freire, 1996, p.57).

Employability, situated as part of the transition between higher education and employment, can be useful for exploring this balance or rather strain. Thinking about the knowledge and power relations that enable certain discourses of employability to appear and play out can unravel the complexities underlying this tension. Perhaps, echoing Freire’s words, such a practice may open new grounds for thinking about the work done in higher education. This research does offer the possibility of reframing some pertinent debates regarding the relation of higher education to graduates’ “outcomes” after their studies and the broader economic context.

2.1.3 Academic Capitalism

In American public higher education, the neoliberal market culture is visible in “academic capitalism” (Palmadessa, 2014). As Kauppinen distinguished, “The focus of academic capitalism (as a theory) is not restricted to the commercialization of research but also takes into consideration other aspects of universities (e.g., instruction and administration) and changing relations between universities and their social environments. Academic capitalism is a many-sided framework for developing an understanding also of such a diverse phenomenon as the influence of neoliberalism, new managerialism, and calls for accountability, assessment, and rankings” (Kauppinen, 2013).

Specifically in the United States, as reported by Slaughter and Rhodes, the unfortunate combination of declining state funding for public higher education, along with a few financial crises, created an environment in higher education that was all too conducive to the legitimization of academic capitalism. (Slaughter & Rhodes, 2004) Initially, the theory of academic capitalism primarily focused on the translation of research into products. (Seashore & Anderson, 1998) Mechanisms for technology have expanded to include online education and educational products, branding and sales of university paraphernalia, and the privatization of some university services (for example, food and housing became a hidden form of consumer capitalism). (Slaughter et al. 2004) Thus, some argue that students have become and essentially behave more like customers; in this manner, they expect value for their money, the return on investment scenario, when investing in a university degree, especially considering the extraordinary costs and elevated tuition fees.

Further, this theory offers a way of understanding human behavior and the social processes which best explain the differences in graduates' career path choices. Students require adequate guidance, support and information about their options and choices post-graduation to help them make informed decisions. Academic capitalism, according to Mendoza and Burger (2005), is the response of public universities to "external forces of globalization by maintaining and expanding revenues critical for the organization through market-like behaviors in times when state funding is more and more scarce" (p. 2). Similarly, as seen in the decrease in state funding for public universities, this aligns with education's shift from public to private good.

A further factor in the development of academic capitalism is the impact of international ranking systems, which promise to assess the quality of higher education. These rankings are primarily linked to research and productivity, especially in S.T.E.M.⁷ fields. Thus, according to Ericson (2017), they encourage "the neglect of undergraduate teaching, the arts, humanities, and social sciences, as well as engagement with the surrounding community." (p. 74). Such rankings also frequently influence students, and their parents, in the university selection process. This often leads university administrators to invest substantial resources into elevate their institution's ranking. This is referred to by Erikson as the notion of educational quality as "meeting customers' needs and wants which runs counter to the supposition that higher education faculties know something more about the nature of education than their potential customers" (p. 76). Moreover, this can be problematic since, often, the public does not know what those previously mentioned needs and wants are. Ultimately, universities pursue and prioritize commercial, revenue-generating, and market-driven strategies over the concept of education as a public good, defined as a concern for public welfare in the broader community or society (Couturier, 2005). Rhoades and Slaughter (2004) found that an academic capitalistic university administration leads to short-term market focus and deters institutional priorities from low-income, minority, and underserved populations.

2.2 External and Discriminating Factors

This section covers those obstacles related to employability which are beyond a graduate's control, certainly external but also discriminatory. Admittedly, this list of subthemes is not exhaustive, but does include social mobility and cultural capital, barriers to access (particularly to the labor market and international education opportunities), age discrimination and the gender gap.

⁷ STEM refers to Science, Mathematics, Engineering and Technology education. (White, 2014)

2.2.1 Boudon vs Bourdieu: Social Mobility and Cultural Capital

Raymond Boudon and Pierre Bourdieu, two of the key figures in sociology, have shaped some of the discourse in the behavioral sciences and are known especially for their work on education. While they have dramatically divergent viewpoints, their theories do share some common ground.

Social mobility refers to the shifting of one's social status. The shift in social status may be higher, lower, and inter-generational. Horizontal social mobility occurs when an individual changes his career but remains at the same social status. Vertical mobility refers to the change in occupation by an individual, where they move from one stratum to another, upwards or downwards (Sacchi & Buchmann, 2016). While upward mobility shifts from a lower social stratum to another, downward mobility characterizes the shift in a descending position. Significantly, the social status of individuals in society determines the type of opportunities they encounter.

There is extensive literature exploring Boudon's model of social mobility. For example, Thompson and Simmons (2013) explore Boudon's model of social mobility in relation to post-compulsory education. The model is built on the understanding that increasing access to education does not translate to an expansion in social mobility. According to Thompson and Simmons (2013), the improvement in access to education often does not translate to improved social mobility because class-based inequalities persist and the influence of educational attainment on achieved status remains stable – and in some instances has even diminished for cohorts born in the mid-twentieth century. Though education, particularly, higher education, had become more diverse, education continues to be shaped by factors such as sex, ethnicity, and social class at different degrees across the globe. At high levels of education, class-based inequalities become detrimental to the success of individuals (Thompson & Simmons, 2013).

The effectiveness of Boudon's model of social mobility is also considered by Brown, Reay, and Vincent (2013). According to their research, Boudon illustrates that quantitative methodologies offer an effective way of thinking about the relationship between education and social mobility. The occupational destination is often affected by the educational backgrounds of participants. However, as Brown et al, rightfully point out, one must also keep in mind that educational opportunities do not necessarily translate to better opportunities.

Access to international education opportunities can have an effect on an individual's social status, and it is one of the primary concerns of this research. A 2016 German study indicated that access to such opportunities was socially selective (Netz & Finger, 2016).

Students from more privileged social backgrounds' access to capital improves their access to study-abroad programs, thereby strengthening their chances of acquiring employment in the labor market after graduation. For those students, personal and/or parental funding subsidizes (if not entirely finances) their studies abroad. Moreover, many of those same, privileged students rely on their social, cultural, and political influence in their societies to obtain scholarships which they can use to further finance study abroad.

Furthermore, most of the students from more affluent backgrounds opt for longer stays in their study countries. The prolonged stays after completing their study programs are followed closely by seeking employment opportunities in foreign countries (Wu & Wilkes, 2017). The aspect is, however, further dependent upon their international social networks. The networks are often created by close acquaintances and/or close relatives who have already studied and worked in those countries, or – alternatively - their own financial resources.

On the other hand, students from low-income backgrounds have very few chances of getting access to the study abroad opportunities from their birth countries. These students are often confined by their financial limitations, or rather access to capital, and lack of social capital in networking. The few students that manage to tap these opportunities rely on full scholarships from their educational institutions or other organizations. Upon completing their studies, most of them go back to their countries of birth to seek employment.

According to Bourdieu, cultural capital can be divided into two categories (Foster 2019): the first including mannerism, skills, abilities, and the second revolves around cultural-based resources. Further cultural capital can be exchanged for other factors such as social rewards, inclusion, recognition, and acceptance. As highlighted by Foster (2019), the Bourdieu theory points out that cultural capital is relatively difficult to acquire even through education. For Bourdieu, cultural capital is further linked to two concepts: *habitus* and *field*, whereby the former refers to socially-ingrained values, including dispositions and habits.

Field refers to the production arena and one's competitive positions in the pursuit toward the accumulation, monopolization, and the exchange of different types of capital (Swartz, 1981). From the perspective of cultural capital, university students' employability is largely determined by the location in which they want to get employed (location here refers more to a general sense of workplace and labor environment). Essentially, the takeaway from Bourdieu's cultural capital theory is that employability is likely to increase where certain cultural values are considered essential and decrease in the areas where the values are not seen as essential.

Both Boudon and Bourdieu show more interest in exploring the factors of systems as opposed to the impacts of individual factors. This can be understood as a “systems’ view”; and both argued that, without it, any given factor’s effects can be misunderstood – either magnified or underestimated. (Swartz, 1981) Their emphasis on structure on a macro level has set them apart in their framework for explaining social inequalities. Swartz further notes that “Bourdieu claims that, because of social stratification in education and social segmentation in the labor market, the value of the educational credential varies considerably across the occupational structure. Boudon maintains that, because of a structurally based discrepancy between the supply of educated manpower and labor market demand, educational expansion has produced credential inflation rather than having promoted social and economic equality.” (Swartz, 1981, p. 327) They both maintain that despite the substantial increase in enrollments in higher education, there is an urgent need to reconceptualize the relationship between education and the labor market.

2.2.2 Age Discrimination

Age as a social construct in employability remains in flux. The increased aging of populations, particularly in some European countries, has resulted in a shift of focus toward a reliance on older individuals in the workplace. According to Siivonen and Isopahkala-Bouret, (2016) the aging of the Finnish baby boomers has changed the country’s views toward or attitudes about age. An aging, baby-boomer-dependent workforce has coincided with recent Finnish debates on encouraging lifelong learning as well as delaying the retirement age (Siivonen and Isopahkala-Bouret, 2016). In other words, this Finnish example aims to establish that by disregarding or even removing the “aging” workforce from the labor market, there would be a negative impact on the country’s productivity and ability to compete with other countries in an increasingly interconnected environment.

Formal education in later adulthood⁸ brings with it numerous challenges, some of which have been addressed in other research and the focus of other studies. One such challenge occurs when a large age gap is presented in a learning environment that can often cause discomfort or highlight insecurities during such interactions. This condition may result in reduced learning capability. In addition, the approach results in immense inconvenience for the learners (one could even argue the term student gives a certain age expectation or even connotation), given the fact that there are usually required to divide time between taking part in work and engaging

⁸ Referring to the widely accepted concept of non-traditional students – no longer in their early twenties.

in the learning process (Pozdnyakova & Pozdnyakov, 2017). This tension impedes the optimization of the learners' concentration, subsequently resulting in poor performance, often times both academically and professionally. Further, individuals furthering their education at a later time in life than usually expected does not always or even automatically optimize the employability of the concerned individuals. As it is, employability is often affected by a wide array of additional factors, such religion or race (Pozdnyakova & Pozdnyakov, 2017). In fact, studies suggest that even in the same age cohort, those who completed formal education in their late teens or early 20s hold an advantage over those who did so as adult learners.

Age is a major determiner of employability in contemporary society. As highlighted by Van der Heijden et al., (2009), it is the most virulent determiner of employment because it is rarely acknowledged. Researchers often acknowledge other factors that affect employability, such as race and religion, for which some legal protections have been implemented. This is largely not the case for age-related discrimination. Its low appreciation as a persistent and prevalent problem has resulted in continued age-based discrimination when it comes to employment. Tisch (2015) asserts that older-job seekers tend to have low adaptability to new work conditions compared to younger job seekers, and further argues that, despite vast experience from other areas, this low adaptability undermines older job-seekers' prospects. Besides that, there is often a common perception, or misperception, that older applicants⁹ may be more prone to health-related problems. The other side of that stereotype is that younger applicants are, commonly, less likely to have health related issues requiring longer periods of time off from work. Such preconceived notions often put older applicants at a disadvantage when employers buy in to the bias that their age will correlate with significant absences due to the need to seek medical attention. Further predisposed generalizations against older graduates and likewise job seekers, are that their health conditions could limit rigorous tasks that require the utilization of physical labor. The realization of such issues as such makes the older generations an unlikely group to be considered for employment in general.

2.2.3 Gender Gap¹⁰

As pointed out by Ang, governments, companies, and particularly academic institutions have been challenged to develop policies and programs that not only meet the demands of the

⁹ Often referring to individuals over 50 years of age.

¹⁰ "Gender Gap" here refers to the widely known concept of inequalities and not a stance on gender vs sex identification, orientation, etc. The data in this research refers to sex as the two factors of analysis due to the limitation of the HEI data prior to 2019 confining the terminology to male or female. A further gender analysis could be undertaken with more recent data and gender-inclusive language and approach.

labor market but also improve employability for all citizens (Ang, 2015). Blossfeld et al. continue with, “For much of the twentieth century, women lagged considerably behind men in their educational attainment. But in recent decades women made substantial gains, such that today in most industrialized societies women outperform men on several key educational benchmarks, including the receipt of college degrees.” (Blossfeld et al., 2015) Indeed, the literature, backed by public data and other studies, agrees with this trend; however, it has yet to be established whether women’s academic achievements, and in some cases even overrepresentation in higher education, has been or can be converted into economic gains, whether on the labor market or elsewhere. For the purposes relevant to this research, the concept of gender disparity in the labor market, and specifically initial student employability outcomes, will be described along two dimensions as defined by Blossfeld: vertical inequalities and horizontal differences. Further “causes” of the gender gap which are common in the literature will also be briefly reviewed in this section.

The first dimension of gender differences to investigate are vertical inequalities; these relate to job rewards and positions. (Blossfeld et al., 2015) Such inequalities are at play when, for example, women earn less for equal work. This is what is regularly referred to as the gender wage gap. The gender pay gap refers to the difference between men’s and women’s median earnings. This may be reported either as an earnings ratio or an actual pay gap. (Miller et al., 2018). Fontenot specifically noted that, “In 2017, median annual earnings in the U.S. for women and men working full time and year-round were \$41,977 and \$52,146, respectively” (Fontenot et al., 2018). Further statistics from the U.S. show that women working full time make 82% of what men do. Similar reports showed that the gender pay gap can be found in every age group and continues to expand throughout the course of a woman’s life. Correspondingly, Blossfeld et al. explain that vertical inequality is also evident by the fact that women are less likely to hold leadership positions. (Blossfeld et al., 2015) Despite increasing their educational attainment, and thus their human capital, women remain underrepresented in leadership positions across all sectors of the labor market. Miller et al. reported in 2018 that in the U.S., women make up 75% of jobs in the nonprofit, education and philanthropic sectors, but women hold far less than 75% of leadership positions in these organizations. Looking specifically at higher education leadership, again specifically in the U.S., only around 30% of college presidents and board members are women. (Miller et al., 2018) Faculty statistics are similarly disproportionate; the AAUW reported in 2019 that only 44% of tenure-track faculty and a mere 36% of full professors are women. These numbers are even more disproportionate in the STEM fields: 15% and 14%, respectively.

Horizontal differences provide a second way of interpreting the gender disparity in employability. According to Blossfeld (2015), horizontal differences refer to the fact that men and women concentrate in specific occupations and sectors of the labor market. “Men are highly represented in occupations in the manual and production sector, whereas women work predominately in the service and care-giving occupations.” (Blossfeld et al., 2015, p. 5-6) In the literature, this is sometimes referred to as occupational gender segregation, or the distribution of men and women across occupations. The AAUW’s reported on occupational segregation and found that occupations in which men are overrepresented usually pay better, even when they require the same level of education and skill as an occupation in which women are overrepresented. (Miller et al., 2018) Occupational gender segregation is particularly evident in stereotypically women-dominated professions, such as teaching and nursing. Some of their statistics include more than 2 million women work as teachers in the U.S., outnumbering men roughly 3 to 1; and in nursing, women outnumber men by nearly 8 to 1. (AAUW 2021) In the U.S., “women make up about two-thirds of workers in low-wage jobs (i.e., jobs that pay as low as \$7.50 an hour, the federal minimum wage) though they make up slightly less than half (47%) of the workforce as a whole.” (Miller et al., 2018) While these horizontal differences do not describe or explain the vertical inequalities, they certainly contribute to them and are certainly interrelated.

The literature also notes further “causes” of the gender gap that are relevant to this research and attempt to answer some still unanswered questions on the topic. The responsibility of care is a major contributing factor of the gender gap. Though there have been some recognizable changes in social and familial norms, the primary responsibility of care for children, aging or ill family members continues to fall to women. (ILO, 2020) Miller et al. (2018) and the Institute for Women’s Policy Research report that approximately 43% of women workers in the U.S. had at least one year without an income; this is at least twice the rate of men. The impact of such gaps in earnings are significant; the IWPR found that for women who had only one year away from work, their annual income dropped 39% over women who worked continuously throughout the study’s timeframe (2001-2015). The AAUW coined the term *motherhood penalty* with a similar impact. They define it as “the phenomenon by which women’s pay decreases once they become mothers.” (AAUW, 2021) The U.S. census bureau observed that mothers face a more substantial pay gap than women without children. “Mothers earn only 71 cents for every dollar paid to fathers.” (AAUW 2021, US Census Bureau 2018)

The gender gap widens when other demographics are considered, most notably race and age; hinting at the intersectional nature of the gender gap. Because women have different

experiences and come from different backgrounds, it is challenging if not impossible to calculate a true single gender pay, race, or age gap, respectively. The U.S. census bureau compared the earnings of white men in 2018 to other demographic groups: for each dollar a white man made, Latinas made 55 cents, American Indian or Alaska Native made 57 cents, Native Hawaiian or Other Pacific Islander women made 61, Black women made 63 cents, and Asian women made 87 cents on the dollar. (AAUW 2021, U.S. Census Bureau 2018) It can be assumed that, on average, earnings for both women and men increase with age. The gender gap, specifically the gender pay gap, similarly grows with age. The U.S. bureau of labor statistics even found that the gap is more significant amongst older workers. They found that “On all three components of the ‘three-legged stool’ of retirement security — Social Security, pension and savings — women fall short. As a result, they have 70% of the income that men have during retirement.” (AAUW 2021, U.S. Census Bureau 2018, American Community Survey 2019) Additional demographic factors such as disability status, sexual orientation, and gender identity also intersect with the gender gap and warrant their own respective analysis and reflection.

Women have increased their investment in human capital, but the gender gap persists even for those who have completed a formal education. Other factors, often those arising later in life (like motherhood), play a more significant role than the quality and level of one’s education. Taking human capital theory at face value, there is no reason to anticipate vertical inequality or horizontal differences in labor market outcomes between men and women. Thus, the much-debated question remains: why is this not the case?

2.3 University Efforts as Factors

The previous section discussed factors far outside of an individual graduate’s control. This section will cover university efforts to enhance graduate employability. While career centers are largely applicable for students while enrolled, other factors which affect employability occur either prior to enrollment or after graduation. This section will cover university selection, decision-making theory, placement rates, and job availability.

2.3.1 University Career Centers and Services

Graduate employability continues to motivate many higher education institutions’ desired outcomes, mainly to provide their students a promised return on investment. Small et al. (2018) reiterate that this motivation stems from criticism of universities for failing to meet an

obligation to their students to equip them with employable skills (as determined by the job market). University career centers attempt to bridging the gap between the world of academia and the (global) labor market. This is a challenging task; “with a constantly changing student population and constantly shifting demands from the marketplace, an adaptable, changing career center is imperative” (Severy, 2016, p. 126). Though this research is not attempting to assess or quantify the efforts of such centers and services, a closer look at their development is necessary for understanding the larger issue of university outcomes and employability.

Abelha et al. (2020) indicate that in an effort to mitigate these issues, universities have developed measures such as the consolidation of services at universities to offer career guidance, reinforcing employability through significant curriculum development, facilitating networking activities where students interact with potential employers, and supporting students as they work to develop the required skills such as self-confidence. Furthermore, Abelha et al. (2020) assert that universities encourage students to undertake extracurricular activities, such as volunteering, and include entrepreneurial courses in their programs. International mobility and critical thinking are also encouraged. In essence, the policies described by Abelha et al. (2020) help the institution develop a narrative that they are focused on ensuring the employability of the students once they graduate from the university.

University career and development centers play an essential role in influencing employability outcomes for graduates. While this is principally correct, Chin et al. (2018) argue that there remains little investigation into the effects such centers and services have on influencing students’ employability. According to Chin et al. (2018), most studies on the issue only consider how much such programs are utilized and whether students readily utilize them. While acknowledging the importance of career development centers in shaping student choices, it is essential not to ignore the vital role that other factors such as networking and social development play in shaping research outcomes. Inherently, the decisions a student makes about their career is shaped by different factors. According to Savickas and Porfeli (2012), the decisions made by most students about their careers are shaped by elements such as the social, cultural, the political environment and the models available to them in their everyday life.

Although it is important to note that university career services and respective centers are not at the center of students’ decisions when choosing a career path, it is necessary to highlight that career centers are essential in such processes. Chin et al. (2018) show that career development centers ensured that students could network and interact with potential employers. Savickas (2012) asserts that students’ interactions at career centers shape the trajectories of

most careers. The contextual factors that are experienced together shape the outcomes of the student's entire career trajectory and employability potential (Savickas, 2012). As such, career development centers' importance is, perhaps not surprising, most relevant for those students who actually use their services.

Trends in and demands of the labor market contribute to a university's career services and, necessarily, to students' employability development. Wei et al. (2016) argue that university career services have evolved significantly to adapt to the labor market's changing needs. Part of this process is assessing the student's career readiness. Technological developments such as the social media revolution facilitated the transformation of career centers into dynamic networking hubs that included hiring organizations on campuses (Wei et al. 2016). These arguments indicate that universities have become places for recruiters to engage with students as potential employees. The factors that affected career guidance include political, economic, generational, and cultural norms. Wei et al. (2016) indicate that the 2008 financial crisis affected universities' ability to continue contributing to employable talent development.

Career services have changed with the times, offering services which were meant to meet the challenges of the moment. In the 1900s, burgeoning career services included vocational and educator guidance. Specific features have characterized the evolution of university career services since the 1900s. Some of the features include vocational guidance and educator's guidance in the early 1900s, job placement in the 50s, career counseling in the 70s and 80s, professional networking in the 90s and 2000s, and connected communities in the aftermath of the 2008 financial crisis (Dey & Cruzvergara, 2014).

Vocational guidance and faculty guidance involved professional assistance, which was accorded to potential workers so they could select a career or seek work opportunities based on their skills (Herr, 2013). Frank Parsons was among the most well-known of a series of these experts who guided immigrants in work selection in the United States. This 'expert' played a crucial role in the implementation of vocational guidance in school. The expert believed that book-based instruction was insufficient for preparing learners for the work environment. Parsons was a champion of training students to equip them with practical skills (Herr, 2013). Vocational guidance involved such practices as apprenticeship and internships. They were opportunities for students to acquire practical skills and competencies in specific areas of work.

The post-World War II period was associated with booming economic activity in the United States. The situation increased the demand for graduates and facilitated the transformation of vocational guidance into job placement. The work of Parsons on vocational

guidance provided the framework for the expansion of placement centers in institutions of higher learning (Dey & Cruzvergara, 2014). Universities' placement centers facilitated the matching of graduates' competencies with interests. It was a method of ensuring that candidates for specific jobs had the required skills and competencies. The approach facilitated an boost in the demand for workforce in mining and manufacturing. Career staff were responsible for placing graduating professionals into workplaces and assessing their performance to identify intervention opportunities.

The 1970s and 1980s were associated with a shift in responsibility as the learner became the determining factor in their career direction. Universities expected students to take responsibility for their own career development and job search. On the other hand, recruiters were required to identify candidates with the relevant skills for job openings. Therefore, the career centers established in the previous decades focused on career counseling to prepare students for their job searchers (Dey & Cruzvergara, 2014). The shift in approach was attributable to economic growth plateauing and increased competition for candidates. Therefore, students could not rely on their institutions' opportunities as they were required to be proactive in developing their skills, career planning, and searching for employment.

Continuous increase in competition for candidates on campus facilitated the transition from career counseling to professional network development. The emergence of professional networking facilitated the transformation of career centers into offices that promoted relationships between students and employers (Dey & Cruzvergara, 2014). Technological revolutions, such as the emergence of social media, aided the process of professional networking. The change continued until the formation of so-called connected communities. Connected communities emerged after the 2008 financial crisis as funding for universities decreased and calls for accountability increased significantly (Dey & Cruzvergara, 2014). The situation resulted in the customization of career services to ensure meaningful connections to internships. Therefore, career services are an evolving field that adapts to the business world's changes to best prepare graduates for employment.

2.3.2 University Selection and Decision-Making Theory

Financial, social, and cultural variables, outlined by Salisbury, all play a role in higher education selection; the same are at play when students decide if, when, and where to study abroad. (Salisbury, 2008) During the college or university-selection process Cabrera observed that "parental encouragement, a pivotal force in the emergence of occupational and educational

aspirations, is conditioned by the ability and high school preparation of the child, parental and sibling educational attainment, and access to information about college and costs” (Cabrera, 2000).

It is worth keeping in mind that previous studies on college choice have emphasized parental choice. The literature has also found that student choice in the higher education selection process can be both objective, hence, influenced by university facilities or degree programs, and subjective, concerned with the “social class or visual appearance of students attending the colleges—preserving or enhancing self-image” (Hemsley-Brown, 1999). As reported in a later study by Hemsley-Brown, student “decisions were only partly rational, being also influenced by feelings and emotions” (Hemsley-Brown, 1999).

Decisions made about where to obtain a college education can be agonizing. Tıtan et al. (2015) indicate that the desire to secure employment shaped the decisions made by most individuals about where to attend tertiary education (e.g., universities). Ghansah et al. (2016) agrees, arguing that for most students selecting a university is a daunting task because the students often perceive the decision as shaping the rest of their lives. However, Ghansah et al. (2016) indicate that other factors, such as the marketing efforts put in place by the institution, also have significant bearing on students’ decisions. On the other hand, Piñero et al. (2017) illustrate that the decisions made when choosing a university could be affected by other factors, such as family beliefs, social reputation and salary expectation. The importance of family expectation increased in cases where the family is involved in providing financial aid to the individual (Martin, Simmons, & Yu, 2014). The available literature focuses more on factors such as wage expectations, social beliefs and family influence on the decisions made by any individual on whether to pursue a university education. Consequently, there is a visible gap on the relationship between the influence of employability when picking a university, most specifically in regard to the United States since many of the studies focused on other countries around the world.

Despite the limited literature studying the impact of employability on the decisions made by students on the choice of university, there has been some research done on the subject. For example, Menon et al. (2012) asserts that many universities are expected to make decisions that help to enhance the employability of graduates. As a result, Menon et al. (2012) argue two things: first, the economic situation of the (potential) applicant can affect where they apply; and second, for those with less financial security, they are more likely to place an emphasis on employability during the selection process. A similar point is shared by Wu (2011), who

indicates that the ability to secure employment after completing education at a given institution greatly influences students' decisions. O'Connell (2011) agrees, arguing that students behave like any other customers expecting value for money when they invest in a university degree. The current situation in higher education could be examined based on the neoclassical theory, which may suggest competition effects the decisions made by students. A neoclassical interpretation of O'Connell's findings suggests that (potential) applicants' desire to be well-positioned on the job market after their studies influences their college/university selection.

Part of the student choice process for higher education certainly includes and can be influenced by the selection of a major, or field of interest for their studies. The available literature on student decisions, when selecting a major at a university, is extensive. Shahid, Shafique, and Bodla (2012) illustrate that word of mouth plays an important role in helping a student make a decision about the choice of university. Personal choices also greatly affect the decisions made by the individual. Ilgan et al. (2018) show that major selection is also influenced by perceptions about post-degree career opportunities and expectations. Moreover, the institution's quality and popularity – if not cache – further influence student perceptions. İlgan et al. (2018) support the assertion made by Shahid, Shafique, and Bodla (2012). Together, the two studies' findings outline the primary decision-making processes influences. For example, İlgan et al. (2018) argues that the impression of the quality of education offered by the institution affects the decisions made by an individual when choosing a university. The information about quality is often shared through word of mouth between people in a community. Therefore, a potential student is likely to choose an institution based on the perceived quality as informed through word of mouth.

Employability features significantly in decisions made by graduates due to the belief that education defines how much a student achieves. Ciriaci and Muscio (2014) show that the probability of securing employment after graduation determines the major an individual chooses. However, employability is not the only reason why individuals choose a major or the university they attend. For example, the affordability of the university program plays an important role in determining whether an individual chooses the university. Consequently, we often observe universities, and the government, developing programs that promote greater access to education to even more students through programs providing financial aid and support.

Finding employment upon degree completion is dependent on several factors. Ciriaci and Muscio (2014) showed that there is a strong link between gaining employment after graduation

and individual factors such as sex, marital status, and whether an individual has children. However, Ciriaci and Muscio (2014) argue that there has been little consensus on whether university choice influenced employability outcomes. Taking this into account, it is difficult to measure whether the quality of a university affects the employability rating or success of the respective graduates. Ciriaci and Muscio further note that the challenges of trying to quantify the influence that a university choice has on employability is hampered by the limited availability of data to explore the issue further, which means matching employment outcomes and university choice has been difficult. (2014) There has been some evidence to suggest that perceived excellence in institutions often leads to an improvement in the economic situation in the respective field of that given area. Better employability outcomes often accompany features such as technology transfer offices and innovative companies. An often-accepted assumption is that “good universities” are a magnet for quality graduates. This could have a significant effect on the labor market for those individuals who come out of these universities.

The educational decision-making theory is a theory that touches on the aspect of student development in various ways. First, the theory asserts that the pursuit of education in higher learning institutions located in other countries is fundamentally an individual's choice (Tolsgaad & Ringsted, 2017). The decision, however, is tied to various elements. For instance, the individual asserts their capabilities to pursue their studies as well as their career interests. Another significant aspect that is determined under the educational decision-making theory is the policies embraced in a given state's education. While making such decisions, policymakers assess various elements. First, decision-makers assess the available feasible options (Keshmiri & Tavakoli, 2020). Critical elements determined during such assessments include the ability of the option to enhance the development of the students and the overall education system in the country. Students making decision particularly related to university selection may often be based on perceived later success, recognized as employability.

2.3.3 Placement Rates and Job Availability

Often, employability looks different in different places; recent graduates' skills, after all, must meet the needs of the job market. Supporting students in order to guarantee that they are employable upon graduating only works if the individual is able to find employment and meet the needs of the market. With the high level of unemployment around the globe, it becomes necessary to question how employability is determined. Nortjé (2018) shows that there is a scarcity in the availability of graduate jobs in some countries, such as South Africa, demonstrated by the amount of time a graduate spends trying to find work. Available

opportunities in such cases often come from the informal sector in developing countries. Lupeja & Gubo (2017) assert that graduates faced different challenges when they return home after completing a degree abroad only to find limited opportunities, and this often forced them to work in the informal sector. This phenomenon is an issue that affects graduates in developed nations along with graduates in the developing world alike. Mok and Qian (2018) illustrate an occurrence of skill mismatches in the informal sector in China, where graduates are forced to work in the informal sector due to the few opportunities available to them in their areas of training. Messiah and Olofin (2017) show that the issue is severe in Nigeria where a large number of graduates are released by universities to the labor market each year with very few opportunities available. The situation worsens with larger economic impacts, like recessions, and further when companies are experiencing significant layoffs and general. Universities play an important role in making sure that students are equipped to handle situations in the job market, which unfortunately is often not the case.

The amount of time it takes graduates to find work after completing their degree or formal education is determined by what the National Association of Colleges and Employers (NACE) refers to as their career readiness. The duration an individual takes before setting out to join the workforce is determined by their or her career readiness. The National Association of Colleges and Employers (NACE) defines career readiness as “a foundation from which to demonstrate requisite core competencies that broadly prepare the college educated for success in the workplace and lifelong career management.” (NACE, 2021) For new college graduates, this is the foundation for a successful career and ensures a positive entrance into the labor market. University graduates should be prepared for at least the initial responsibilities of positions aligned with their studies. How soon a person gets a job after graduation greatly affects their ability to improve their adaptive capabilities. According to Bridgstock and Jackson (2019), new graduates get into the job market for the value obtained by selling their human and intellectual effort as well as for intangible rewards like to learn and advance their creativity. In other words, new graduates’ motivation to work is because they find it interesting and because of the perceived prestige. Essentially for the recent graduate, it is an opportunity for growth and to employ the skills and knowledge gained throughout the course of their education and training.

According to Bennett (2019), found throughout their studies that there is a skill gap between the competencies developed in institutions of higher learning and the skill-set required in the job market. This may have happened due to the lack of alignment between the needs and expectations of the potential employers and university curriculum developers. This does not negate the need for developing graduates who are adaptable to the ever-shifting work

environment, since such critical professionals are the solution to advances in technology. Many education systems, especially in developing countries, provide irrelevant skills that prepare graduates for white collar jobs even when the governments have not put in place measures to absorb the new graduates.

With fewer institutions where recent graduates can gain experience by participating in on-the-job training, employers end-up with individuals who are ill-prepared to achieve performance targets specified by managers. This may deny graduates an opportunity to develop soft-skills that could give them the advantage to succeed in the places of work where solid background information is needed for employees to perform well. This, therefore, implies that the employment of the graduates depends on the kinds of skills which they acquire at the university. The universities should do everything possible to impart the learners with relevant skills which can enable them to serve employers well. Practical and theoretical skills should be given as appropriate. Otherwise, the university education might have no value because the graduates' competencies might not match the threshold of the employers.

Many positions require employees with the ability to define problems, search for and obtain relevant problem-solving information, and make a decision on the best course of action (Pigden, & Moore, 2018; Rad, Parsa, & Rajabi, 2020). Only universities that prepare graduates with cognitive requirements necessary for peculiar problem-solving ability are producing individuals improved employability. Indeed, rational employers admire experts in leadership positions who can help them solve today's problems while thinking about how to make the organization better in the future. Therefore, universities should mold students who are motivated to exhibit their proactive career behaviors rather than flower their academic credentials without leading the world in finding solutions to common problems. Such graduates will be equipped with leadership skills needed to successfully mentor and coordinate others hence enhancing their employability in case new vacancies are created with higher ranks.

Graduate employability outcomes have drawn a lot of interest from both policymakers and individual students as a result of the ever-growing financial and time cost of a university education. Education systems are trying to formulate curricula that prepare learners for the job market, bearing in mind the number of graduates entering the job market and the dynamic nature of the contemporary workplace (NACE, 2015). One objective in curriculum development in designing programs is to ensure added value to students hence enhancing their ability to perform well on any and all forms of assessment. According to Deller (2018), several assessments of employment and career outcomes have been conducted by professionals and institutions at

different levels and for different motives. The core reasons for conducting these kinds of assessments include the provision of direction, to foster consistency, and to inculcate the culture of good practices in institutions. These efforts are perhaps best understood when one views a U.S. college degree as a private good

Although a common approach for understanding employability has been to evaluate it in terms of how it relates to the labor markets, studies on the issue could consider factors such as decisions made by the students themselves. D'Silva and Pugh (2020) approach employability from this perspective. Nevertheless, they acknowledge the important role played by employment in shaping the social, economic and political agenda in most nations. The aspiration to create and foster a knowledgeable community, in other words society, has been on the rise recently, as one might argue as evident when observing the increase of graduates from higher education institutions. Increasing access to education means that there is a higher strain on resources, both for the individuals undertaking the academic advancement but also for the institutions and even government aid supporting all aspects of life to pursue an education. As a result of more individuals across the globe acquiring a degree, there is an upsurge in competition for employment. Put simply, more people with degrees means more competition on the job market. The employability agenda in higher education tries to ensure graduates can improve their odds of successfully gaining employment in the labor market. Nevertheless, this has caused a significant amount of pressure to be placed on students to socialize, participate in co-curricular and extra-curricular activities, and gain work experience; all while harboring the notion that their degrees will give them a leg up when securing a job. Such expectations can often be overwhelming and counterproductive. All these decisions are made by graduates to improve their ability to secure employment after completing their education. Human capital theory offers significant insight into the behavior of the students in this context, and universities may find its perspective useful when nurturing the burgeoning employability of their students or recent graduates. Human capital theory offers an understanding of human behavior and social processes, which best explain the differences in choices made by students and also graduates as they select their career path and develop their professional plans. Students need adequate guidance, options and choices to help them make informed decisions.

2.4 Individual Factors

Human resource professionals cite several recurring factors concerning the hiring of recent graduates: knowledge, skills, and competencies. These components can be linked to individual factors of student development, interculturalism and experiential learning outcomes.

2.4.1 Student Development

The student development theory literature to be covered here will include cognitive complexity, moral development, and study abroad as it relates to both. A significant amount of literature considers university and college education as an effective way of understanding changes within society, with particular focus on sociological aspects. As a result, student development theories offer a good place to start when examining changes that occur in society (Jones & Stewart, 2016; Abes, 2016). Often there is a focus on the ways in which the holistic development of the student is supported; this is widely accepted as the most important way for recent graduates to contribute to their respective communities and society as a whole. However, the desire to develop students with a holistic approach is the knowledge that is consistent with early literature on the development of students. The evolution of the field has seen the emergence of a new way of thinking about student development, especially with formal theories of student development emerging in the middle of the twentieth century (Jones & Stewart, 2016; Abes, 2016).

An examination of the theories related to student development often focuses on issues such as cognitive complexity. College years are seen by most as a fundamental component in the development of the student's cognitive complexity. As noted by Jones and Stewart, a university education is seen as an important step towards the progression of the student's ability from a simplistic point of view to a dualistic point of view (Jones & Stewart, 2016; Abes, 2016).

Moral development is also an important component of college education. College and university education is expected to help students transform themselves from a pre-convention approach to morality, where there is a limited understanding of the societal norms regarding morality, to well-rounded and informed concept with the ability to follow what would be considered an acceptable moral compass (Jones & Stewart, 2016; Abes, 2016). At the initial and most basic level, the actions of the individual students often focus to a large extent on the individual impact of actions the student took. As the morality of the student develops further, to conventional morality, then the student adopts better judgment and respect of authority and the status quo. The student then evolves their point of view as their morality changes to post-conventional morality where the judgment and opinions of the individual are shaped by the ability to transcend the social norms and better understand complex situations (Jones & Stewart, 2016; Abes, 2016).

Studies suggest that study abroad aids student development in a variety of ways. First, those who've studied abroad are more likely to be extroverted or exhibit agreeableness.

Secondly, intercultural interactions, from which are born friendships, drives curiosity about others' cultures and backgrounds (Tran & Pham, 2016). International students, for example, tend to be more sociable, assertive, and amiable with their colleagues (and others). These character traits are foundational for success in organized business settings; extraversion, in a workplace setting, could help land an organization's next contract, for example, and thus a trait human resource professionals potentially seek in perspective candidates.

Study abroad programs, as described by Niehoff and Freund, not only expose students to new environments, but, with time, also the extent to which students experience the world as distressing decreases (Niehoff & Freund, 2017), enhancing the students' ability to work in different environments, irrespective of the stress and tensions involved. Niehoff and Freund further note that students with increased levels of extraversion are more likely to contribute meaningfully at their future places of employment. Furthermore, studying abroad often increases the levels of the students' conscientiousness when interacting with other individuals, frequently referred to as cultural awareness or even empathy. Studying abroad is often attributed with this particular skill development and frequently also sought after by human resource managers in their newly hired employees because of the perceived ability to endorse a positive working atmosphere along with positive teamwork among colleagues. (Niehoff & Freund, 2017)

2.4.2 Interculturalism and Globalization

Interculturalism and globalization are some of the major determiners impacting the employability of university students. According to Hildebrand (2016), the emergence of globalization, for instance, has significantly widened the opportunities which can be accessed by university graduates. Today, employment opportunities are less likely to be restricted by geography. As shown by Huang and Turner (2018), globalization has also resulted in an increased variety of jobs that university students can perform. Logically, the international market provides a variety of jobs available for university students. This is especially true as employment becomes less geographically-bound, some countries have even come to ostensibly rely on this influx of workers from abroad. (Huang and Turner, 2018). In essence, the availability of cheap labor from different parts of the world offers some countries opportunities to bridge gaps and ensure continued productivity. On the other hand, increased globalization has heightened competition for available job opportunities (Coulibaly, Erbao & Mekongcho, 2018). For instance, the presence of different employment regulations has resulted in the transfer of jobs to countries with low minimum wages. Noticeably, countries such as China and

India have been the recipients of outsourcing, which has boosted employability levels for their graduates (Coulibaly et al. 2018). On the other hand, Coulibaly et al. stated that countries with observed high minimum wages, most notably in many western countries, have ended up losing job opportunities for their recent graduates. (Coulibaly et al. 2018)

Similar to globalization, interculturalism has developed the interaction between people across the world. In particular, the increased interculturalism has resulted in smoother interactions between people and, subsequently, enriches university students' respective experiences and skills (López-Rocha, 2020). Understanding the distinct different needs of the respective communities makes it feasible for recent graduates to produce and provide services and products that meet the unique needs of their corresponding countries. According to López-Rocha, (2020), the recent movement of people from different parts of the world could be attributed, at least in part, to the development and expansion of transportation possibilities as well as the integration of global economies (also in reference to super-governmental organizations like the United Nations or European Union). Given recent developments in technology and governments' continued integration, it is expected that global communities may witness a more positive and inclusive integration. This condition as such makes it imperative that students have to develop intercultural capabilities in preparation for the changing environment. As highlighted above, the development of such competencies makes it possible for the students to enhance their employability in a work environment where cultural sensitivity is becoming essential (López-Rocha, 2020). Ostensibly, employers will be on the lookout for students who have a substantial understanding of different cultures since employers will likely seek recent graduates who have already flexed their intercultural muscles, as they would view them as more likely to excel with the employer's external stakeholders. It is also worth noting that businesses today are more focused on meeting consumer needs. According to Lee, Guchait, and Madera, (2020), increased competition has resulted in an enhanced focus on customers' individual needs. Subsequently, the recruitment and hiring of employees with intercultural competency skills serves to improve a company's competitiveness and attractiveness for recent graduates.

2.4.3 Experiential Learning

Experiential learning denotes a form of learning where students learn through action. According to John Dewey, the learning process can be optimized through this hands-on approach. In essence, Dewey held the perspective that pragmatism allows students to interact with their learning materials and subsequently enhancing the ability to recall the learning

content. According to Coker, Heiser, Taylor, and Book, (2017), the use of experiential learning has been associated with the enhanced depth and breadth of the learning context. In essence, the use of this approach has been associated with an enhanced understanding of teaching materials. According to Coker, Heiser, Taylor, and Book, (2017) recent studies have also revealed that the duration of the experiential learning is directly proportional to the experience acquired by the students. Markedly, an extended internship, for instance, was found to result in advanced cultural awareness of the local communities, the development of global perspectives, as well as the expansion of linguistic capabilities (going beyond second or third language acquisition by also including refinements in one's mother tongue) (Coker, Heiser, Taylor and Book, 2017). The combination of these factors has therefore contributed towards preparing the students' career readiness necessary in handling professional obligations. Consequently, success associated with the use of experiential learning has resulted in various institutions adopting the approach. As shown by Coker, Heiser, Taylor, and Book, (2017) up to 98% of institutions have embraced the use of internships as a means of optimizing the learning process. The high adoption of experiential learning, in this case, has resulted in improved skill acquisition for the students.

As highlighted above, experiential learning has been linked to an increased acquisition of skills and the necessary experience for handling workplace requirements. In this regard, therefore, experiential learning is linked with increased employability (Watson, & Barton, 2020). This statement can be upheld by studies that show that the use of internships, for example, allow students to work with people in the office and, consequently, develop networking skills that their professional lives and employability options will benefit from. As it is, finding a job tends to remain a challenge, especially for new graduates. Through the development of professional networks and by honing networking skills such challenges can be overcome. As highlighted by Dipitso, (2020) having a well-developed network significantly reduces the time it takes for graduates to become employed. Additionally, internships allow students to directly interact with people in their professions and subsequently improve their professional awareness (Watson, & Barton, 2020). In particular, such a process is associated with improved professional decision-making since the students can observe how the knowledge they acquired is implemented at the workplace (Watson, & Barton, 2020). Internships also allow the students to acquire the necessary experience for the implementation of their jobs. For many students, during the application process they discover that employers are looking for applicants to already have professional experience. Experiential learning opportunities support students in meeting such prerequisites set by employers in their recruitment processes.

Experiential learning through studying abroad provides a significant impact on students' employability, largely due to the conditions provided (Watson, & Barton, 2020). In particular, studying abroad exposes the students to new cultures and aspects which significantly results in the development in worldview as well as the acquisition of vital cultural awareness (Watson, & Barton, 2020). Subsequently, such experience works towards enhancing the students' employability in the contemporary environment where cultures have become increasingly integrated.

Experiential learning has been linked to enhanced knowledge acquisition because it requires interaction among people in a work environment. Markedly, experiential learning has an immense impact on employability since the students become more reactive and aware of the business environment's needs.

2.5 Education Abroad as a Factor

The next important aspect to be reviewed in the literature explores the dimension of the research in the field of study abroad, with particular attention to student mobility. It will touch upon the push and pull theory, along with the impact of political influence. The last segment of this section will outline benefits of education abroad as characterized by mainstream research.

2.5.1 Student Mobility

The number of globally mobile students continues to increase. For example, Choudaha (2017) showed that between 2000 and 2013, international students reached 4 million; the IIE 2020 OpenDoors report showed that over 347,000 U.S. students studied abroad in 2019, which was an increase of 1.6% from the previous year. The mobility of international students has been shaped by different factors, such as the September 11 terrorist attacks and the 2007/2008 financial recession. Student mobility can be considered in terms of different waves. Choudaha further noted that the first wave existed between 1999 and 2006, with the emergence of information technology playing an important role in shaping student movement. The second wave of student mobility existed between 2006 and 2013. Then, student mobility was shaped by higher education institutions' desire to raise revenue, having been severely affected by the 2007/2008 financial crisis and its aftermath (Choudaha, 2017). Institutions had to contend with a few problems during this period. For example, most institutions could not cope with the challenges presented by the diverse needs of international students; specifically, the path to employment after holding a student visa or simply the financial means an institution requires to

serve and host international students. The third wave of international student mobility, from 2013-2020, was shaped by issues such as the deceleration of the number of Chinese students moving abroad in search of education. While many researchers began to focus on what the outcomes of Brexit would be, the world was taken back with the COVID-19¹¹ pandemic which, among other things, halted mobility and continues to pose challenges and changes to international education.

The search for employability skills is the primary driver for most students to move abroad. Jones (2016) notes that complaints from employers that graduates lack employability skills prompted more students to move abroad after it was speculated that learning abroad offered a bigger opportunity for a student to develop the soft skills required by the job market. Altbach (2004) considers the trend of the globalization of higher education and how this has shaped the movement of students across the globe in search of university education. According to Altbach (2004), the movement of students is often influenced by issues that exist beyond the university itself. For instance, Altbach (2004) argues that global trends have shaped how students and universities have approached education. In the past, Latin was used in scholarship and research; the trend changed to German and later to English. The impact of international trends in shaping the approach to education, as in this case with student mobility, beckons for further examination.

Many experts speculate that student mobility is expected to increase over the next decade. Torricelli (2012) shows that in 2004, the number of students studying abroad was 2.1 million. The number is expected to rise to 7.2 million by 2025. An examination of the current trends demonstrates a few distinctive trends. First, there is a high number of female identifying students studying abroad. Second, the number of white students studying abroad is also relatively high (Torricelli, 2012). Choudaha and Chang (2012) consider trends in student mobility. They highlight that the U.S., Canada, and the U.K. witnessed a substantial increase in the enrollment of international students between 2002 and 2009. During that period, Canada recorded a significant rise in international student enrollment, and the U.K. recorded the next highest number of enrollments, followed by Australia. The U.S. recorded the lowest growth in enrollments between 2002 and 2009. However, Choudaha and Chang (2012) demonstrate that the U.S. remained the leading destination for international students. Verbik and Lasanowski (2007) examined student mobility and reports that seventy percent of students who moved

¹¹ The data used in this research was collected prior to the global COVID-19 pandemic. The impact of the pandemic on both international education and employability would be a fascinating topic to research further, however, for the purposes of this research it will not be covered.

abroad to study were enrolled in universities in OECD countries, such as the U.S., U.K., Germany, Australia, and Germany. Nonetheless, Verbik and Lasanowski (2007) anticipate a change in the trend. The number of students expected to enroll in these countries was expected to change as the focus of most students shifted to other destinations. “New destinations”, as Choudaha refers to them, such as the Middle East and Asia were expected to offer competition to established destinations such as the OECD countries. Choudaha and de Wit (2014) show that changes in student mobility are prompted by different factors, such as economic actors, political factors, and social factors. The factors are either pull or push factors. Revenue earning and skill migration are examples of economic factors that shape student mobility. Capacity building is an example of an educational factor that shapes student mobility trends.

Student mobility is often influenced by the pursuit of social and cultural capital Beech (2018) asserts that students often believe that the social and cultural capital created through studying abroad will transform into economic capital when they finally enter the global market. According to Beech (2018), students still prefer to study abroad regardless of improvements at their local universities, because studying abroad transforms their values, which may forge the belief that they are better than their local graduate counterparts. Brooks (2018) shows that the dream of studying abroad is not a goal that is limited to the student. Higher education institutions and governments have similar goals too, as they look to attract students to their universities for economic reasons. Governments and institutions create campaigns and initiatives aimed at attracting more students to their institutions (Brooks, 2018).

2.5.2 Political Influence

Bartram (2018) demonstrates that political factors often play a significant role in influencing decisions made to participate in international education opportunities. Political factors are at the heart of many decisions, like the ability to access employment once students have completed their studies abroad. Amuedo-Dorantes and Furtado (2017) show that a yearly cap on H-1B visas¹² made it difficult for college employed students from abroad to access work in the U.S., thus H-1B visas were established in 1990 as part of the Immigration and Nationality Act. They allow U.S. employers to temporarily offer foreign-born workers in specialty, high-skilled occupations the ability to work in the U.S. According to the Department of Labor, the number of visas available was initially 65,000. However, that would later be increased to

¹² The H-1B visas are from a U.S. program that allows companies and other employers to temporarily employ foreign workers in occupations that require specialized knowledge with a bachelor's degree or higher in the respective specialty. (U.S. Department of Labor)

115,000 in 1999 and 2000. The numbers would increase further to 195,000 between 2001 and 2003. However, when the mandate expired the numbers reverted to 65,000. Over time, there has been a change in the number of employers who have been exempted from the cap, such as non-profit entities affiliated with higher education and higher education institutions themselves (Amuedo-Dorantes & Furtado, 2017).

Bartram examined the impact of Brexit and the policies implemented during the Trump presidency. Although Bartram (2018) acknowledges that international students have had to contend with different challenges caused by hostile environments abroad, the Brexit vote and the political ideology adopted by Donald Trump marked a significant political shift, with negative consequences for international students. Mathies and Weimer (2018) acknowledge that the current dynamic presents international students with a new set of challenges. These sentiments are in line with the argument presented by Bartram (2018), who acknowledges that students have had to contend with threats of violence. Rose-Redwood (2017) also share the same views, indicating that the U.S., a country with the largest share of international students, is still recovering from the Trump administration and respective policies often feeling unwelcoming for many international students.

Laws and Ammigan (2020) examined the differences in the admission of an international student in the U.S. during the Trump era. The data collected by the IIE showed that in 2016, there was a reduction in international students for the first time since 2005. According to Laws and Ammigan (2020), the study shows that even though other factors, such as a decrease in sponsorship opportunities, have affected the intake of international students, the political climate served as the primary discourager of student mobility. Immigration policies put in place by the U.S. have been blamed for the changes in intake for the past few years while Trump was in office. Laws and Ammigan (2020) show that after the election in 2016, universities around the U.S. began to create messages showing that they still welcomed international students to their institutions. The efforts of the universities came as a reaction to the “America First” ideology promoted by Trump. Pottie-Sherman (2018) illustrates that the changes in immigration policies presents new challenges for international students as they must contend with an ideology that seeks to promote the employment of native-born Americans over immigrants. Olson and Banjong (2016) pointed out that some of the international students who study in the U.S. do in fact remain there after their studies, where they are able to find work and possibly pursue acquiring U.S. citizenship. However, Olson and Banjong (2016) show that despite the advantages, this often affects Americans negatively in that it limits their opportunities for employment or scholarship. Nonetheless, the number of immigrant students

is relatively small, and it would be a stretch to say that these students limit the opportunities for American students to a large extent. Once more time has passed, the changes and outcomes of the Biden administration and their respective policies will have to be evaluated, although the general trend and position is supportive of international students coming to the U.S. as well as supporting American students and their desires to go abroad.

There is a broad view that international experience is critical to professional achievement in numerous fields, like Naffziger et al. note. In an increasingly globalized world, specialists see education abroad as a significant factor for professional success, particularly in the business sector, and fundamental for global citizenship. President of the Institute of International Education, Allen Goodman, stated that "Numerous U.S. schools currently incorporate worldwide training as a feature of their center instructive mission, perceiving that expanding the worldwide ability among the cutting edge is a public need and a scholarly obligation" (Naffziger et al, 2008). Studying abroad during one's university years is a method to increase open-mindedness along with various points of views on how our undeniably globalized planet functions. Study abroad prompts expanded social mindfulness and affectability (often generalized under the term global citizenship), a greater comprehension of one's own part and country's party on the planet, and an increased agreement that though it is complex, commonalities amongst people exist all over the world.

2.5.3 Benefits

The benefits associated with study abroad can be studied from two vantage points: the individual, that is the student who has studied abroad, and the macro, which is to say the national or international perspective. For the most part, the benefits of studying abroad are often analyzed based on how much they would affect the life of the student who chooses to study abroad (Farmer, 2017). Since most studies that examine such factors only consider the impact of the experience gained and how much the experience would ensure the student can compete effectively on the global front, this may be a fitting approach for evaluating the effects of studying abroad,. Furthermore, most analysis of the impact of studying abroad on the wellbeing of the individual is approached based on how much such studies contribute to the students identifying as global citizens. (Farmer, 2017).

Existing literature suggests that study abroad plays an important role in ensuring the student has more opportunities to gain employment once they are out of school. Students who have experience studying abroad have a better understanding of different cultures and practices.

Students who study abroad have been shown to enjoy higher levels of study completion rates and better grade point averages. As Farmer points out, these students also have a better grasp on the complexity of global problems, which is often attributed to the fact that they are better prepared to work with people from different cultures and backgrounds. (Farmer, 2017)

As globalization has created opportunities for jobseekers abroad, companies have come to value applicants who arrive equipped with a set of intercultural competencies, whether that be proficiency in a second or third language or a familiarity with a culture other than their own. (Farmer, 2017). A survey of business managers has found that, when staffing a position, more than half of firms prefer a candidate with a global perspective. This inclination is guided by the belief that the overall performance of a business would improve if more of their staff had international expertise, possibly from studying abroad. Accordingly, universities strive to create such opportunities for their students, either by crafting or identifying study abroad opportunities for their students. For Farmer, this means students which are most likely to wield entrepreneurial and leadership skills in international settings. (Farmer, 2017).

On a macro scale, countries as a whole also benefit from both outgoing and incoming study abroad transactions. For the host country, incoming students help universities gain revenue, which is important, especially due to tax cut-related budget shortfalls, which affect public institutions. Incoming study abroad students are also exposed to the host country's predominant political and economic ideologies, a form of soft power diplomacy. Thirdly, the country benefits from students' knowledge of foreign cultures and languages they acquire when living abroad. The students gain a considerable understanding of the similarities between the cultures of their nation and the host country (Farmer, 2017). Through the interactions, students can often learn to identify and ideally respect cultural differences. As such, the relationships that are formed by the interactions of people from different nations as part of international education foster goodwill that often develop into, equally useful partnerships among states. In essence, this suggests that studying abroad is an effective public diplomacy tool. The effectiveness of this method is that it allows people from different circumstances to develop a better understanding of varying cultural perspectives and values of different countries and nationalities. Countries also benefit by expanding their markets. For instance, emerging markets, such as China, continue to send students to the U.S. and other regions to study; with the knowledge they gain, students – ideally – apply what they have learned abroad once they have returned home. This is clearly beneficial to the individual students but also in general for the overall labor market and global economy. (Farmer, 2017).

Farrugia and Sanger (2017) also approach study abroad as it relates to employability. In their study, they look specifically at skill development while abroad. According to Farrugia and Sanger's analysis, those who study abroad make considerable gains in all areas of their studies and lives in general. For instance, studying abroad was seen by most students as an important component in the development of their skills, beyond their traditional academic setting, like, for example, the ability to adapt quickly and accordingly along with flexibility. Furthermore, it was also important in the development of self-awareness to a large degree. Although the apparent benefits of studying abroad could be easily identified, Farrugia and Sanger (2017) show that most employers did not ask interviewees whether they had studied abroad. It was the duty of the student to bring up the issue. It was common for questions regarding studying abroad to come up only when the parties interviewing the candidate were interested in the student's former host country. A common interview question topic related to skills the student had gained while abroad and why they decided to make such a decision when choosing a school to obtain their degree from. Furthermore, Farrugia and Sanger (2017) show that the length of stay abroad had a significant impact on how the employer perceived the chances of the employee being hired and successful in the respective position. Students who studied abroad for a longer period of time, as noted again by Farrugia and Sanger, had better success with employability post-graduation as employers were more likely to be impressed by longer durations of time abroad because it possibly meant the student had attained more of the previously mentioned skills one can acquire from studying abroad.

In a similar study, Goldblatt (2019) considered the impact of studying abroad on early career outcomes. The results of the study are inconsistent with those of Farrugia and Sanger (2017). For example, Goldblatt (2019) showed that studying abroad had some negative effects on some students' early career outcomes, and this is not a point of view that is shared by Farrugia and Sanger (2017). According to Farrugia and Sanger (2017), students reported that studying abroad had been essential in ensuring that they landed a job. In their work Farrugia and Sanger (2017) report that a student who could not find interviews before traveling abroad to study had more luck once they had done so. Nevertheless, Goldblatt (2019) argues that the qualitative impact of studying abroad could not be captured by the quantitative data collected.

Mason (2019) considers changes longer-duration program trends. The research considers how much students from elite universities preferred to study abroad in Japan. Masson (2019) showed that there was an increase in enrollment in short-term programs rather than a long-term program. According to the Masson 2019 study, there was an increase of approximately 45% of students studying abroad, but most of them had enrolled in short-term programs. Mid-length

programs reduced from 41% to 36.6% while long-term programs reduced from 5.3% to 2.4% (Mason, 2019).

2.6 Other studies exploring education abroad and employability outcomes

This section will briefly cover key elements of both the EU's Erasmus program along with research conducted by the IIE. Both of these studies will later be compared to the results from the HEI study conducted for this dissertation.

2.6.1 European Union and Erasmus

An important component of student mobility has been the investments made by countries from around the globe to facilitate the acquisition of students. Brooks (2018) illustrates that an example of an investment made into improving the attraction of international students has been the European Higher Education Area (EHEA) program. The European Higher Education Area (EHEA) is a program by the European Union set out to ensure that Europe competes with the U.S. as a destination for students. According to Brooks (2018), the program has been approached as a highly managed top-down strategy of convergence, intended at creating a strong higher education region. An important component of the European Higher Education Area (EHEA) initiative is student mobility. (Brooks 2018)

The Erasmus scheme works effectively to facilitate the movement of students to Europe in search of higher education. González et al. (2007) considered the impact of the Erasmus program on student mobility. According to the results of their analysis, González et al. found that student mobility was significantly influenced the Erasmus program by ensuring that nearly two million students moved within Europe in search of education. The program began in 1987 and over time has been expanded to include more countries within the greater European continent. González et al. (2007) also note that there are a few factors associated with the Erasmus program that affect student mobility, such as the cost of living, country, distance, educational background, and the quality of university education available in the host country. Other factors, including the language and climate of the host nation, have been shown to influence student mobility under the Erasmus project (González et al, 2007).

The Erasmus program established a student exchange program with more than 2000 participating universities across the EU. Brooks (2018) notes that even though several countries in Europe have invested in promoting international mobility, a significant amount of resources is employed to encourage intra-European mobility. According to Brooks (2018), the desire to

promote mobility within Europe is seen as essential in conjunction with the promotion of a European political identity. For students considering a job in higher education once they graduate, intra-European mobility is seen as an effective approach to building competency¹³ for the students. Nonetheless, even though student mobility is a goal promoted by most universities across Europe, the intake of students varies significantly across the European Union.

Tindal et al. (2015) considered the impact of distinction in shaping cross-border student mobility between Scotland and England. According to Tindal et al. (2015), student mobility between Scotland and England remained consistent between 2002 and 2012. Nonetheless, the researchers indicate that there was a relative reduction in the number of Scottish students who enrolled in universities in England. The reduction was caused by factors, including high tuition fees in England. Essentially, Tindal et al. (2015) show that students who enrolled in Scottish universities paid relatively low fees compared to their counterparts studying in England. Furthermore, students indicated that even though there were many universities to pick from in England, the students argued that very few of them met their needs. Similarly, there were relatively few elite institutions to pick from when one intended to go to England and Scotland in pursuit of education. In England, students often focused on studying at the universities of Oxford and Cambridge, while those traveling to Scotland went to the University of Edinburgh or St. Andrews (Tindal et al., 2015). The literature provided by Tindal et al. (2015) shows that the institutional reputation and cost shape, to a large extent, students' decisions about which institutions to consider when studying abroad.

This dissertation compared the HEI's study's results to those of an EC commissioned study¹⁴ in 2014. The study showed that long-term unemployment was at least halved for students who participated in an Erasmus exchange as compared to those who did not. The study claims that mobility "boosts job prospects, encourages labor market mobility and opens minds to different cultures" (EIS, 2014).

2.6.2 Institute of International Education

The Institute of International Education (IIE) is one of the organizations which promotes student mobility. The IIE facilitates international student exchanges and provides opportunities for educators, students, and professionals from different sectors to acquire further skills through

¹³ Often referred to in the literature: communication skills, cultural awareness, adaptability, problem solving skills, leadership, etc.

¹⁴ "The Erasmus Impact Study. Effects of mobility on the skills and employability of students and the internationalisation of higher education institutions" http://ec.europa.eu/education/library/study/2014/erasmus-impact_en.pdf

training and education. In fact, their mission is to “help people and organizations leverage the power of international education to thrive in today’s interconnected world.” (IIE, 2020) The IIE was founded in 1919 and has maintained a focus on advancing scholarship, building economies and promoting access to (educational) opportunities. A founding belief of the IIE is that “when education transcends borders, it opens minds, enabling people to go beyond building connections to solving problems together.” (IIE, 2020) This idea is more precisely defined in the IIE’s vision, “a peaceful, equitable world enriched by the international exchange of ideas and greater understanding between people and cultures.” The IIE supports over 200 programs in more than 180 countries. The IIE has seven organizational goals, to assess its impact. The goals are divided into two categories: 1) mission and programs and 2) team member and organizational capacity. To measure the effects of their work objectively and scientifically, the IIE conducted a survey spanning 10 years of international exchanges (200-2015); the survey yielded over 4,000 responses. (IIE, 2020)

While the IIE supports and produces many valuable publications, the 2017 report *Gaining an Employment Edge: The Impact of Study Abroad on 21st Century Skills & Career Prospects* is most relevant to this dissertation. The connection between study abroad programs and the acquisition of skills that may impact employment and career development in today’s labor force were the main points investigated in this study. The study developed a list of 15 skills, both hard and soft, drawn from “competencies identified as being most desired by 21st century employers”, and explored their link to study abroad (Farrugia & Sanger, 2017). Over 4,500 survey responses from U.S. college and university graduates at different stages in their careers, as well as in-depth interviews are the basis for the results. One conclusion Farrugia and Sanger draw from this report is that “study abroad contributes to the development of transferrable skills and positive employment gains, with the impact varying according to program characteristics, study destinations, and the students’ goals.” Specifically, the features of study abroad programs and how they possibly contributed to career success was examined by this survey. Helping educators better develop programs that prepare students for the global workforce was the main goal. (Farrugia & Sanger, 2017)

2.7 Crossover and Conclusions

Institutions of higher learning have taken deliberate steps to develop employability skills to facilitate the development of quality workers. Policy shifts in the training and development of human capital have exerted significant pressure on institutions of higher learning, as they are required to participate in the development of employable talent (Bridgstock, 2009). Institutions

have to identify the attributes that make graduates employable and take necessary steps to develop their students (Bridgstock, 2009), precisely because they are expected to produce employable graduates (Moreau & Leathwood, 2006). Mason et al. (2009) argue that structured work experience and employer participation in degree course design and delivery are associated with positive effects on graduates' ability to secure jobs in their area of expertise. The sentiment that many employability skills are learned in the workplace rather than the classroom setting is shared by both Mason et al. along with Moreau and Leathwood. They demonstrate the necessity of involving employers in the design of initiatives that promote the development of employability skills in graduates. Cranmer (2006) reports mixed outcomes of graduate programs intended to develop employability skills in graduates. The findings of these studies demonstrate that employability is not necessarily an outcome of higher learning. They demonstrate the necessity of onboarding programs for graduates to transition into the workplace successfully.

Students take deliberate steps to ensure they develop the skills that are required by employers. They perceive a relationship between higher education and employability. In a study evaluating employability from the perspectives of undergraduates, Donald et al. (2018) argue that the students believe that their investment in higher learning is worthwhile due to the net financial gain over time. Perceptions on the relationship between education and employability differ based on sex, as males demonstrate higher levels of perceived employability than females (Pitan & Muller, 2019). While students perceive a potential net financial gain following their education, they recognize that these positives come at a cost: the rising cost of education, associated student debt, and interest payments could have long-lasting ramifications on their earnings (Donald et al. 2018). The potential erosion of earnings due to high tuition fees and interests on student loans can diminish the value of higher education, as some students will shy from further studies in situations where they are required to rely on loans.

While academic credentials remain an important component of graduate employability, students believe that higher education is not sufficient in developing employable skills. Tomlinson (2008) argues that students believe that the role of educational credentials in determining their employment outcomes is diminishing. Students must add value to their academic qualifications to enhance their employability (Tomlinson, 2008). Students appreciate the limitations of their graduate education, according to Tomlinson, and thus they take a more active role in the development of their own skills that are required in a workplace. Students appreciate the necessity of developing skills that facilitate their transition into the workplace (Tomlinson, 2007). These findings indicate that students do not perceive a direct link between

higher education and better labor outcomes. Students perceive the necessity for proactive and aggressive labor market approaches to secure employment and thrive in their jobs.

Studying abroad is one of the strategies students use to enhance their preparedness for the job market. As outlined before, but specifically noted by Farrugia and Santer, studying abroad may support in the acquisition of the following skills: intercultural, intrapersonal, interpersonal, and cognitive skills (Farrugia & Sanger, 2017). This indicates that studying abroad has potential to improve one's chances of employment upon graduation. They demonstrate that studying abroad facilitates the development of a broad range of skills relevant in the contemporary job market. Farrugia and Sanger (2017) maintain that studying abroad fosters the development of the ideal potential employee. The individuals boast a broad spectrum of skills, namely intercultural competence, flexibility, adaptability, curiosity, confidence, self-awareness, problem solving, communication, language proficiency, tolerance for ambiguity, and course-related knowledge (Farrugia & Sanger, 2017; Sorrenti, 2017). Study abroad students enjoy exposure to opportunities that facilitate the development of skills and knowledge that enhances their employability (Di Pietro, 2015). They acquire skills and competences that enable them to compete successfully in the labor market (Di Pietro, 2019). These findings indicate that studying abroad translates into positive effects on an individual's employability. They reinforce the perception that international educational mobility improves employment likelihood.

Farrugia and Sanger (2017) argue that studying abroad enhances an individual's understanding of career opportunities, and that those study abroad program alumni boast the confidence to pursue said opportunities. Further, they indicate, along with other similar studies, that studying abroad can expand an individual's career possibilities. The argument aligns with the positive association between studying abroad and pursuing an international career. Di Pietro (2012) indicates that studying abroad increases the likelihood of an international career by 18-24 percentage points. The finding reflects the extent to which international education mobility affects the labor market. A graduate's labor prospects change following their time in an international institution of higher learning. Di Pietro (2012) believes that students consider time in an international university as an opportunity to prepare for a career in the host nation or another foreign country, and exchange programs help students realize their aspirations for an international career (Di Pietro, 2012). Farrugia and Sanger (2017) assert that studying abroad can open up opportunities for a student and cause them to consider pursuing an international career. These arguments indicate that people who go to international universities are exposed to situations that can influence the direction of their future career.

Accordingly, those studying abroad gain skills and competences that influence career progression in the long-term. Farrugia and Sanger (2017) claim that an individual's experience studying abroad influences their career progression. The positive association between studying abroad and high possibility for a job offer demonstrate the relevance of going to an international university. Tillman (2005) argues that studying abroad introduces students to opportunities for experiential learning. This often results in the development of career ready professionals, on a local and global scale. Having studied abroad allows for an opportunity for applicants to distinguish themselves from other job seekers and develop new intercultural skills and competences (Tillman, 2011). Tillman's argument suggests that students who have studied abroad are not necessarily ready for international assignments, as one needs to acquire new skills and competences. It is the experiential learning that prepares students in international universities and colleges for jobs abroad. Therefore, studying abroad does not necessarily prepare an individual for an international job. Tillman (2011) insists that one must approach their studies abroad with a sense of purpose to maximize on the potential value of the decision. Therefore, one must consider all career implications when deciding to study abroad.

Studying abroad can be coupled with the development of a culture of continuous learning. In their study, Schnepf and d'Hombres (2018) argue that the internationally mobile students are more likely than the non-mobile ones to continue with their post-graduate studies. The association between mobility and post-graduate studies indicates that studying abroad is an antecedent for continuous learning. In this case, the number of students proceeding with their post-graduate studies can increase if many students consider international universities. Schnepf and d'Hombres (2018) speculate that studying abroad motivates students to pursue further studies. The continuation with post-graduate studies in many students who study abroad partly explains the delayed transition from university to work (Rodrigues, 2013). Nonetheless, their efforts pay off as they end up having better certificates than their non-mobile counterparts (Schnepf & d'Hombres, 2018). The finding indicates that spending time in an international university enhances one's willingness to enhance his or her skills and competences to prepare for the labor market. Holders of better school leaving certificates often experience better labor market outcomes.

Participation in study abroad programs may foster the development of skills and competences required in professional life. Álamo-Vera et al. (2020) find that study abroad facilitates the development of such competences as socio-culturally open-mindedness, self-confidence, European socio-consciousness, problem-solving ability, and independent workability. Kumpikaitė and Duoba (2013) identify the social and civic competences as conflict

resolution, leadership, interpersonal communication, self-awareness, self-confidence, self-management and relationship management, social acceptance, and the ability to influence others. They insist that students who spend more than three months abroad develop their social and civic competences better than those never study abroad. Kumpikaitė and Duoba's results show that students who do not participate in study abroad programs are less likely to possess similar skills as their colleagues studying in international universities. Students exposed to international environments encounter situations that facilitate the development of competences and skills needed to work effectively in a diverse society.

While further studies are crucial for understanding the influence of context on the impact of studying abroad on employability, the extended transition from school to the workplace is not the same globally. The Netherlands, for example, is one of the countries in which studying abroad does not differentiate a graduate from those graduating from the local universities (Van Mol et al. 2020). Van Mol et al. (2020) argue that the higher number of Dutch students studying in international students squashes the differentiating value of studying abroad. This argument indicates that national contexts determine the effectiveness of studying abroad in enhancing one's employability. In this case, there are many unemployed students with superior and relevant skills in countries with higher rates of international student mobility and high university quality (Jacob et al. 2019). One needs to consider the national context of the countries which produce students for the international universities. Observations about labor market returns mentioned in one country might not be relevant for another due to differences in the number of students going to international universities and the quality of local universities (Jacob et al. 2019; Rodrigues, 2013). Students who study abroad do not have an advantage over their non-mobile ones in contexts where the domestic and international institutions of higher learning have the same quality.

This literature review demonstrates that the student's voice has not been prioritized in the conceptualization of employability, the formulation of strategies that lead to the achievement of desired goals, and implementation of said strategies. These failures set graduates up to fail in the labor market following years of study. Studies on barriers to student involvement in informing policy and practice in higher learning are necessary, as the current state of affairs concentrates on the perceptions of governments and potential employers. The development of student mobility programs should be extended to students, giving them the opportunity to actively participate in the development of programs that could impact their own employability.

While international student mobility has positive effects on a student's employability, the impact is mixed due to the variation in labor market outcomes. Studying abroad promises better labor market returns in countries whose universities are of poor quality, those with higher graduate unemployment, and those with fewer students leaving to study at international universities. These findings demonstrate the necessity of clarifying the context in which investigations occur as generalization can result in confusion. The studies analyzed in this section demonstrate that the impact of studying abroad is as varied as the quality of universities from one country to another. European countries, such as the Netherlands and Germany, are home to prestigious domestic universities with comparable levels of quality to their regional, international counterparts. These factors devalue studying abroad and standardize the playing field for all graduates, regardless of the university they attended for their undergraduate or postgraduate studies. An opportunity for further research on identifying the sectors of the economy where international student mobility remains valuable and the factors sustaining the trend from employers' perspective. Such studies' results could be valuable in ascertaining or contesting the claim that the quality of domestic universities diminish the value of studying abroad. Another opportunity for research is one of the strategies universities are using to develop graduates that possess intercultural competence and manner in which current practice aligns with the prevailing labor market demands.

3 Research Design & Methodology

The purpose of this study was to determine the key factors impacting the HEI's graduate employability, specifically international education. The research examined whether there is a significant difference in salary and employment level among sex, age, educational levels, academic majors, and participation in study abroad programs. Descriptive statistics and an ANOVA (analysis of variance) compared the independent groups based on the dependent variables. This chapter will include the research design, review of the research questions, and methodology used; it will conclude by outlining the study's limitations. The methodology section will include a deeper look into the data, and overview of the statistical analysis (more details will follow in the results portion, chapter four), reliability and validity, and, especially important in the EU, storage and data protection.

3.1 Researcher Lens and Positionality

The main lens for this research is shaped by intersectional feminist theory. Intersectionality offers a means of appraising the discrimination and privilege at play with regard to higher education access and student mobility. Intersectionality presents a different way of thinking about different aspects of oppression and privilege. The intersectional feminist lens considers how elements of an individual's social and political identity combine to create different modes of discrimination and privilege. Carastathis (2014) shows that this theory is used to study and identify structural, political and representational intersectionality. As a theory, Carastathis (2014) shows that it is an effective approach of considering micro, meso and macro-level social phenomena. The intent is to utilize this framework, considering factors of employability and its relationship to university education, especially international education.

Even though the intersectional feminist lens offers an effective framework for evaluating the relationship between employability and university education, there are several issues to consider in greater detail. Bright, Malinsky, and Thompson (2016) note that intersectionality theory focuses on the assertion that people occupy different demographic categories, which introduces some complexity into social analysis and work that does not explicitly build on this idea distorts and misrepresent the experiences of people. The issues that arise from intersectionality theory offer a challenge that could be addressed through adopting a casual interpretation of intersectionality. Bright, Malinsky, and Thompson (2016) show that a casual interpretation of intersectionality provides a precise and plausible interpretation of the

intersectionality theory. Similarly, the casual interpretation of intersectionality offers the means to provide empirical content to intersectional claims.

Intersectionality theory also offers a means of exploring aspects such as discrimination in the workplace. Lavaysse, Probst, and Arena (2018) show that initially, intersectionality was conceived as an effective model to address federal legislation's inadequacy in addressing discrimination faced by black women in society. However, over time, this has evolved further, and intersectionality now deals with different aspects of marginalized identities. The intersectional feminist lens should offer a means of considering the impact of different issues; one such example could be whether female graduates have the same opportunities as their male counterparts or whether a certain degree program affects their employability differently; and whether other factors beyond sex, such as age, and its influence on access to adequate education plays a role in defining aspects of employability. Tariq and Syed (2017) use intersectionality theory to consider the challenges that South Asian Muslim women experience at the workplace. In their work, Tariq and Syed (2017) assert that religion and sex impact how individuals are treated at work. Therefore, the intent is to extend a similar point of view to how international educational experiences are obtained and whether this ensures that certain groups have more opportunities of being employed over others.

According to Coghlan and Brydon-Miller, positionality refers to the “stance or positioning of the researcher in relation to the social and political context of the study—the community, the organization or the participant group” (2014). They further note that the researcher's position affects every phase of the research process, from the way the question or problem is initially constructed, designed and conducted to how others are invited to participate; it also influences the ways by which knowledge is constructed and acted upon as well as how outcomes are disseminated and published. Coghlan and Brydon-Miller noted that researchers should be conscious of their own positionality and how it could possibly influence the study and reported outcomes of an action research¹⁵ project, “continually bringing them to the forefront for discussion with participants and seeking to redress power imbalances that disenfranchise or minimize the voice of key participant groups” (2014).

The author of this dissertation is the instrument in analyzing the quantitative data in this study. There were and remain no connections between the author and the subjects whose data is presented in this study. This research, while not directly funded by the HEI, is being

¹⁵ Action research is often used as a method in education: a cyclical process that systematically allows educators to develop practical solutions quickly, also called cycle of inquiry. (Bryman & Bell, 2011)

conducted with full support of the university. The HEI places a serious emphasis on an international educational experience with the value for the students at the center focus. Such research utilizing university data, while also comparing it to data from prominent international studies, could prove to be valuable for the university.

3.2 HEI Institutional Context

This research is based on a single case study with data from one university; thus, it is important to explain briefly the institutional context of this particular HEI. First, it places extensive emphasis on studying abroad, providing ample institutional data on the topic. This includes data on student mobility, duration, destinations, and types of study abroad programs/experiences; it also includes alumni data, potentially crucial for understanding study abroad outcomes. This includes data on student mobility, duration, destinations, and types of study abroad programs/experiences; it also includes alumni data, potentially crucial for understanding study abroad outcomes. Second, this HEI's data tracks students' study abroad experience (duration, location, coursework and academic progress) along with their careers and professional lives after graduation. This HEI lent itself well to be this dissertation's primary data source.

The HEI's history with global citizenship began in the 1930s with the initiation of an international student program, bringing students and faculty from Asia, Europe and South America to the university in the U.S. and vice versa. Over 200 faculty members and students went abroad or came to the U.S. during the program's first twenty years. (HEI homepage) In 1978 the first international campus was opened; thereafter, the HEI's international network continued to expand over the next forty years. To support student mobility, it also created a program that allowed students to receive free round-trip airfare eliminating one of the initial financial hurdles to studying abroad.

To further support its mission to transform students for global citizenship, the HEI designed an entire program for undergraduate students, sometimes also referred to at other U.S.-based HEI's as general education. This program is intended to guarantee that every student (undergraduate) completes their studies with the "core competencies required for responsible global citizenship in the 21st century" (HEI homepage). The competencies include both knowledge and skills. The university rooted its general education program in a worldview; its curriculum is meant to explore how humans and social institutions work and derive meaning, and how different forces push people together or pull them apart. It also tries to include what

the HEI views as the critical skills needed to be successful in the 21st century: “creative and critical thinking, oral and written communication, quantitative literacy, intercultural competence, ethical understanding and application, connecting theory to life experience, and working as part of a team.” Understanding this program is crucial for this study, as it is a core value of the HEI, regardless of student international education participation.

3.3 Research Design

This study’s design seeks to answer the research questions through a quantitative analysis. This analysis has utilized the unique HEI dataset. The initial statistical calculations encompassed the demographic information presented by the population of this study; This is a “raw” data analysis; this data is compiled from the three respective dataset sources: the HEI’s registrar, study abroad office, and the office of institutional effectiveness’ outcomes survey. The registrar information includes “background” information: sex, age, citizenship, country of residence, along with a unique student ID number (which will be key in keeping student identity protected), degree program, GPA and date of graduation. The study abroad office records provided time (fall, spring, summer), duration (term, semester, year), classification while abroad (junior, senior, graduate student, etc.) and the location of the respective study abroad experience. The outcomes survey data is fundamental to this study and was used to answer the main research question and sub-questions:

- What factors affect the employability outcomes of the students at the HEI?
 - Do differences between study abroad participants and non-participants emerge?
 - Do differences amongst sex and age groups arise?
 - Do differences between the variables of degree program (major) or level of studies (undergraduate versus graduate) exist?
 - Do differences in the dependent variables of status, level and salary occur?

The data shows student career and employment information, including status (employed full time, unemployed, seeking employment, etc.), industry, level (entry, mid, senior, executive, etc.), location of employment and salary (self-reported). The survey also asked a question about rating the impact of studying abroad on the student’s learning and/or development; possible answers were on a scale from “very significant” to “not at all significant” or “did not participate”.

In general, when it comes to studying and attempting to assess the outcomes of a study abroad experience, it is important to acknowledge the difficulties around controlling the

variables one needs in order to isolate the unique contribution of one independent variable (apart from individual student characteristics and predetermined situations). This raw data was selected as the central source of analysis in order to help contribute to identifying and isolating such variables.

A further layer of analysis compared the findings from this study with the findings from two larger studies, from the Institute of International Education (IIE) and the European Commission. This level of analysis was comparative in style, as opposed to purely statistical in the previous tier. It also directly targeted the last sub research question:

- How do the results from this study, one specific HEI's dataset, compare to the findings from IIE and EIS?

The IIE funded the “Gaining an Employment Edge: The Impact of Study Abroad on 21st Century Skills & Career Prospects in the United States” in 2017. This study investigated the connection between study abroad programs and the development skills that contribute to employment and career development. (Farrugia & Sanger, 2017) The European Commission funded the Erasmus Impact Study (E.I.S.) in 2014. This study identified the personality traits relevant for employers (when recruiting new employees) besides field-specific skills and job-related experiences. The E.I.S. research determined that employers look more closely at personality traits than traditional learning outcomes. (Brandenburg et al. 2014)

Both studies incorporated a mixed methods approaches (quantitative through surveys but also qualitative through interviews) which vary slightly from the approach used in the first tier; however, the critical comparison here was between institutional results and large global study results. The IIE impact study takes the perspective of American students and the I.E.S. that of European students; given the geographical concentration in the HEI dataset, with its focus on the U.S. and Europe, the comparison of these particular studies was selected.

3.4 Methodology

A study's methodological approach should be determined by its research questions. According to Punch (2014), research questions which seek to determine a relationship between variables would be best answered using a quantitative approach. The purpose of this study was to investigate how the outcome variables of employability potentially correlate with the independent variables of study abroad participation and student demographics, such as age and sex. This research aimed to investigate the relationship between the independent demographic

variables and the outcome variables using a unique dataset provided by a single university; thus, an analysis of variance approach was applied to compare the differences in means.

3.4.1 Data Collection and Datasets

The data used in this study has been provided by a U.S.-based, midwestern, liberal arts university that also includes a number of satellite campuses around the world. In accordance with the code of ethics in conducting research, the university's Institutional Review Board (IRB) has a procedure for reviewing all research conducted within the university. The IRB process follows federal rules outlined by the U.S. Department of Health and Human Services, along with regulations from the Office for Human Research Protections. The IRB approved the author's application and request to use data for this study.

For the purposes of this research, data was collected between 2010-2019 (academic years 2010/2011 through 2018/2019); the HEI's academic year is divided into three parts, starting with the summer term (May-July), then the fall semester (August-December), and ending with the spring semester (January-May). To obtain the most comprehensive understanding of graduate employability factors as they relate to international education, data was collected from three different sources at the HEI: the registrar, the office of institutional effectiveness (OIE) and the office of study abroad (OSA).

Table 1: *HEI data sources*

Data source	location	number
degree_earner	registrar	60128
survey	office of institutional effectiveness (OIE)	52339
sar_data	office of study abroad (OSA)	3700

This table shows an overview of the amount of data from each of the three sources, respectively. Not all students who earned a degree filled out an OIE outcomes survey; similarly, not all students who earned a degree filled out a survey and studied abroad.

The first of the three data sources to be described comes from the HEI's registrar. The report used is called *Degree Earners* and will hereafter be referred to as *degree_earner*, as that is the name recorded by R software. Between 2010 and 2019 there are 60,128 entries in *degree_earner*. The information from the registrar was pulled through a reports function from

Jenzabar CX, which is the primary student information system for housing data across the university, from admissions to alumni. While no dataset is perfectly complete, of the three sources, the data from the registrar is the most comprehensive; it includes all degrees earned by the entire student body, whether at campuses in the United States or non-U.S. campuses/locations. This number has been adjusted to remove duplicates, i.e., those students who graduated with more than one degree from this university network.

Table 2: *data degree_earner*

Data name	Explanation
campus	"Home" Campus
gpa	Final cumulative grade point average
degree	Degree earned (BA, BS, MA, MS, etc.)
major	Major field of study (business administration, international relations, etc.)
program	Level of study (undergraduate or graduate)
res_country	Country of residence at the time of graduation according to student records
sex	Gender (HEI system only identifies male or female) ¹⁶
graduation_age	Age at time of graduation

The next source of data comes from the HEI's Office of Institutional Effectiveness (OIE). The Outcomes Survey was designed and administered by the OIE as well as the Career Planning and Development Center. The survey asks recent graduates about the impact of their experiences, their employment status, educational plans, and contact information. The survey is sent electronically, approximately six weeks after each term's graduation date, to recent graduates of undergraduate and graduate degree programs as well as certificate programs worldwide. Invitations with a link to the survey are sent to all email addresses on record for each graduate.

¹⁶ As previously mentioned, the term sex refers to the HEI's previously limiting selection of demographic factors for what may be more widely accepted as gender identifications. Again, this is not the position of the author nor this research but rather an example of how this HEI through 2019 labeled the terminology and confined selection to two categories..

The survey contains questions pertaining to three categories: mission outcomes, learning environment, and career outcomes. It includes three open-ended questions. Mission outcomes questions focus on students' perceptions of their academic achievement, particularly as it relates to global citizenship and individual excellence. Learning environment questions concern students' perceptions of curricular and co-curricular (for undergraduates) activities and touch on student support processes and services. Career outcomes questions ask recent graduates about their employment status and continuing education activities. The survey for graduates of undergraduate programs has additional questions about the impact of curricular and co-curricular activities on learning and development. Qualtrics software is utilized to administer the survey. At any given term, the average response rate hovers around 26%. The content and management of the surveys changed hands within the OIE in 2016; potential issues and variations in the data will be further discussed in the limitations section. Surveys used are included in the annex section.

Table 3: *data survey*

Data name	Explanation
emp_status	Employment status (employed full time, unemployed, volunteer, etc.)
emp_industry	Employment industry (military, health care, education, hospitality, etc.)
emp_level	Employment level (entry-level, mid-level, chief executive, etc.)
study_abroad_impact	Rate of study abroad impact on learning/development (scale from very significant to not at all significant or did not participate)
residence_country	Country of residence at the time of response to the survey
employment_country	Country of employment
salary	Individual annual salary earnings before taxes in USD

The third and final source of data comes from the office of study abroad. This is the dataset that houses all information regarding international educational experiences. This information is key for analyzing education abroad as an employability factor. It includes the location, duration, point during the student's studies, etc. – all of which impact the overall evaluation of the experience. The study abroad data is limited to the academic framework,

though experiences outside the classroom setting may equally have an impact on the student. The data had no tools to measure such activities and thus are included in the overall variable of study abroad participation and not any further.

Table 4: *data sar_data*

Data name	Explanation
location	Location of the study abroad experience
duration	Length of study abroad experience (term, semester, year, faculty lead, etc.)
term	Time of study abroad experience within academic calendar (fall semester, spring 1 term, etc.)
class	Student classification as determined by number of completed credit hours (freshman, sophomore, junior, graduate, etc.)
home_campus	HEI "Home" Campus
reg_hours	Number of credit hours student was registered for during the study abroad experience

3.4.2 Data Preparation and Cleanup

The first and arguably most important step prior to analysis is to both prepare and clean the data. Preparing data for analysis is a time-consuming process, especially given the size of the dataset used in this research and that the data came from different sources; however, without this crucial step, any calculated statistical results would be questionable given the study's goal: to identify possible trends or patterns in the data concerning employability and international education. As Osborne (2013) points out, "Data cleaning is critical to the validity of quantitative methods" (2013, p. 8). Data cleaning can be understood as the process of preparing data for analysis by "removing or modifying data that is incorrect, incomplete, irrelevant, duplicated, or improperly formatted" (Osborne, 2013). This process is needed to ensure the accuracy of the dataset without deleting any vital information. Data preparation may include, but is not limited to, fixing spelling mistakes, standardizing datasets, and identifying duplicates.

The process of preparing and cleaning the data for this study involved several steps and methods. The first step was selecting key variables among the three datasets; with over 182

possible variables in the outcomes survey data alone, it was necessary to identify only the most relevant variables for analysis. Another key step was linking all records from all three sources with the unique student ID number; this helped not only keep the anonymity of the individual students but also to make sure information from each source was being linked to the correct student record. Another vital step for analysis was the creation of new variables. The HEI data did not include age, but instead a date of birth record. The age number used in this study was calculated by using the date of graduation with the date of birth to create independent variable age for all students in the HEI dataset. The independent variable major was also created for this study. The HEI data had majors listed for all students who graduated; however, comparisons among over 271 majors would more than likely lead to less than significant results. The major variable was calculated by grouping the major listed in the registrar dataset with the HEI's respective college or school, narrowing the categories within the independent variable to only 5. A similar method was applied for narrowing variables by combining similar categories. This process was used for the variables of employment status (reduced from 18 to 9 categories) and study abroad duration (reduced from 15 to 4 categories). For example, specific terms (fields labeled as fall 1, fall 2, spring 1, spring 2, summer) were combined, as the academic period's length was the relevant information for the purposes of this study – not when that academic period took place. An open-answer survey question about salary presented another challenge. Some years the salary question was required; subsequently, some respondents chose to enter 0 rather than divulge their salaries (in order to complete the and submit the survey). Put simply, some fully employed, mid-career professionals appear to have no earned income. These outliers were removed. Other unrealistic outliers were removed as well as any non-numeric values. In the final cleaning and preparation step, various spellings of variables, categories and groups were corrected. This also included correcting any typos or misspellings. The two most challenging, but at the same time crucial, examples of this were the names of countries (citizenship, residence, location of employment, etc.) as well as study abroad locations (sometimes listed as cities while others listed at programs or countries). The final year of observation for this study, 2018/2019, the HEI adjusted the responses of the outcomes survey to solely numeric values, presumably for ease of analysis. These numbers had to be translated into country names, for example, for the purposes of this study's analysis.

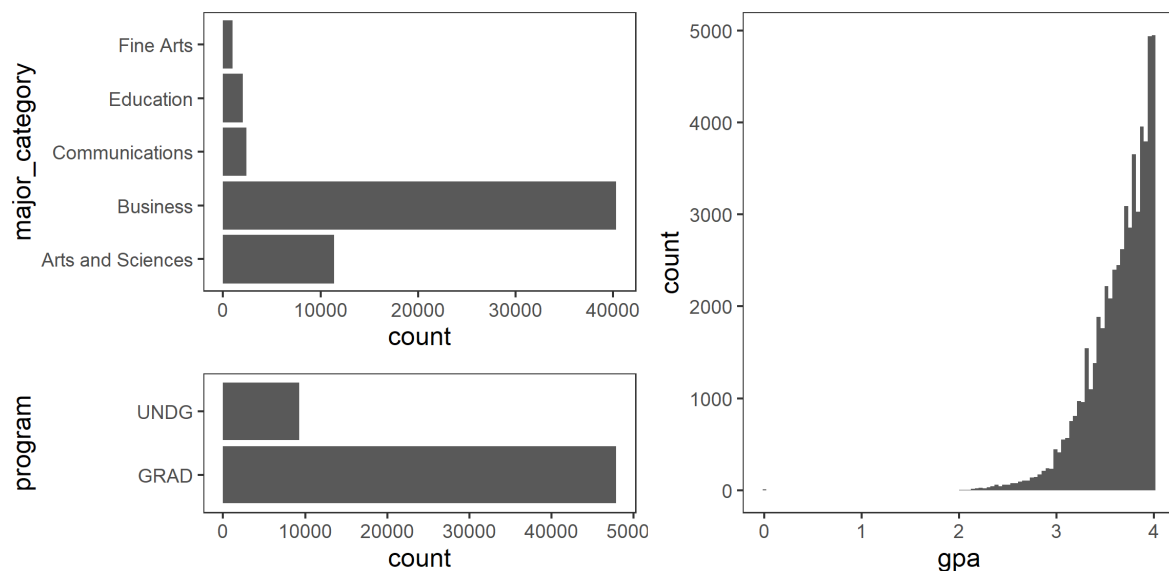
As is evident in the numerous layers of cleaning and prepping of the data outlined above, Osborne appropriately recognizes that “data cleaning is considered a foundational element of the data science basics, as it plays an important role in the analytical process and uncovering reliable answers” (2013).

3.4.3 Sample Population and Demographics

In order to have a better overview and basic understanding of the sixty thousand plus graduates in the ten-year time frame, this section will cover the most relevant demographics. Throughout the following graphs and charts, *counts*, as R refers to them, can be understood as frequency.

The first set of counts to examine are from the degree earner dataset. They encompass student demographic information on field of study, program level, grade point average, sex, and age at graduation.

Figure 1: Frequency of *major_category* (top left), *program* (bottom left) and *gpa* (right)

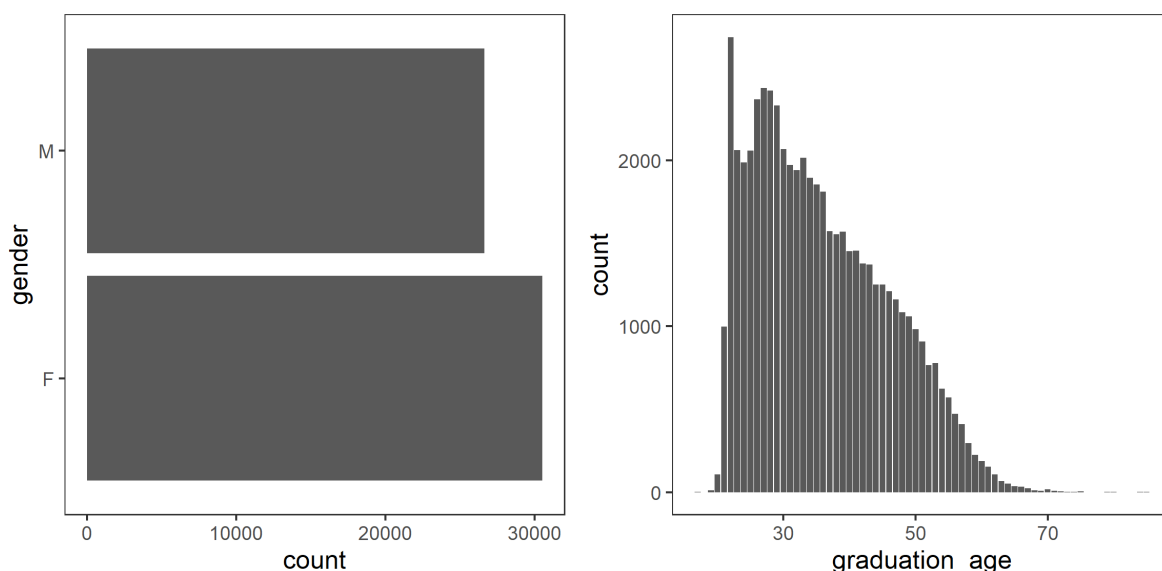


In the dataset *degree_earner*, the variable labeled *degree* refers to the code or abbreviation for the title earned; for example, MS stands for Master of Science, MA Master of Arts, and BFA is Bachelor of Fine Arts. In this regard, the variable *degree* is unfit for measuring field of study, and another variable, *major*, was used. Many HEI's in the U.S. refer to the specialization or focus of subject matter as major. This HEI uses a four-letter abbreviation for all majors; for example, accounting is ACCT, political science is POLT, and vocal performance is VOPF. However, with over 270 majors, a statistical analysis with comparisons, crossovers, and regressions with other variables, would lead to insignificant findings; thus, a new “major variable” was created by categorizing the majors into their respective colleges and schools, just as the HEI organizes them. There are 5 such categories: arts and sciences, business, communications, education, and fine arts. An important further note: both undergraduate and graduate degree programs were included in this classification.

The graph located on the right side of Figure 1 and labeled as *gpa* depicts the number of students at degree conferral (y-axis) for every possible GPA (x-axis). Straightaway, one observes a relatively high GPA average. With such modest differences, GPA was not considered a relevant factor for analysis of graduates' employability.

GRAD stands for graduate programs, meaning master and potentially doctoral level degree programs. UNDERG stands for undergraduate programs, meaning bachelor-level degree programs. These numbers will be important to keep in mind in the further analysis of student employability factors. One could presume a graduate student would naturally have a higher salary upon graduating as opposed to an undergraduate student.

Figure 2: *Frequency of sex (left) and graduation_age (right)*



The next set of counts to examine are sex and age. Both variables were evaluated as key factors in graduates' employability. Though the sex is recorded for all students as male or female at the point of admission, there are a small number of records with none¹⁷ listed. These numbers align with those of the U.S. national averages¹⁸ for students at higher education institutions. There has been a trend since roughly the turn of the 21st century that female identifying student enrollments were slowly exceeding those of their male colleagues. The

¹⁷ As previously mentioned, it was not until late in the 2019 academic year did the HEI officially adopt a policy allowing for alternative gender identifying terminology other than male or female. Thus, although not the position of the author nor the intent of the dissertation to limit such analysis to the confining labels as present in the data for this dissertation, the data for this research is restricted to the labeling factors of gender as simply male or female.

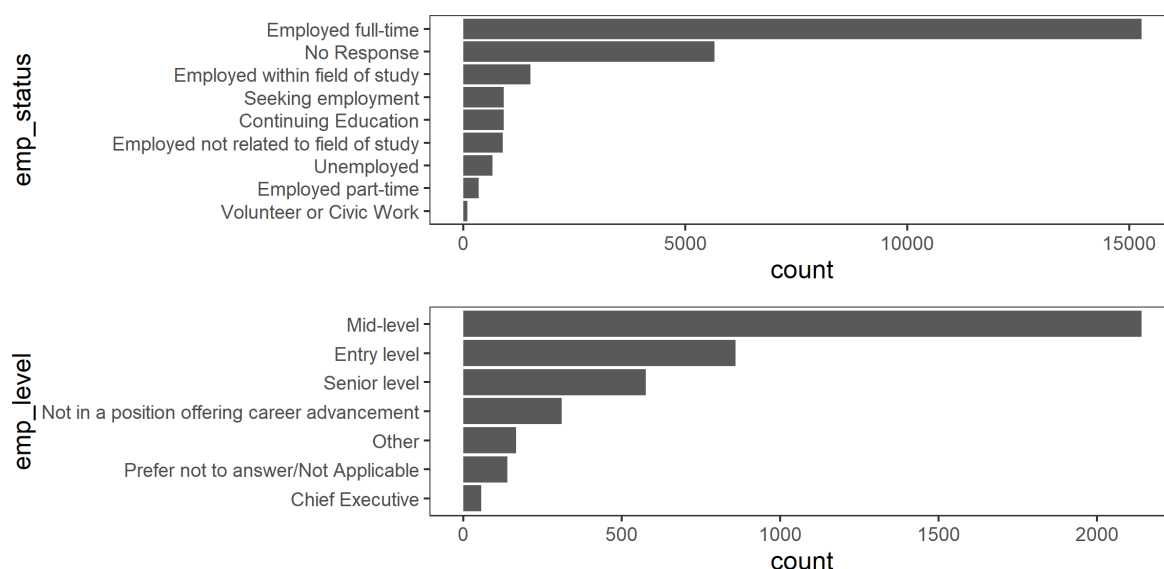
¹⁸ NCES (National Center for Education Statistics) U.S. Department of Education 2020-144 report

American Council on Education published a report¹⁹ that went as far as to claim the gender gap in education had leveled off; though not the focus of this research, such statements should be evaluated with more care, particularly from an intersectional perspective.

The demographic numbers also suggest that the HEI may have more nontraditional students. More often than not, studies define nontraditional students by their age (Chung, Turnbull, & Chur-Hansen, 2014; Langrehr, Phillips, Melville, & Eum, 2015). However, it's worth noting that the U.S. Department of Education defines nontraditional students by seven characteristics: 1) delayed enrollment in college by a year or more after high school, 2) part time course enrollment, 3) financially responsible for themselves or 4) their families' having dependents other than a spouse, 5) being a single parent, 6) working full time while enrolled, or 7) did not receive a high school diploma (Radford, Cominole, & Skomsvold, 2015).

The next set of counts are the key variables (in this study) for measuring employability. As previously mentioned, it is important when analyzing the employability data from the OIE survey to keep in mind that not all students who filled out the survey provided salary information.

Figure 3: *Frequency of emp_status (top) and emp_level (bottom)*

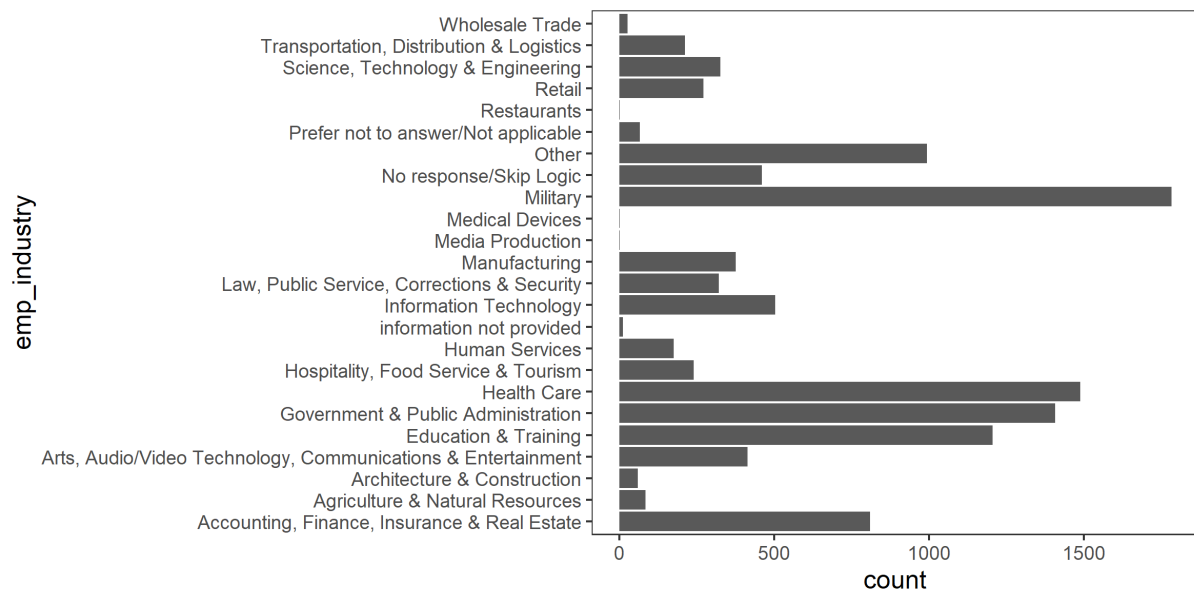


This chart is intended to give an overview of the employment status outcomes from the OIE survey responses. It also shows employment level as reported by the OIE responses.

¹⁹ "Gender Gap Stops Growing" American Council on Education, January 2010

Employment status was then further narrowed down in the final calculations to improve statistical significance to *employed*, *continuing education*, *unemployed* and *no response*.

Figure 4: *Frequency of emp_industry*

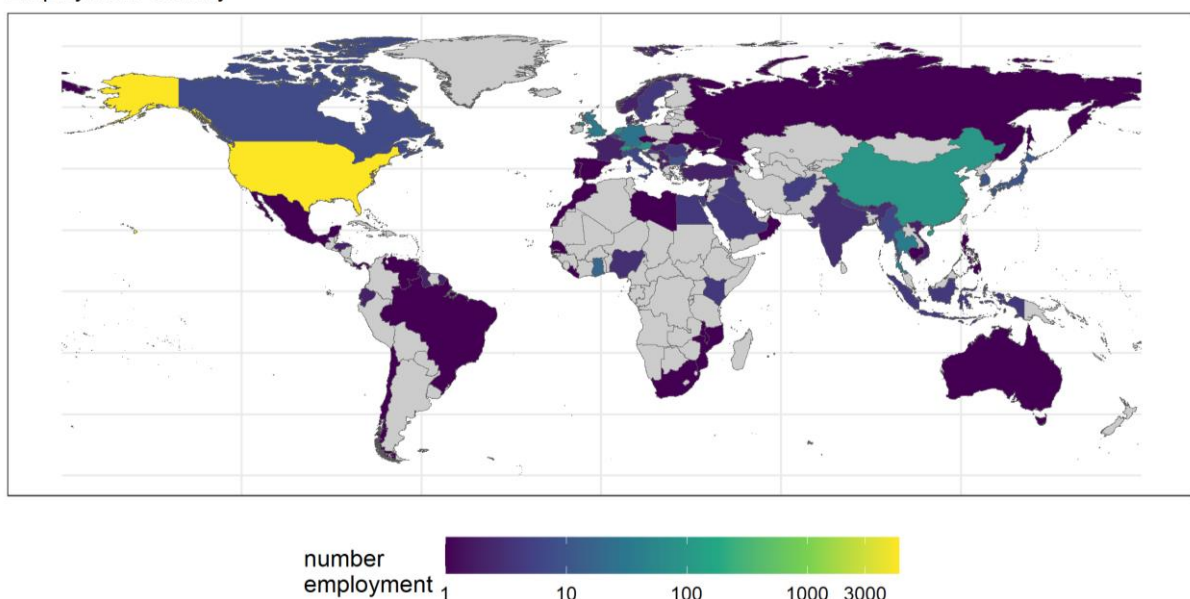


This chart shows the counts for employment industry. The HEI's outcomes survey listed the different industries students could select from. It is important to note that this list did change over time; thus, a completely clear analysis over the ten-year time frame is difficult to ascertain.

Figure 5: *World map of employment country per employment number*

World map

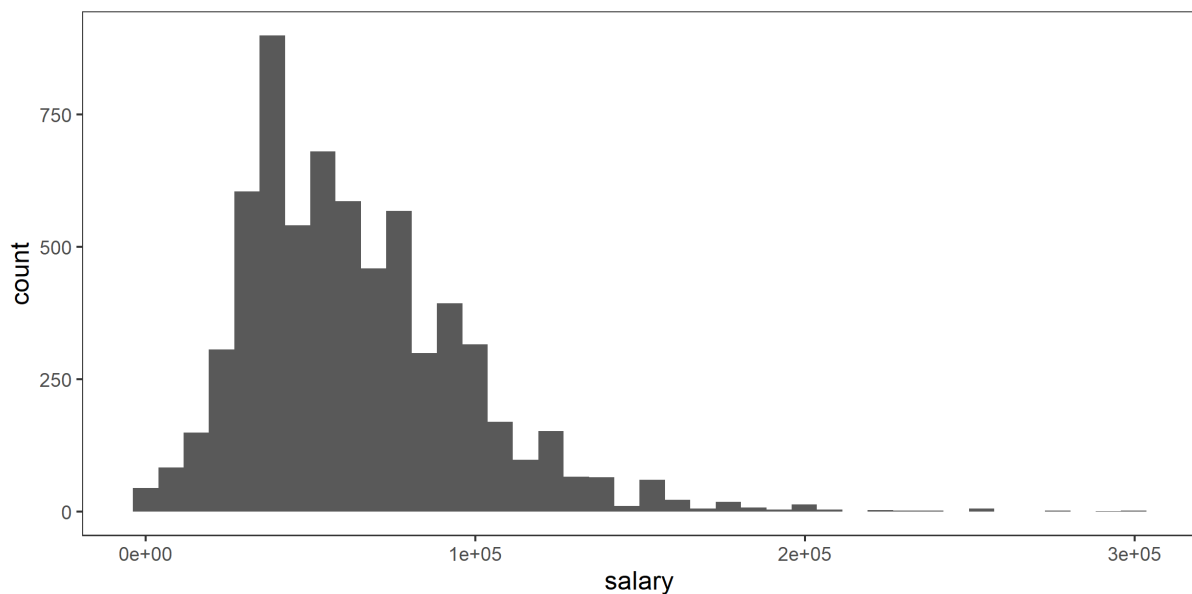
Employment Country



Data Source: HEI - Survey Data 2010-2019

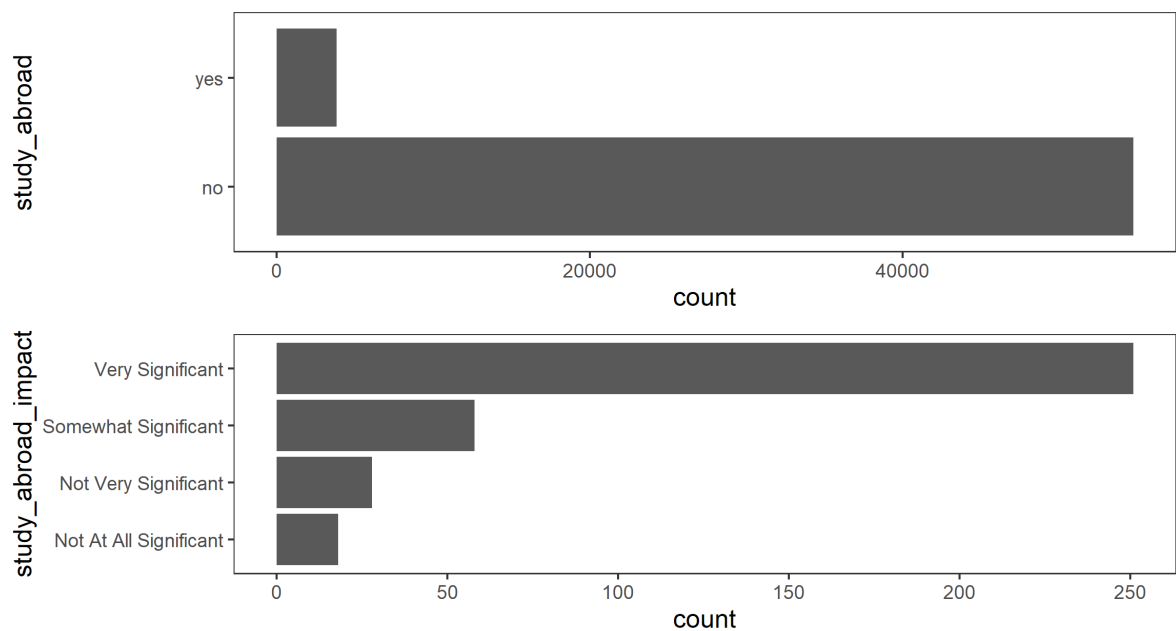
This map shows the location of graduates' employment according to the responses of the OIE survey. Students were asked a number of questions about their current employment; the responses that yielded these results (and corresponding map) were derived from the self-reported address of their current employer. The location can play a role in different aspects of employment, especially when comparing annual earnings recorded in USD regardless of the local currency or general cost of living.

Figure 6: *Frequency of salary (distribution)*



This graph shows the total responses to the question on salary in the OIE outcomes survey. It should be mentioned that in the first five years of the time period reviewed, the survey only asked for salary without any further explanation. Later on, the survey was developed to include the explanation of “individual annual salary earnings before taxes in U.S. dollars.” Possible discrepancies in interpretations of what was being asked are addressed in the limitations section.

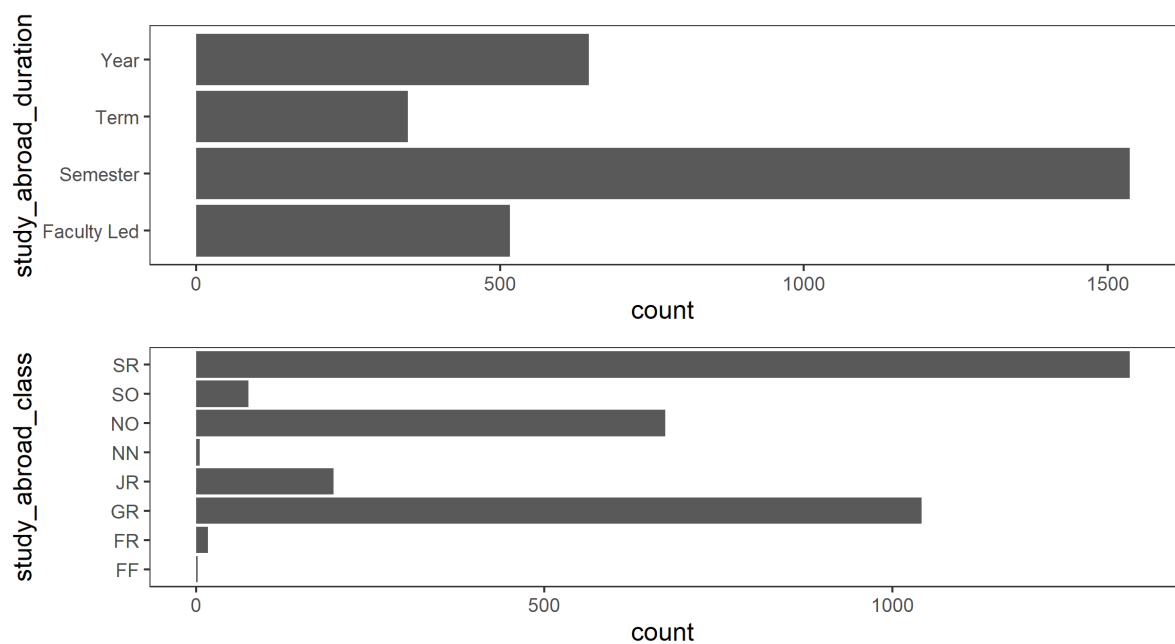
This study paid careful attention to the factor of international education; accordingly, the last set of counts and demographics to consider are those related to study abroad.

Figure 7: *Frequency of study_abroad (top) and study_abroad_impact (bottom)*

The first of the two graphs in Figure 7 depict the count for participants and non-participants of international education, or *study_abroad* as the HEI refers to the office responsible and unit reporting this data. These numbers include all students who participated in an international educational experience between 2010 and 2019; that does not mean, however, that they have necessarily completed their studies, meaning not all of those represented here are included in the employability data.

The bottom graph shows the responses on the OIE survey to the question about the impact of the study abroad experience. Starting roughly in 2016, more than halfway through the researched period, the survey expanded its scope of questions to include this question about the impact of graduates' international education experiences while attending this HEI. Graduates were given options on a ranking scale to choose from. As clearly demonstrated by the graph, students who participated in international education during the studies at this HEI reported overwhelmingly that it had a very significant impact on their learning and development.

When international educational experiences are studied (within the context of higher education), two factors are often included: 1) the duration of the experience and 2) when during their studies the students go abroad. These two factors are depicted in the chart below, labeled duration and class, respectively.

Figure 8: *Frequency of study_abroad_duration (top) and study_abroad_class (bottom)*

The HEI recorded the duration of study according to the academic calendar, apart from the faculty-led²⁰ category, as these programs were not tethered in the system to a given term or time period. Academic year and faculty-led categories were defined and labeled by the HEI and no changes were made in reference to either throughout the statistical analysis and reporting; however, the other categories, term and semester, were slightly modified for the purposes of more meaningful analysis. The original labeling for term would have been, fall semester term 1 or spring semester term 2 (this HEI has two terms in each semester as well as one summer term); similarly, the labeling for semester would have been fall semester or spring semester. These categories then became term and semester regardless of when in the year the term or semester occurred.

Study abroad class is understood as the student classification according to the number of credit hours the student has completed. Credit hours are defined²¹ by this HEI as “an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates: one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately 15 weeks for one semester hour of credit.” Most courses are registered at 3 credit hours. In many, if not

²⁰ Faculty-led programs are shorter than a semester, often varying between one and five weeks, where a selected group travels abroad and the entire experience is organized and directed by one or more faculty members from the HEI.

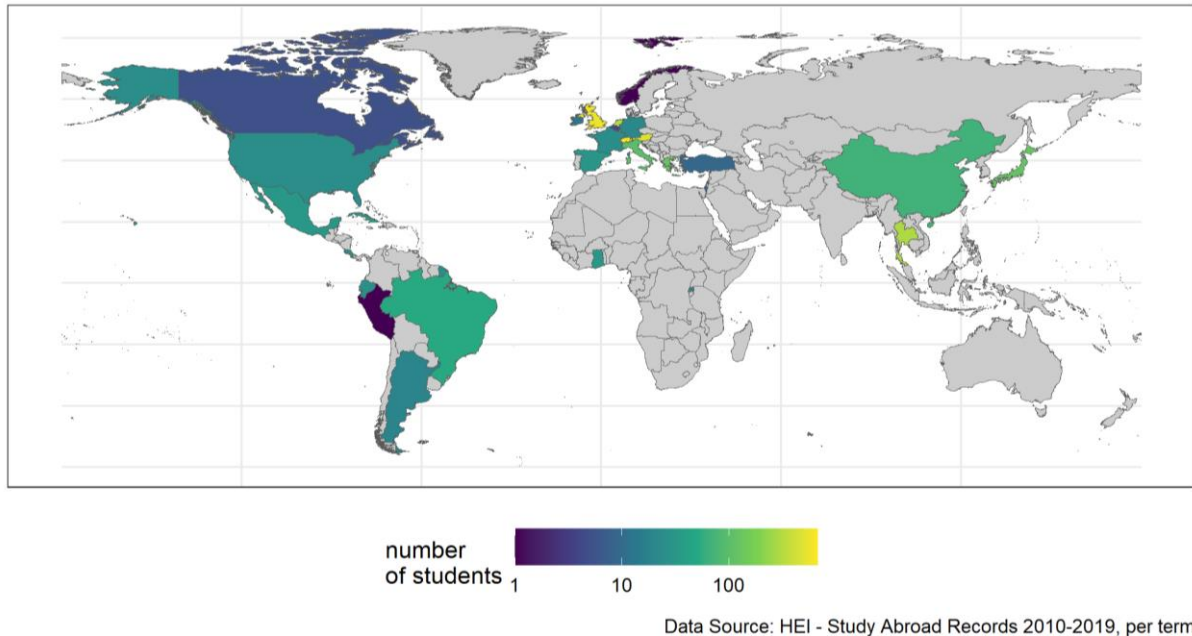
²¹ The HEI’s website provides this definition; however, to keep the identity of this HEI anonymous as standard procedure in scientific research, the exact source will only be available for the dissertation committee members.

all, institutions in the U.S. this classification is standard, and the categories have different names respectively (FR= Freshman = 0-29 credit hours).

Figure 9: *World map of study abroad country per students*

World map

Study Abroad Country



The map in Figure 9 shows the number of students within the HEI’s network who have studied abroad, aka participated in an international education program, in each of the colored countries. The United States is included as a “study abroad location” because the HEI’s global network means that there are students who complete their studies in a different country; for those students, studying in the United States is considered studying abroad. The HEI’s records of participation in study abroad (or not) refer only to the studies undertaken abroad relative to the student’s home campus - and not the student’s citizenship or country of residence. For example, a U.S. citizen may be completing their degree at one of the satellite campuses and decides to take a semester at the main location based in the U.S.; in the true spirit of international education, such an experience would not be defined as international; however, given the limitations of the data, as discussed later in this chapter, this fictitious example would be counted as a study abroad endeavor, and while possible, there would not be enough cases like this to be statistically significant.

3.4.4 Analysis

This research used an analysis of variance, referred to as ANOVA, to test the hypotheses. The underlying concept of an ANOVA test is straightforward; essentially, if the average variation between groups is big enough compared to the average variation within groups, then one could conclude that at least one group mean is not equal to the others. Therefore, it is possible to evaluate whether the differences between the group means are significant by comparing the two variance calculations (Field et al. 2012). A one-way ANOVA, according to Warner, is used to test “situations where one group membership variables (called factors) are used to predict scores on one quantitative outcome variable” (Warner, 2013, p. 501). After one-way ANOVAs were calculated and found to be statistically significant, two and three-way ANOVAs were also performed. In order to both identify and understand the outcomes for all of the ANOVA calculations, first the descriptive statistics were computed. The demographic information was used for this purpose and served as independent variables. Some of the measures of frequency, or counts, were included earlier in this chapter to give a better visual of the overall data for this study. The measures of central tendency, or mean and distribution, were evaluated next. These calculations allowed for the independent variables to be identified as the demographic information along with study abroad experiences. The dependent variables were identified as the employability outcomes, including salary, employment status and level. The descriptive statistics for demographic data from each subgroup were calculated in R. The groundwork was laid for the further analysis of variance, also known as ANOVA.

The focus was on the dependent variable salary. This is for two reasons. First, its numeric nature lends itself well to comparisons among the various independent variables and subgroups. Second, ANOVA calculations require a numeric dependent variable, also known as a continuous predictor. An ANOVA analysis using a predictor, as noted by Warner, allows for simple linear functions that can adequately describe the relationship between the factors, independent variables, and the predictor, dependent variable. (Warner, 2013)

According to Strunk and Mwavita (2020) a two-way ANOVA is appropriate when there are two independent variables affecting a dependent variable. They also recommend a two-way ANOVA another situation: when there is a one measurement variable (also known as a quantitative variable) and two nominal variables; they continue by explaining, when a study has a quantitative outcome and two categorical explanatory variables. (Strunk & Mwavita, 2020) In this case, the dependent variable was the employability outcome, most notably salary; salary is a standard example of quantitative and numeric variables used in statistical analysis. The independent variables were study abroad participation and further demographics like sex

and age. Variables like age are typical examples for categorical variables. Because of the focus on international education, each variation of independent variables initially included study abroad participation; similarly, the first calculations for the dependent variable were with salary. The first combination of factors analyzed were the variations among study abroad participation and sex as the independent variables and salary as the dependent variable. The next combination was study abroad participation by age group with salary. The final initial ANOVA was study abroad participation by field of study with salary. Based on the results, the next combinations were identified and calculated using variations among variables. Full descriptions of the combinations will be mentioned with the visual representations of the results in the next chapter.

3.4.5 Reliability and Validity

According to Penfield (2003), “reliability concerns the extent to which a variable’s outcomes correspond to levels of the entity in a consistent and stable manner” (p. 34). It is of utmost importance that the study may be duplicated using the same measurement techniques.

There are several indicators that attest to the reliability of a study, such as its sample size (covered in detail in 1.6 Limitations). Furthermore, the proportion of individuals that responded to the outcomes survey relative to the population of students studying abroad is high because the sample population is the total population of students completing degrees at the HEI. In addition, the examination of certain attributes among the sample population, such as sex, age, major, etc. will also be key in reducing confounding variables²² within comparisons.

Studies with similar methodological approaches rely on two forms of validity: internal and external. Penfield (2003) explained that “internal validity of a research study is the degree to which the effects of all confounding variables have been controlled for and can be observed with the following two factors: (1) random variability in the sample means is due to the random nature of the selection of the samples, and (2) the effect of the independent variable (confounding variables)” (p. 299). In this particular case, HEI students who studied abroad and also responded to the OIE survey can be considered a true representation of their respective student population. Penefield (2003) further explained, “external validity concerns the extent to which the findings of a study generalize to other intended settings and can be examined by two questions: (1) is the population from which the sample was drawn representative of the population of which the research question is asked? (2) Is the environment in which the study

²² Confounding variables can be defined as those that “affect other variables in a way that produces distorted associations between two variables.” In other words, a variable that examines a potential cause and effect relationship. (Field et al., 2012)

was conducted representative of the environment surrounding the research question in the real world?” (p. 300). Along these lines, the sample population was representative of the HEI since the data, in its entirety, was collected directly from university resources and student responses. In addressing the “real world” aspect, it is reasonable that the HEI’s study abroad programs, recent graduate data and employability outcomes portray that of similar universities in their size and demographic. The further comparisons between the results of the HEI study and those of the IIE and EIS target the question of external validity even more directly.

Statistical analysis utilizing ANOVA calculations comes in a linear model, carrying a few assumptions along with it. As Hirotzu outlines in his textbook *Advanced Analysis of Variance*, there are three basic assumptions for calculating ANOVA. The first is independence: observations are random and independent samples from the populations; next is normality: distributions of the populations are normal; and finally, there is homogeneity: variances of the distributions in the populations are equal variances across the different groups. (2017) This study presented some typical challenges for a large sample size as related to normal and homogeneous data.

3.5 Storage and Data Protection Regulations

When conducting research, it is of particular importance, especially given the latest updates to the legal framework in the EU²³, to guarantee participants’ rights to privacy. According to the European University Institute’s (EUI) guide on data protection in research, data protection refers to the “technical and legal framework designed to ensure that personal data are safe from unforeseen, unintended or malevolent use. Data protection therefore includes e.g., measures concerning collection, access to data, communication and conservation of data.” (p. 6) In accordance with the EU’s GDPR, the following aspects were taken into strict consideration: consent, security, anonymization, deletion and archiving. Similarly, one of the basic principles as noted by the EUI is the “proper data retention and deletion plan.” (EUI, 2019)

The data used in this study was not collected directly by the author, but instead was compiled by the HEI. At the beginning of all studies, the HEI requires students to sign code of conduct contracts along with consent forms (granting permission for everything from pictures taken of their likeness while on campus and at university events to data provided by the student

²³ EU General Data Protection Regulation (GDPR)

at any given time as an applicant, student and alumni). Thus, further actions to acquire consent for participation were not necessary.

As previously mentioned, the data used was compiled from three university sources for the purposes of this study. To ensure the data was transferred to the author in a secure manner, the university's password-protected safe links through Microsoft's OneDrive. The European Commission (EC) as legal authority ²⁴ to determine if a country outside the EU offers an adequate level of data protection; this is important since the data files originated in the U.S. but are being analyzed in Austria. To date, the U.S. is not on the EC's list of recognized countries with adequate levels of data protection. Therefore, it was crucial for the author to take extra precautions to satisfy the EU regulations. Only the employee who created the files and the author had access to the files. It is also worth mentioning that the university's IT department requires all passwords to be "strong"²⁵. Another aspect of security is storage, which must be done so in a way that prevents unauthorized access at all times. Once the data was stored securely on the author's personal PC it was deleted from the OneDrive files. The author's PC uses two-way authentication requirements to access the data files, password and pin. No one besides the author has access rights to the stored data.

Given the nature of the data, anonymization was crucial for safeguarding the subjects' identities. All of the HEI's students receive a student ID number at the time of their acceptance; this number is unique and stays with the student even if they complete more than one degree program. No names were used, as the student ID was the common variable to link data from all three sources. Age at the time of graduation was calculated to replace the date of birth. No full addresses were used; however, country of residence and employment were included.

Data should only be kept as long as it is necessary to fulfil the purpose of the research; this is often referred to as the retention period. (Guide, 2019) As outlined in the author's approved IRB, the retention period is through July 2021; this was extended after the initial application and approval. After the dissertation has been reviewed and defended, the retention period expires, and the data will be securely deleted.

²⁴ Article 45 of Regulation (EU) 2016/679

²⁵ The HEI requires all passwords to be changed at least every 180 days and defines strong passwords as:

- Must be at least 12 characters long
- Must contain at least one uppercase letter (A-Z) and at least one symbol/special character (!@#\$%^&*...)
- Cannot match any of your past 12 passwords
- Cannot contain characters that match three or more consecutive characters of your username
- You cannot change your password more than once in a 24-hour period

3.6 Limitations of Study

This study has a number of limitations of note. Four main themes surfaced during the analysis and warrant further evaluation in future studies: incomplete data, sample size, data management and missing demographics.

Incomplete data is a common, yet nonetheless vexing problem for studies in the social sciences, particularly research on and about higher education. This is due in part to the self-reporting nature of survey results utilized by many universities studying outcomes; it may also be that much of the information collected by higher education institutions is done so for administrative purposes and not for the primary objective of research and analysis. This limiting factor leads to the inability for higher education data to gather a complete picture. The HEI and the data used in this research are no exceptions to this problem. Though some statisticians may classify such data as weak, it is the data universities have to make their decisions; accordingly, it is crucial to analyze in spite of its incompleteness.

The second theme to be reviewed is sample size. At first glance, this study appears to have more than ample participants: over 60,000 graduate records. However, when evaluating the different variables, the actual number becomes significantly smaller; there are fewer than 4,000 study abroad records and fewer than 7,000 reported salary responses, the latter of which primarily come respondents who did not study abroad. The average response rate of 26% for the OIE outcome surveys is something that could certainly be approved upon, especially the participation of the HEI's international campuses' graduates (most of the responses are from the main campus in the U.S.). Similarly problematic is the lack of study abroad data from the international campuses. While the main campus certainly houses the largest number of outgoing study abroad students, being the largest campus in the network, the international comparisons would make the research results that much more complete and compelling.

The third theme that arose was data management and, specifically, how and what data was collected, stored and shared. The HEI has a unique domestic and international network, providing a rich and unique set of data. Whether attributes to university policy or personnel turnover, the type of data collected and saved did change over the ten-year timeframe in question. This proved particularly challenging when seeking corresponding data for accurate comparisons. The OIE outcomes surveys' appearance and questions were quite different during the first four years, particularly the questions regarding salary. Only starting in 2014 did the survey explicitly state that salary responses be recorded as individual annual salary earnings before taxes. The survey also moved away from many yes/no questions and to a scaled response

of agreement. Study abroad data lacked uniformity across the time period studied, likely attributable to the manual recording of data until the Fall 2018. Prior to the adoption of Terra Dotta²⁶ software, labeling and descriptions were inconsistent from year to year. Even with Terra Dotta streamlining the management of study abroad data, there is one degree program (global Master of Arts) for which the data is collected separately and manually added to such analyses. Data from satellite campuses was not captured in this dataset until Spring 2019. This means that almost all the study abroad data used in this study is excluding the data from students with a home campus outside the U.S. Prior to the spring semester of 2019, all of the HEI's international campuses kept manual records of their own outgoing study abroad students. These records were not stored or shared centrally, excluding it from this research. As briefly mentioned in the sample size limitation section above, the decentralized data storage at the HEI limited this study's breadth. Study abroad data was collected and stored at each individual campus until 2019. Addressing data management challenges as one whole university would minimize this limitation.

The last limitation concerns that which was not taken into account: the student demographic variables that were not taken into consideration for this research. Such missing demographics include ethnicity, financial aid, and previous employment data. More detailed employment information, which is to say that which is beyond the scope of what is collected by OIE survey, could strengthen the outcomes of future studies. The HEI does have an Alumni Association that tracks employment records beyond the 6 weeks after graduation (when the OIE survey is sent); however, the association does not keep records of salary, one of the main variables in measuring employability in this study. While the more "up-to-date" records the alumni association keeps would also be relevant to such outcome studies, to measure all records more fairly and objectively, the OIE survey offers data that is more easily comparable. The impact of these variables is relevant to studying abroad employability outcomes and would be beneficial for future research of similar scope to investigate.

²⁶ Terra Dotta software is a well-known software used to manage the study abroad application process.

4 Results

This chapter presents the results of the data collected for this study, as outlined in the previous chapter; results were analyzed by utilizing descriptive statistics as well as one-way, two-way and three-way ANOVA. Descriptive statistics provide a foundation for understanding the dependent variables, study abroad participation, sex, age, program, and field of study as they relate to the independent variable salary. Inferential statistics include individual ANOVA (one-way) calculations for each dependent variable allowed for analysis and a further selection of the most suitable two and three-way ANOVA combinations. This chapter concludes with a comprehensive results summary.

4.1 Descriptive Statistics

This study's quantitative analysis is rooted in the descriptive statistics tables presented in this section. Visual representations of the findings have been created and exported using the statistical software R. The initial tables display the descriptive statistics for individual variables by the employment outcome-oriented dependent variables *level*, *status* and *salary*. As previously mentioned in the methodology, the focus will be on *salary*.

Table 5 shows the percentages of groups within each independent variable as measured by the dependent variable *employment level*. The table is organized into different columns; the first is the independent variable; then come the groups within the respective dependent variables; the employment level is the next column; "n" stands for the counts or number of responses while percent represents the independent variable group's percentage within each level. The employment level category labeled "other" includes the survey results from "not in a position offering career advancement" and also "prefer not to answer/not applicable". For example, 562 non-study abroad respondents indicated that they held senior-level positions; this accounted for 13.8% of all non-study abroad respondents. Of those who had studied abroad, 14 indicated that they held senior-level positions; this accounted for 7.7% of all study abroad respondents. Whether male or female, respondents were most likely to report holding mid-level employment status.

Table 5 includes another noteworthy example: the breakdown of employment level by study abroad participation. Of the sampled respondents, 4,068 had not studied abroad, and the majority of those respondents were in mid-level employment (51.3%). A total of 182

respondents had studied abroad, and a majority of those respondents were in entry level (37.9%) positions.

Females constituted 2,494 of respondents, with many reporting mid-level employment (48%). Males made up 1,756 of the respondents, with a majority reporting mid-level employment (53.8%).

Looking further to the responses from the next independent variable, program level, graduate students constituted 3,667 of the respondents; a majority reported mid-level employment (53.7%). Undergraduate students represented 583 of the respondents; a plurality of them (44.6%) held entry-level positions.

Concerning the independent variable *major*, there were 791 students from the Arts and Sciences; a majority of those graduates were working in entry-level positions (44.6%). A majority of the 3,040 business major graduates reported mid-level employment positions (54.4%). Business majors also reported the highest percentage of senior-level positions (15.4%). Students who studied communications made up 160 respondents; they had the highest number of graduates amongst all majors in entry-level positions, at 35%, while also reporting 35% working in mid-level positions. Education majors were represented by 192 respondents; a plurality of their graduates reported working in mid-level positions (40.1%), the highest number behind business students. Only 67 students responded from the Fine Arts; a plurality indicated that they held entry-level positions (32.8%); this is also the only major to have no responses in the senior-level category.

The last independent variable, *age*, also shows similarities in expected trends amongst responses. The three groups within the variable age identified in this study reported varying degrees of employment level. The youngest group, under 25, consisting of 542 respondents, reported the highest level of employment with entry-level positions (53%). The next age group, between 25 and 35, consisted of 1,279 respondents, the majority reporting mid-level positions (53.8%). The oldest age category, above 35, yielded 2,312 responses, with a majority in mid-level positions (55.1%); that group also had the highest percentage in senior-level positions.

Table 5: Descriptive statistics for independent variables per group based on dependent variable *emp_level*

variable	group	emp_level	n	percent
study_abroad	no	Entry level	791	19.4
study_abroad	no	Mid-level	2 085	51.3
study_abroad	no	Senior level	562	13.8
study_abroad	no	Chief Executive	57	1.4
study_abroad	no	Other	573	14.1
study_abroad	yes	Entry level	69	37.9
study_abroad	yes	Mid-level	56	30.8
study_abroad	yes	Senior level	14	7.7
study_abroad	yes	Other	43	23.6
sex	F	Entry level	591	23.7
sex	F	Mid-level	1 197	48.0
sex	F	Senior level	245	9.8
sex	F	Chief Executive	21	0.8
sex	F	Other	440	17.6
sex	M	Entry level	269	15.3
sex	M	Mid-level	944	53.8
sex	M	Senior level	331	18.8
sex	M	Chief Executive	36	2.1
sex	M	Other	176	10.0
program	GRAD	Entry level	600	16.4
program	GRAD	Mid-level	1 971	53.7
program	GRAD	Senior level	549	15.0
program	GRAD	Chief Executive	53	1.4
program	GRAD	Other	494	13.5
program	UNDG	Entry level	260	44.6
program	UNDG	Mid-level	170	29.2
program	UNDG	Chief Executive	4	0.7
program	UNDG	Senior level	27	4.6
program	UNDG	Other	122	20.9
major_category	Arts and Sciences	Entry level	208	26.3
major_category	Arts and Sciences	Mid-level	340	43.0
major_category	Arts and Sciences	Senior level	80	10.1
major_category	Arts and Sciences	Chief Executive	8	1.0
major_category	Arts and Sciences	Other	155	19.6
major_category	Business	Entry level	539	17.7
major_category	Business	Mid-level	1 653	54.4
major_category	Business	Senior level	469	15.4
major_category	Business	Chief Executive	44	1.4
major_category	Business	Other	335	11.0
major_category	Communications	Entry level	56	35.0
major_category	Communications	Mid-level	56	35.0
major_category	Communications	Senior level	13	8.1
major_category	Communications	Chief Executive	1	0.6
major_category	Communications	Other	34	21.3
major_category	Education	Entry level	35	18.2
major_category	Education	Mid-level	77	40.1
major_category	Education	Senior level	14	7.3

variable	group	emp_level	n	percent
major_category	Education	Chief Executive	3	1.6
major_category	Education	Other	63	32.8
major_category	Fine Arts	Entry level	22	32.8
major_category	Fine Arts	Mid-level	15	22.4
major_category	Fine Arts	Chief Executive	1	1.5
major_category	Fine Arts	Other	29	43.3
age_class	-25	Entry level	287	53.0
age_class	-25	Mid-level	113	20.8
age_class	-25	Senior level	18	3.3
age_class	-25	Chief Executive	6	1.1
age_class	-25	Other	118	21.8
age_class	25-35	Entry level	313	24.5
age_class	25-35	Mid-level	688	53.8
age_class	25-35	Senior level	93	7.3
age_class	25-35	Chief Executive	10	0.8
age_class	25-35	Other	175	13.7
age_class	35+	Entry level	244	10.6
age_class	35+	Mid-level	1 273	55.1
age_class	35+	Senior level	445	19.2
age_class	35+	Chief Executive	41	1.8
age_class	35+	Other	309	13.4

Before moving on to the calculations with the dependent variable salary, it is important to look at the independent variables and the relation to the dependent variable employment status, as visible in Table 6. The organization is identical to the previous table, with the difference being the dependent variable. There were originally more levels of employment status; however, for the purposes of more significant statistical analysis, some levels were combined to leave only 4 types of employment status. It is worth mentioning that “Employed full-time” also includes “Employed within field of study” and “Employed not related to field of study”; “Employed part-time” also includes “Volunteer or Civic Work”; and “Unemployed” also includes “Continuing Education” and “Seeking employment”.

When observing the dependent variable employment status and the interaction with the independent variable study abroad, a majority (67.5%) of the 24,846 respondents who had not studied abroad reported fulltime employment. 1,376 responses came from graduates who had participated in a study abroad program; a majority (64.3%) of them also reported fulltime employment. Study abroad program alumni also reported higher levels of part-time employment as well as unemployment compared to those who had not studied abroad.

When looking more closely at the breakdown of status and sex, a majority of the 14,030 female responses reported full-time employment (65.4%) while males (12,187 responses)

reported higher percentages in full-time employment (69.7%) and lower percentages in both part-time employment and unemployment, respectively.

The next calculations observed the potential influence of program level on employment status. As seen in the previous chapter in the sample population demographics, graduate students heavily outnumbered their undergraduate counterparts (21,813 to 4,407). Graduate students reported a higher rate of full-time employment (69.7%) compared to the undergraduates (56.1%). Undergraduate students reported more than twice the amount of part-time employment and unemployment compared to alumni of graduate programs.

The survey found significant differences in employment status by major, as well. Arts and Science majors accounted for 5,060 survey responses and reported the highest percentage of unemployment, at 14.7%. Alternatively, Communications majors, accounting for 1,136 responses, recorded the highest rate of full-time employment, at 73.5%. Students who majored in Business made up the highest number of responses (18,640) and reported the second highest percentage of full-time employment (69.9%), the lowest rate of part-time employment (1%), and the second lowest rate of unemployment (7.9%). Of all majors, the second-lowest number of responses came from those who studied Education; however, they also reported the lowest rate of unemployment, at 7.7%. Lastly, the least amount of survey responses came from those who studied the Fine Arts; only 456 responses came from them, and they reported the highest amount of part-time employment, 6.4%.

The final independent variable to be evaluated was *age_class*. The youngest age category, those *under 25 years old*, reported the highest percentage of unemployment (15.5) and lowest percentage of full-time employment (57.6). Both the middle and oldest categories, *25-35 years old* and *older than 35*, respectively, reported similar responses in all employment status levels, only varying by often less than a percentage point. The number of responses for each group was inversely related to the age categories; those *35 and older* provided the most survey responses (11,429); then, the *25-35 age category* (9,311); and lastly, the youngest age category, with just 4,673 responses.

Table 6: Descriptive statistics for independent variables per group based on dependent variable *emp_status*

variable	group	emp_status	n	percent
study_abroad	no	Employed full-time	16 783	67.5
study_abroad	no	Employed part-time	378	1.5
study_abroad	no	No Response	5 438	21.9
study_abroad	no	Unemployed	2 247	9.0
study_abroad	yes	Employed full-time	885	64.3
study_abroad	yes	Employed part-time	56	4.1
study_abroad	yes	No Response	213	15.5
study_abroad	yes	Unemployed	222	16.1
sex	F	Employed full-time	9 177	65.4
sex	F	Employed part-time	307	2.2
sex	F	No Response	3 071	21.9
sex	F	Unemployed	1 475	10.5
sex	M	Employed full-time	8 490	69.7
sex	M	Employed part-time	127	1.0
sex	M	No Response	2 578	21.2
sex	M	Unemployed	992	8.1
program	GRAD	Employed full-time	15 195	69.7
program	GRAD	Employed part-time	263	1.2
program	GRAD	No Response	4 607	21.1
program	GRAD	Unemployed	1 748	8.0
program	UNDG	Employed full-time	2 473	56.1
program	UNDG	Employed part-time	171	3.9
program	UNDG	No Response	1 043	23.7
program	UNDG	Unemployed	720	16.3
major_category	Arts and Sciences	Employed full-time	3 005	59.4
major_category	Arts and Sciences	Employed part-time	147	2.9
major_category	Arts and Sciences	No Response	1 166	23.0
major_category	Arts and Sciences	Unemployed	742	14.7
major_category	Business	Employed full-time	13 022	69.9
major_category	Business	Employed part-time	180	1.0
major_category	Business	No Response	3 971	21.3
major_category	Business	Unemployed	1 467	7.9
major_category	Communications	Employed full-time	835	73.5
major_category	Communications	Employed part-time	49	4.3
major_category	Communications	No Response	117	10.3
major_category	Communications	Unemployed	135	11.9
major_category	Education	Employed full-time	564	60.8
major_category	Education	Employed part-time	29	3.1
major_category	Education	No Response	264	28.4
major_category	Education	Unemployed	71	7.7
major_category	Fine Arts	Employed full-time	242	53.1
major_category	Fine Arts	Employed part-time	29	6.4
major_category	Fine Arts	No Response	132	28.9
major_category	Fine Arts	Unemployed	53	11.6
age_class	-25	Employed full-time	2 692	57.6
age_class	-25	Employed part-time	184	3.9
age_class	-25	No Response	1 074	23.0

variable	group	emp_status	n	percent
age_class	-25	Unemployed	723	15.5
age_class	25-35	Employed full-time	6 465	69.4
age_class	25-35	Employed part-time	92	1.0
age_class	25-35	No Response	2 035	21.9
age_class	25-35	Unemployed	719	7.7
age_class	35+	Employed full-time	7 940	69.5
age_class	35+	Employed part-time	154	1.3
age_class	35+	No Response	2 358	20.6
age_class	35+	Unemployed	977	8.5

Table 7 gives the overview of each individual independent variable as it relates to the dependent variable salary.

Some observations from the table are particularly noteworthy. There is a significantly larger sample size for those who did not study abroad, and their mean reported salary is also considerably higher than that of non-participants. The table also displays a significant salary disparity by sex. The HEI's business majors self-reported as the highest salary earners, while fine arts majors had the lowest. A plurality of all responses came from business majors; the popularity of majors in business fields at the HEI mirrors national trends. Both independent variables program level and age follow the basic assumption that the older a respondent is, the more likely they are to have a higher salary.

Looking specifically at the numerical differences between and within categories and subgroups, one can already begin to see certain trends emerging. For example, students who did not participate in any study abroad experience reported a mean salary of \$64,462; while the students who did participate in a study abroad experience reported a mean salary of \$43,955. As for disparities by sex, female students recorded a mean salary of \$52,653; their male colleagues reported a mean salary of \$76,073, significantly higher. Examining the breakdown by age, students younger than 25 years (as calculated at the time of their graduation) reported a mean salary of \$34,938, those between 25 and 35 of \$58,268, and those older than 35 (at the time of graduation) of \$73,444. Again, these results reflect the standard expectation that with age and professional experience, salaries are likely to increase. Regarding difference by program level, graduate students registered a mean salary of \$66,906, while undergraduate students recorded a mean salary of \$39,276. As with age, this result, that graduate students reported higher salaries than undergraduate students, was expected. The differences by major groups were as follows: arts and sciences majors listed a mean salary of \$51,246, business majors of \$69,462, communications majors of \$39,291, education majors of \$43,424, and fine arts majors of \$25,013. These findings show that employability outcomes, as measures by

salary, vary significantly depending upon major group. As can be clearly observed, and expected in accordance with the literature, on average business students report the highest salaries, while the lower salaries are reported by those who studied fields related to the fine arts.

Table 7: *Descriptive statistics for independent variables per group based on dependent variable salary*

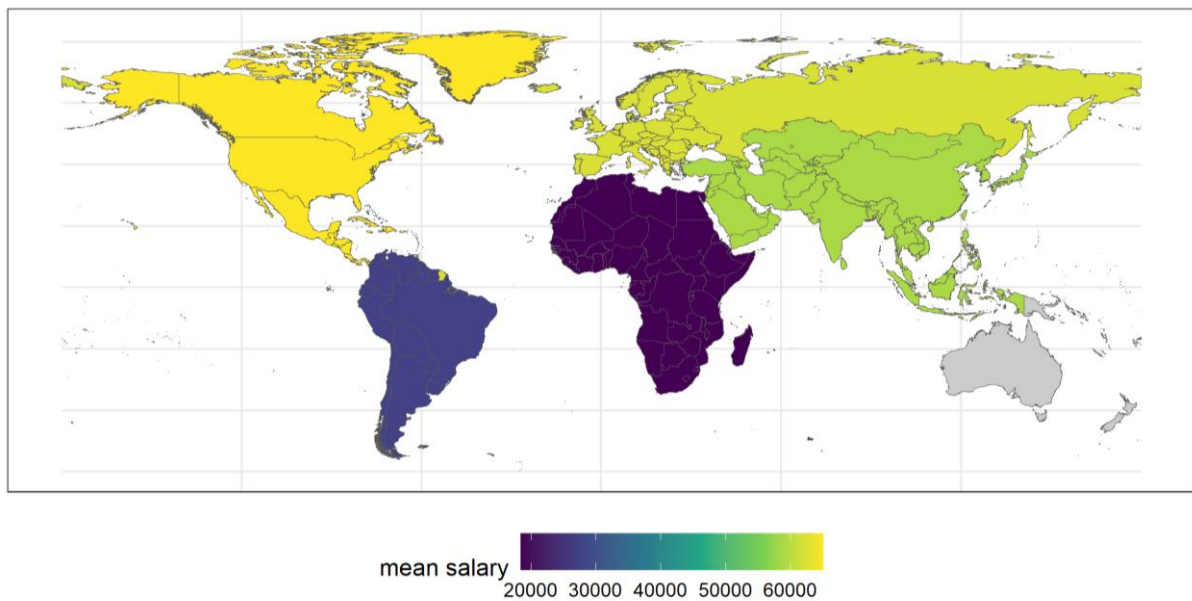
variable	group	n	mean	sd	median
study_abroad	no	6 426	64 462	33 863	60 000
study_abroad	yes	221	43 955	37 231	36 000
sex	F	3 489	52 653	28 456	45 000
sex	M	3 158	76 073	35 723	75 000
age_class	-25	761	34 938	23 040	32 760
age_class	25-35	2 262	58 268	29 823	51 000
age_class	35+	3 402	73 444	34 660	70 000
program	GRAD	5 895	66 906	33 768	60 000
program	UNDG	752	39 276	26 631	34 410
major_category	Arts and Sciences	1 122	51 246	33 480	41 000
major_category	Business	4 941	69 462	33 657	65 000
major_category	Communications	237	39 291	23 215	35 360
major_category	Education	285	43 424	16 796	41 990
major_category	Fine Arts	62	25 013	14 853	25 500

The map in Figure 10 shows the mean salary from the OIE outcomes survey by continent. This map is intended to provide a global scale of the HEI's graduates' salary as noted by the responses to address of employment listed as the geographical location *country*. There are many assumptions that can be drawn based on political and economic factors of the countries that may or may not account for the level of income reported; however, this would extend beyond the scope of this research.

Figure 10: *World map of mean salary distribution per continent*

World map

Mean Salary per Continent



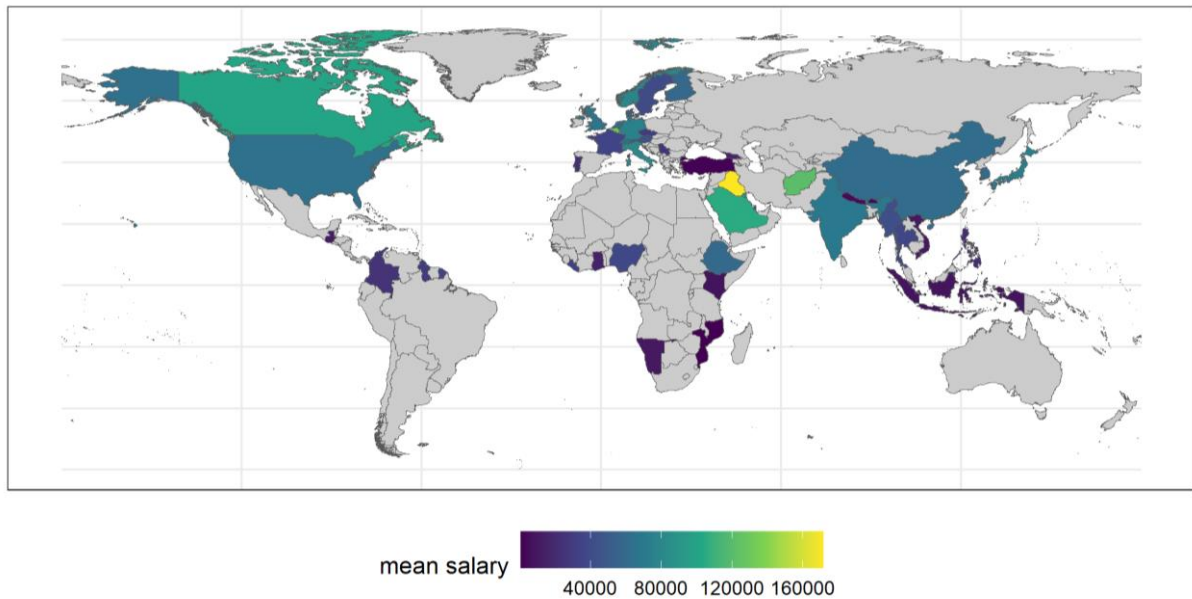
Data Source: HEI - Survey Data 2010-2019

The map in Figure 11 shows the mean salary from the OIE outcomes survey per country. The visual not only allows for an overview of where the HEI's graduates are employed but also their average reported annual income. It is worth noting that there is a correlation between those countries with a high number of HEI graduates and those countries where HEI locations exist.

Figure 11: *World map of mean salary distribution per country*

World map

Mean Salary per Country



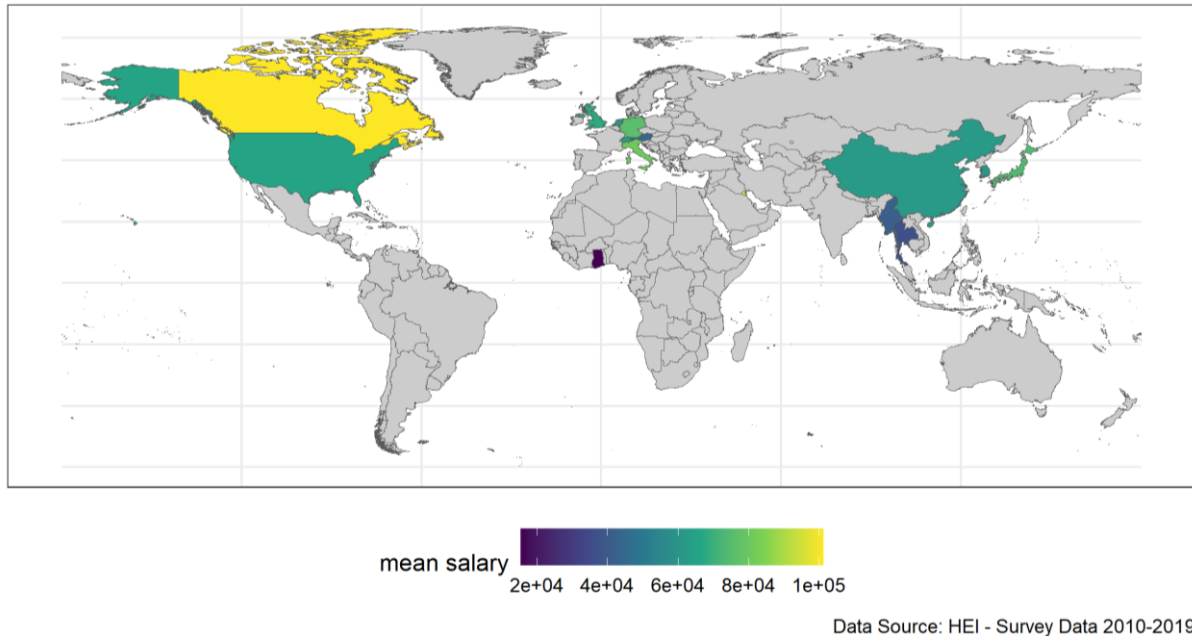
Data Source: HEI - Survey Data 2010-2019

Similar to the previous map, the map in Figure 12 shows the mean salary from the OIE outcomes survey per country when the number of responses was greater than 4. One should note that the largest number of students in a certain country remains geographically close to the HEI's locations of satellite campuses.

Figure 12: World map of mean salary distribution per country when frequency is greater than 4 students

World map

Mean Salary per Country when $n \geq 4$



These results are, much as the name suggests, describing the data and providing a summary of the initial calculations. In order to reach any conclusions on factors of employability, a further statistical test is needed. This research utilized a one-way ANOVA, followed by two and three-way ANOVAs for this purpose. The next sections in this chapter will explore more closely the interaction of the dependent variable salary on all independent variables using ANOVA calculations.

4.2 ANOVA

This section will report the findings from the various one-way, two-way, and three-way ANOVA, along with the ANOVA Tukey post hoc tests completed in this study. The results from the independent variables *study_abroad* and *sex* are displayed and evaluated first, as they were identified as the key factors of graduate employability and included in all three-way ANOVA calculations.

A visual depicting the overview of each independent variable by the dependent variable salary is shown at the beginning of every section and respective breakdown of analysis. It is worth noting the ways of graphically portraying data distribution that were used in this assessment. Distribution, in this case, can be understood as the composition of values of a

specific variable displaying the observed rate of occurrence. While Teutonico (2015) outlined how to use `ggplot2`²⁷ in R to produce visuals, it was Moon (2016) who described the reasoning behind using such graphic representations and the understanding behind the value of the particular combination of three plots used here: density, box, and violin. A density plot is used to examine the distribution of one or multiple variables; it can be considered a smoother version of a histogram but utilizing the same basic representation and idea. A box plot, as defined by Moon, employs boxes and lines to show the distributions of one or more groups. (Moon, 2016) The central range, comprising of the middle 50%, is indicated by the borders of the boxes, with the central line in the box indicating the median value. The lines extending from the box represent the remaining data, while the dots beyond the lines depict the outliers. (Field et al., 2012) A violin plot was also utilized in the visualization of data; this was done due to the fact that violin plots often best portray comparisons of distributions among multiple groups. Field et al. also point out that this plot gets its name from the similarly shaped violin symbol the data often draws from peaks, valleys, and tails of each group's density curve. These features illustrate different points of data allowing for a visually pleasing comparison between group's density, verifying where groups are different or similar. As Field et al. (2012) point out, box plots can be limiting in the interpretation of information; however, they are relatively straightforward to understand and analyze. By combining the three visuals side-by-side – density, box, and violin plots, the results can be more accurately depicted, allowing for clearer understanding and more precise assessment.

4.2.1 Study Abroad

A one-way ANOVA was performed to initially evaluate if salary (reported annually in USD) was different for the two groups in the independent variable *study_abroad*. The data here is presented as a mean plus or minus the standard deviation.

In Figure 13 the first graph's y-axis denotes the frequency of the groups in the variable *study_abroad*, labeled density for a typical density plot; the x-axis indicates the salary per group as recorded in the OIE outcomes survey. In the second and third graphs (boxplot and violin plot, respectively), salary values are shown in the y-axis and the breakdown of groups the variable *study_abroad* on the x-axis. 'No' is for no study abroad participation and 'Yes' is for study abroad participation. In

²⁷ `ggplot2` is a visualization package for R that can be downloaded and utilized in the statistical software (Hadley, Chang, 2005). Packages in R are extensions or enhancements to the basic software; they often contain special codes for desired functions and tools.

Figure 13 salary is shown to be different between students who study abroad and those who do not, with the mean values of students who studied abroad at \$43,955 and students who did not at \$64,462.

Figure 13: Visual overview of independent variable *study_abroad* by dependent variable salary

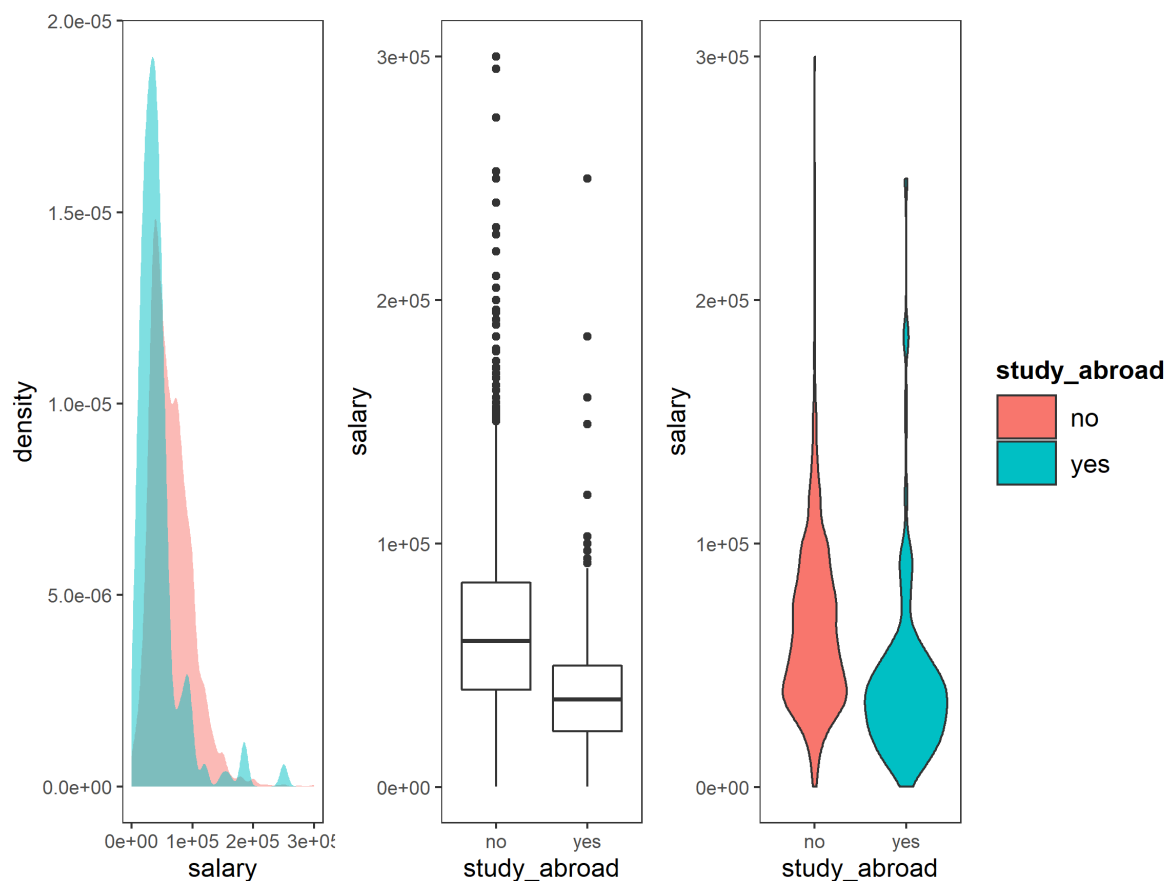


Table 8 shows the effect which measures if there are differences within all groups in the variable *study_abroad*, not within or between the groups of the variable. The p-value for the one-way ANOVA for the variable *study_abroad* is < 0.0001 ($1.43e-18$), which is classified as statistically significant. This implies that there is a statistically significant difference in the mean value of salaries between the groups who study abroad and those who do not.

Table 8: One-way ANOVA results for the independent variable *study_abroad*

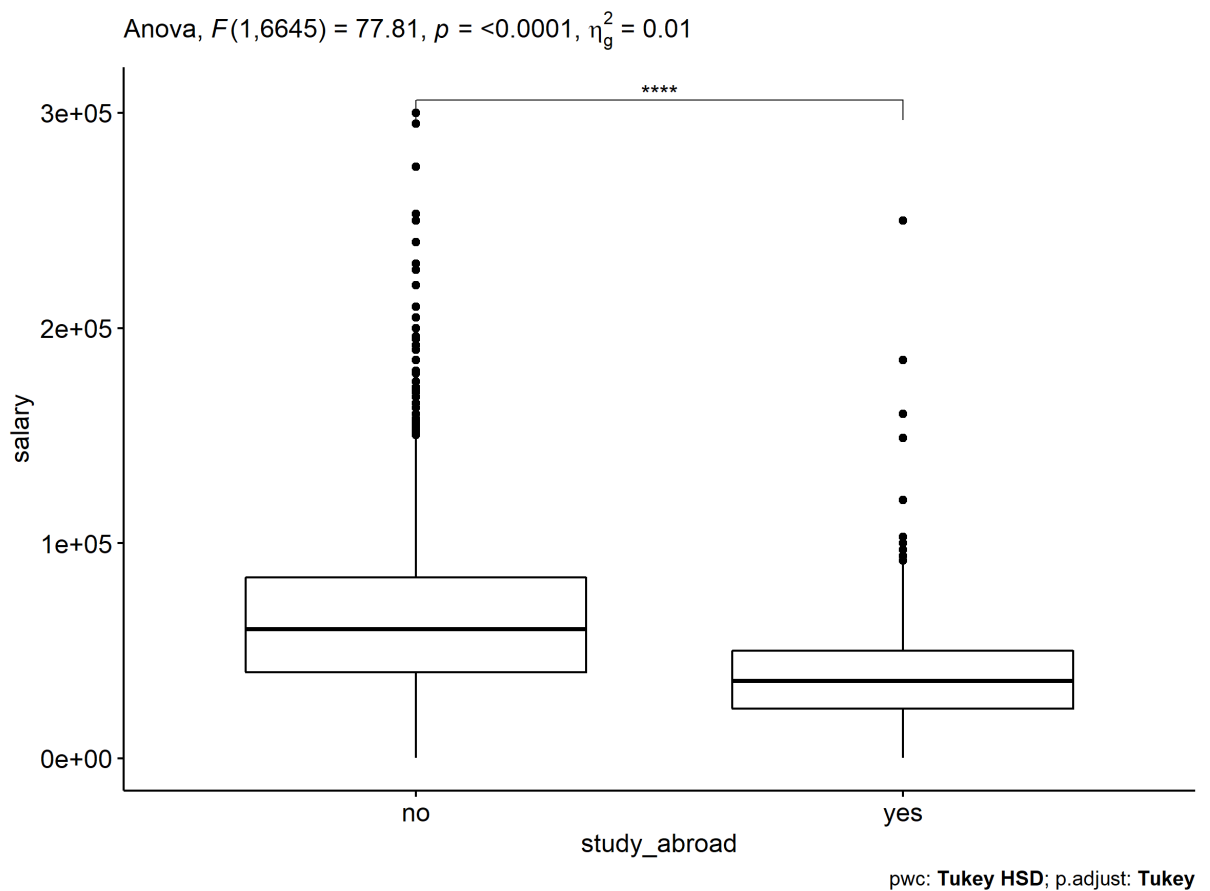
Effect	DFn	DFd	F	p	P<.05	ges (η^2)
program	1	6 645	77.813	1.43e-18	*	0.012

Table 9 shows the values in the post-hoc comparisons between groups in the variable *study_abroad*. This type of comparative analysis helps quantify the differences between groups in order to determine which groups significantly differ from each other. (Field et al., 2012) After calculating the pairwise comparisons in an ANOVA, the results are also shown in a star ranking (*); the fewer the stars, the less significant the difference, with a maximum significant difference being four (****) stars. In this case, because *study_abroad* only has two groups, participated yes or no, there is only one comparison and value. The table shows, as can be seen in the p-value and denoted by the highest rating of difference, that there is a statistically significant difference (in salary) between sexes. The estimate value shown is the calculated mean difference (in salary) between groups (study abroad participation), 20,507 (USD). This implies that there is a statistically significant difference in the mean value of salaries between the groups of individuals who study abroad and those who do not.

Table 9: *Pairwise comparisons between groups within the independent variable study_abroad*

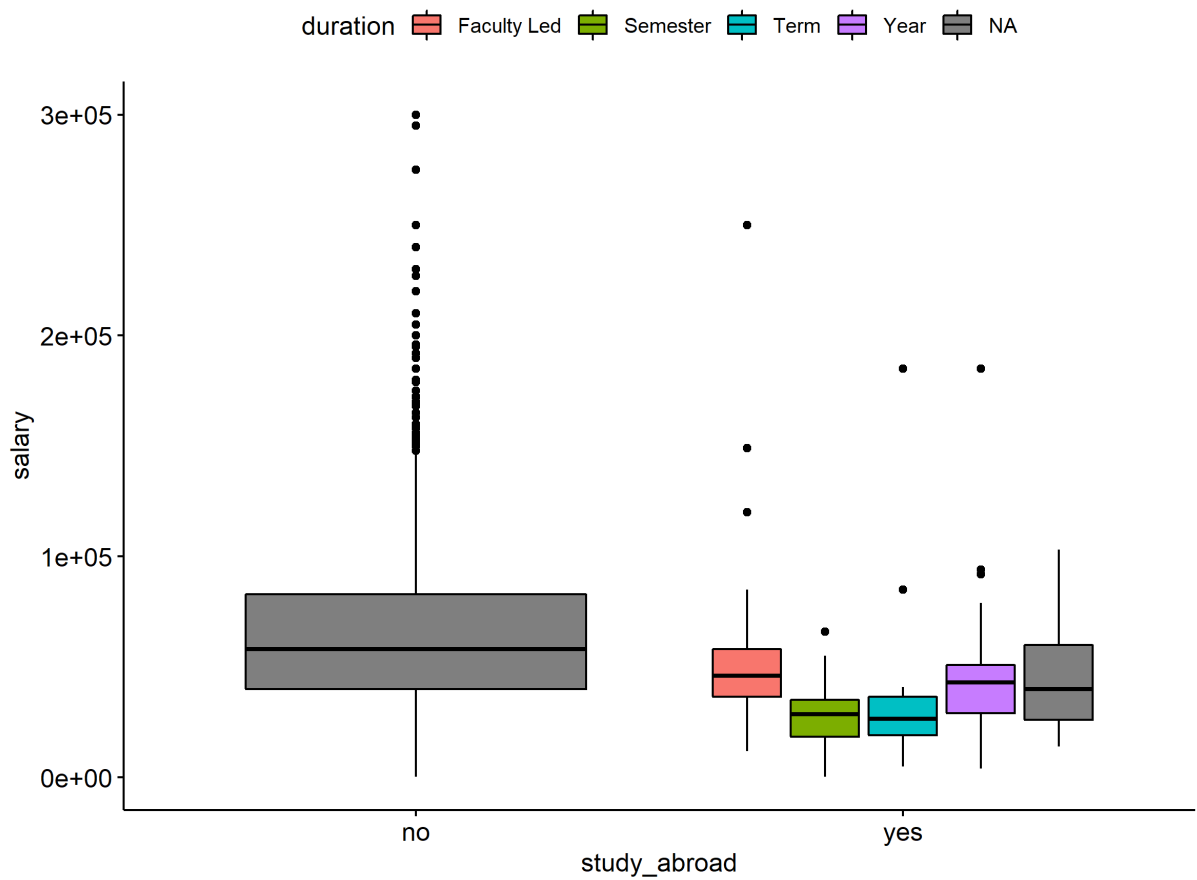
Group 1	Group 2	estimate	p	t. P<.05
no	yes	20.507	0	****

Figure 14 shows the post-hoc Tukey HSD test (here HSD stands for honest significant difference) that was run for the variable *study_abroad*. The Tukey test is the most common ANOVA post-hoc test used, in general, to confirm where the differences between groups occurred; it compares all possible pairs of means. Figure 14 is the visual representation of the ANOVA post-hoc test output that has been previously described and displayed in Table 8 and Table 9.

Figure 14: One-way ANOVA Tukey post-hoc results for the independent variable *study_abroad*

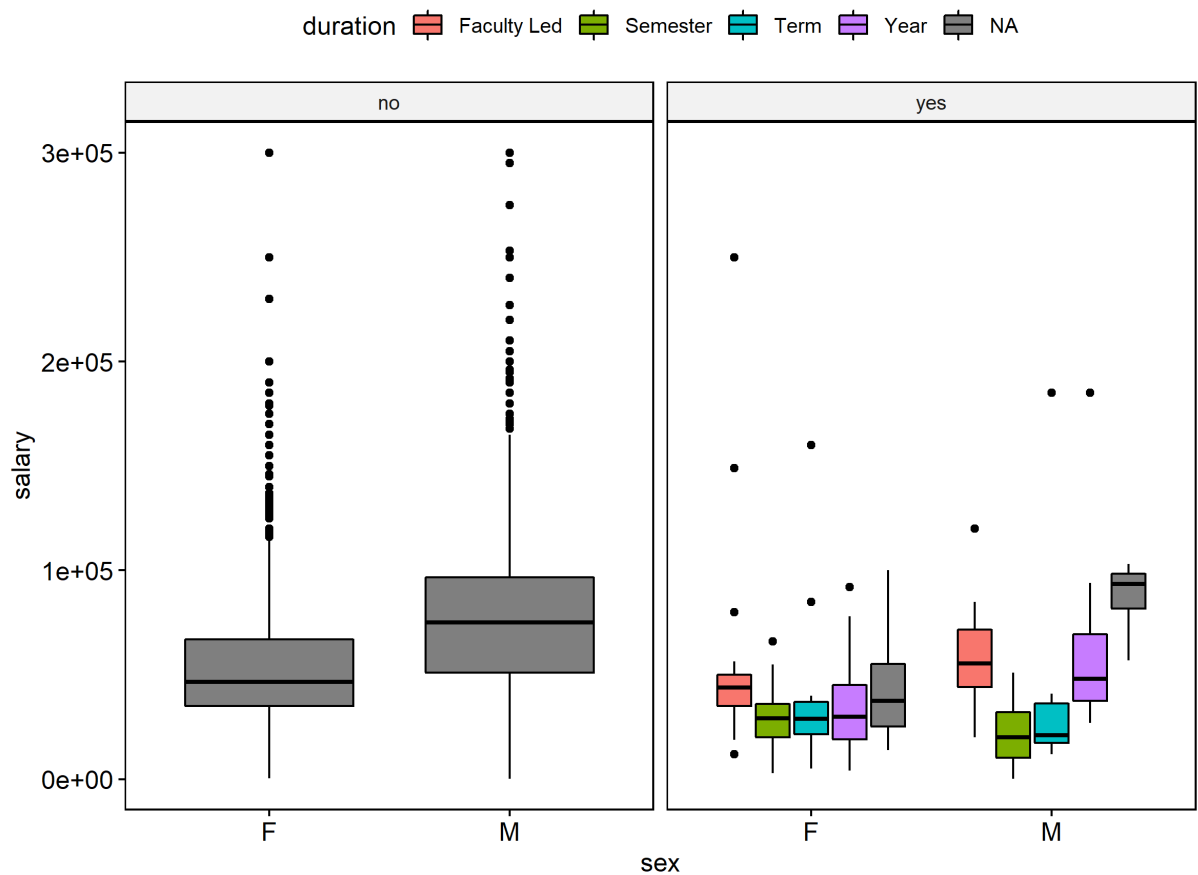
In Figure 15 the results for a two-way ANOVA show the variations within the independent variable *study_abroad* by looking further into the duration of international educational experiences and the effect on the dependent variable salary. With the exception of faculty lead programs, which at this HEI were recorded as less than a term, the longer the time abroad, the higher the outcome salary.

Figure 15: Two-way ANOVA results for the independent variables *duration* and *study_abroad* with the dependent variable *salary*



The following visual, Figure 16, is an extension of the previous two-way ANOVA by adding in the independent variable *sex* to make a three-way analysis. The greatest variation among duration of time abroad and *salary* can be seen by men. Both sexes show the greatest positive effect on *salary* when they've attended *faculty-led* study abroad programs.

Figure 16: Three-way ANOVA results for the independent variables *duration*, *sex* and *study_abroad* with the dependent variable *salary*



The findings show that males have higher salaries than females; they also show that those who participate in a *faculty-led* program have higher salaries among both males and females. Overall, those who do not study abroad have higher salaries than students who study abroad, which is true for both sexes.

4.2.2 Sex

Next, a one-way ANOVA was performed to assess if *salary* (reported in USD) was different for the two categories for *sex*. In Figure 17, the first chart on the far left, the y-axis indicates the population size of the groups within the variable *sex*, labeled density; the x-axis displays the salary per group as recorded in the OIE outcomes survey. For the middle and far right charts, salary values are shown on the y-axis and the breakdown of groups within the variable *sex* is on the x-axis, F is for female and M is for male. Salary is shown to be different between sexes, the mean values of females at \$52,653 and males at \$76,073.

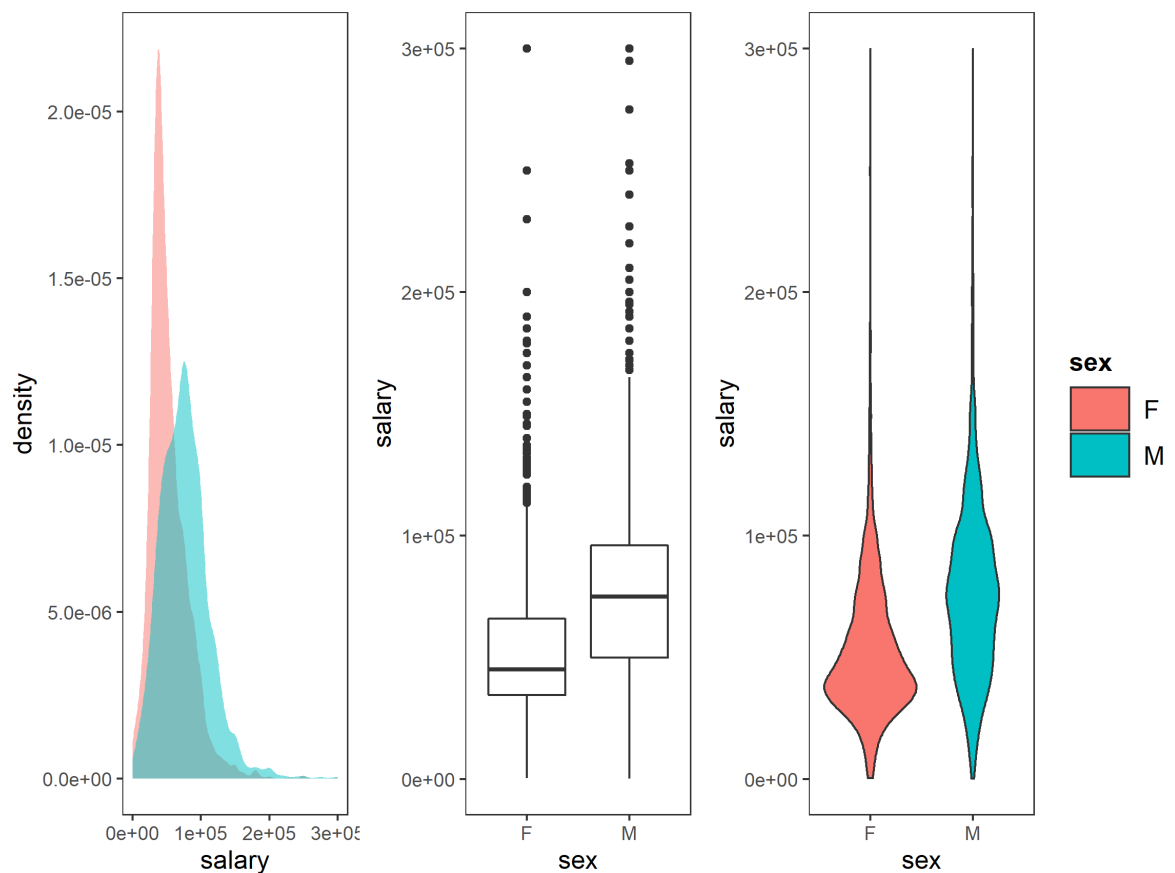
Figure 17: Visual overview of independent variable sex by dependent variable salary

Table 10 shows the effect the variable *sex* has within both groups on the dependent variable *salary*. The p-value for the one-way ANOVA for the variable *sex* is < 0.0001 ($4.96e-182$) and, therefore, statistically significant. This implies that there is a statistically significant difference in the mean value of salaries between the groups of individuals, both male and female.

Table 10: One-way ANOVA results for the independent variable *sex*

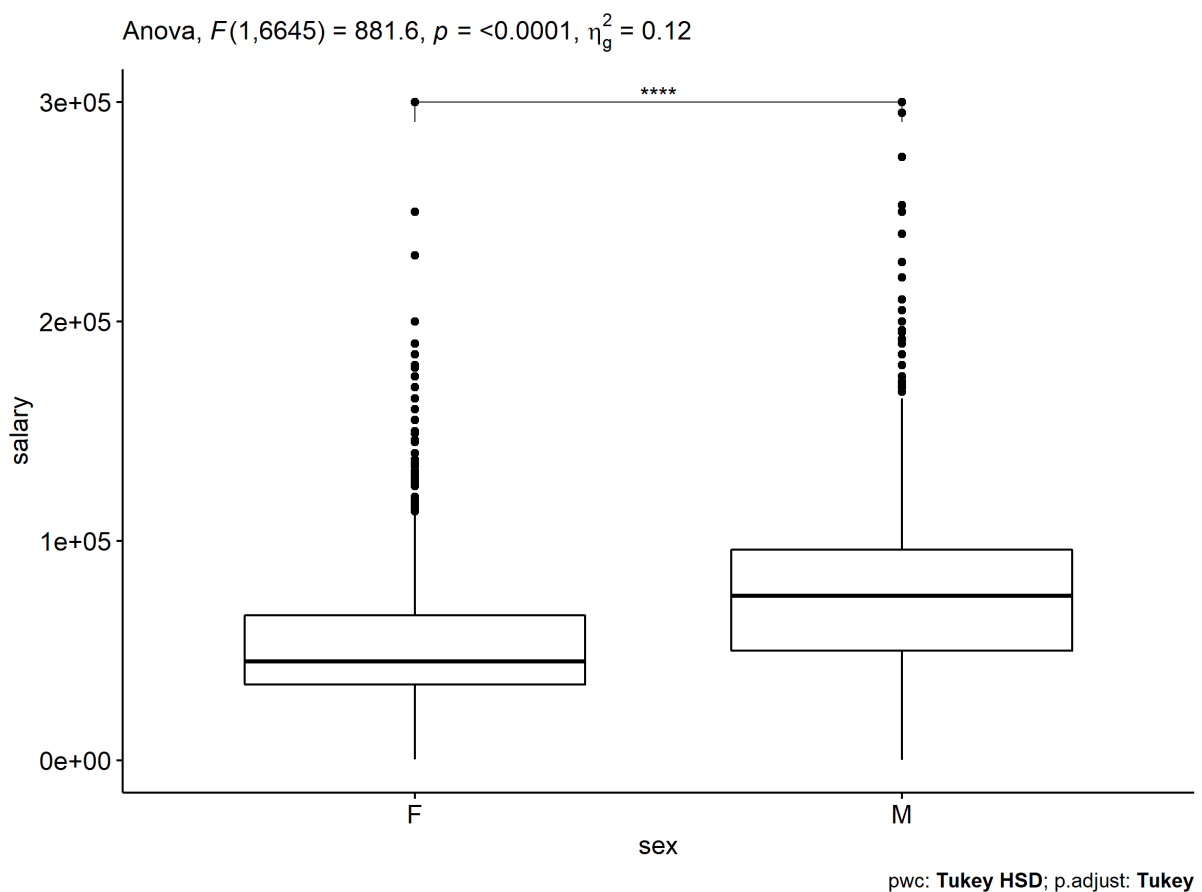
Effect	DFn	DFd	F	p	P<.05	ges (η^2)
sex	1	6 645	881.603	4.96e-182	*	0.117

Table 11 shows the values in the post-hoc comparisons between groups within the variable *sex*. The table reveals that there is a statistically significant difference (in salary) between sexes. The estimate value shown is the calculated mean difference (in salary) between groups (sexes), 23,420 (USD). Again, a statistically significant difference between reported salaries of the groups is different.

Table 11: Pairwise comparisons between groups within the independent variable sex

Group 1	Group 2	estimate	p	t. P<.05
F	M	23.420	0	****

Figure 18 shows the post-hoc Tukey HSD test that was run for the dependent variable sex. This visual representation of the ANOVA post-hoc test output captures the data that has been previously described and displayed in Table 10 and Table 11.

Figure 18: One-way ANOVA Tukey post-hoc results for the independent variable sex

The first two-way ANOVA that was calculated encompassed the two main independent variables: *study_abroad* and *sex*. Table 12 shows the numeric breakdown of this calculation. For both study abroad participation groups males reported higher salaries; however, among *study_abroad* participants the discrepancy between males and females was considerably less, \$14,640 annually – as opposed to \$23,401. Both sexes who participated in study abroad programs reported lower annual incomes as well.

Table 12: Two-way ANOVA for independent variables per group *study_abroad* and *sex* based on dependent variable *salary*

<i>study_abroad</i>	<i>sex</i>	n	mean	sd	median
no	F	3 346	53246	28 027	46 700
no	M	3 080	76 647	35 415	75 000
yes	F	143	38 788	34 412	32 000
yes	M	78	53 428	4 0449	45 000

Table 13 shows the differences which measures if there are differences within all groups in the variables *study_abroad* and *sex*, not within or between the groups of the variables. The p-value for the two-way ANOVA for the variables *study_abroad* and *sex* is < 0.0001 ($8.86e-21$) which constitutes a statistically significant result. This implies that there is a statistically significant difference in the mean value of salaries between the groups of both males and females who study abroad and those who do not.

Table 13: Two-way ANOVA results for the independent variables *sex* and *study_abroad*

Effect	DFn	DFd	F	p	P<.05	ges (η^2)
<i>study_abroad</i>	1	6 643	87.984	$8.86e-21$	*	0.013

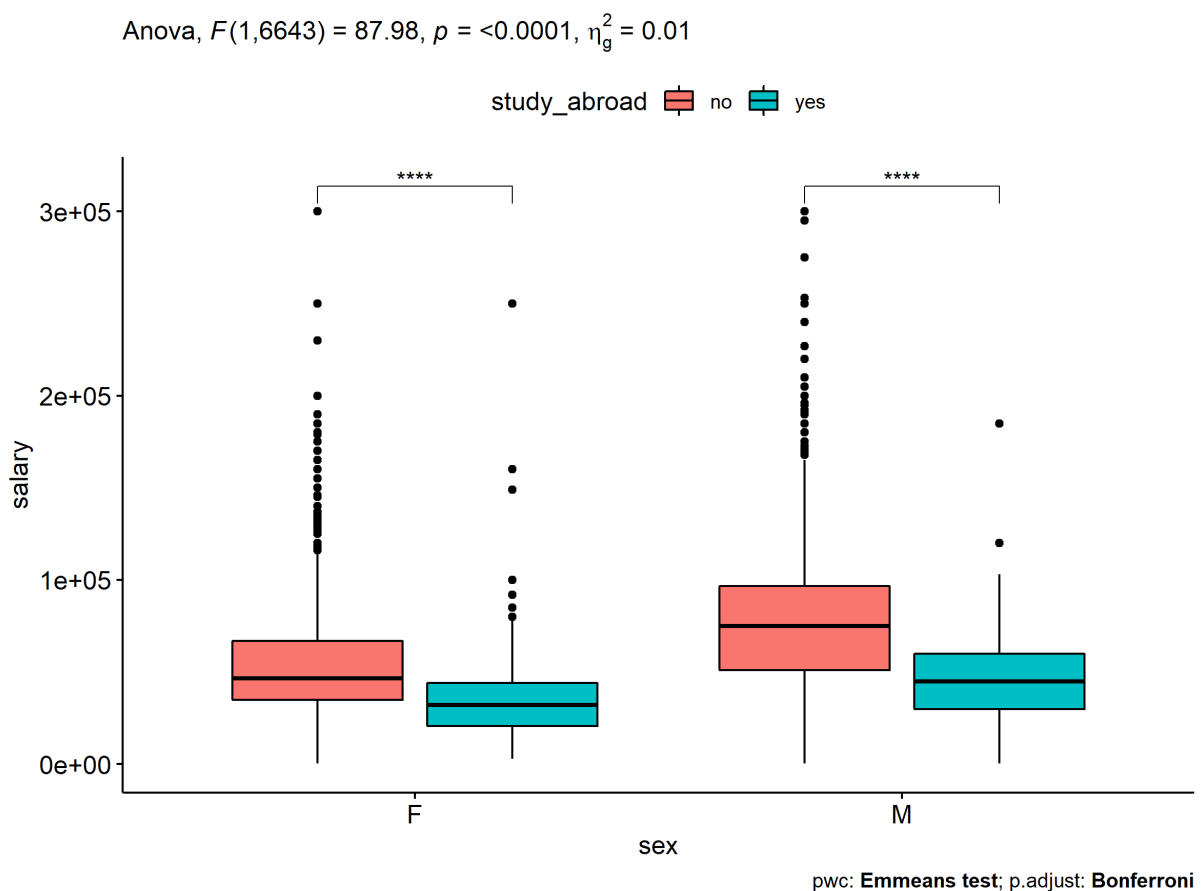
Table 14 depicts the calculations of differences in mean salary within the groups of the independent variables. This calculation is important to conduct after the two-way ANOVA in order to determine where differences occur and to what extent since the ANOVA calculation was able to (and can only) verify if there is a difference. Table 14 essentially verifies the statistically relevant differences between all groups and variations of groups as can be observed in Table 12.

Table 14: Pairwise comparisons between groups within the independent variable *sex* and *study_abroad*

Sex	Term	.y.	Group 1	Group 2	p	t. P<.05
F	<i>study_abroad</i>	<i>salary</i>	no	yes	$1.21e-7$	****
M	<i>study_abroad</i>	<i>salary</i>	no	yes	$2.49e-10$	****

The next statistical analysis that was conducted was the Tukey post-hoc test for the two-way ANOVA between *study_abroad* and *sex*. Post-hoc tests are important, as mentioned previously; however, when increasing the number of variables and groups (as is the case with this and any two-way ANOVA), the possibility for an experiment-wise error (also referred to as type I error) increases as well. This possibility makes a post-hoc test with two and three-way ANOVAs even more important. For every experiment there is a certain rate of error that must be taken into consideration (significance level or p-value), often referred to as a false positive. When performing more tests with more variables and groups the chance of getting a false positive increases almost to the point of inevitability. Figure 19 displays the post-hoc results from the two-way ANOVA between *study_abroad* and *sex*. The p-value is under 5%, making the results statistically significant; thus, one can confirm all pairwise comparisons are significant and conclude there are differences in mean salary among all groups.

Figure 19: Two-way ANOVA Tukey post-hoc results for the independent variables *study_abroad* and *sex*



4.2.3 Age

As with the previous two independent variables, first a one-way ANOVA was performed to assess if salary (reported in USD) was different for the three categories of *age_class*. In Figure 20, the first chart on the far left, the y-axis indicates the frequency of the groups within the variable *age_class*, labeled density; the x-axis displays the salary per group as recorded in the OIE outcomes survey. The middle and far right charts, salary values are shown on the y-axis and the breakdown of groups within the variable *age* is on the x-axis. Salary is shown to be different between age groups, the mean values of *under 25* at \$34,938; the next category of 25-35 at \$58,268; and *over 35* at \$73,444.

Figure 20: Visual overview of independent variable *age_class* by dependent variable salary

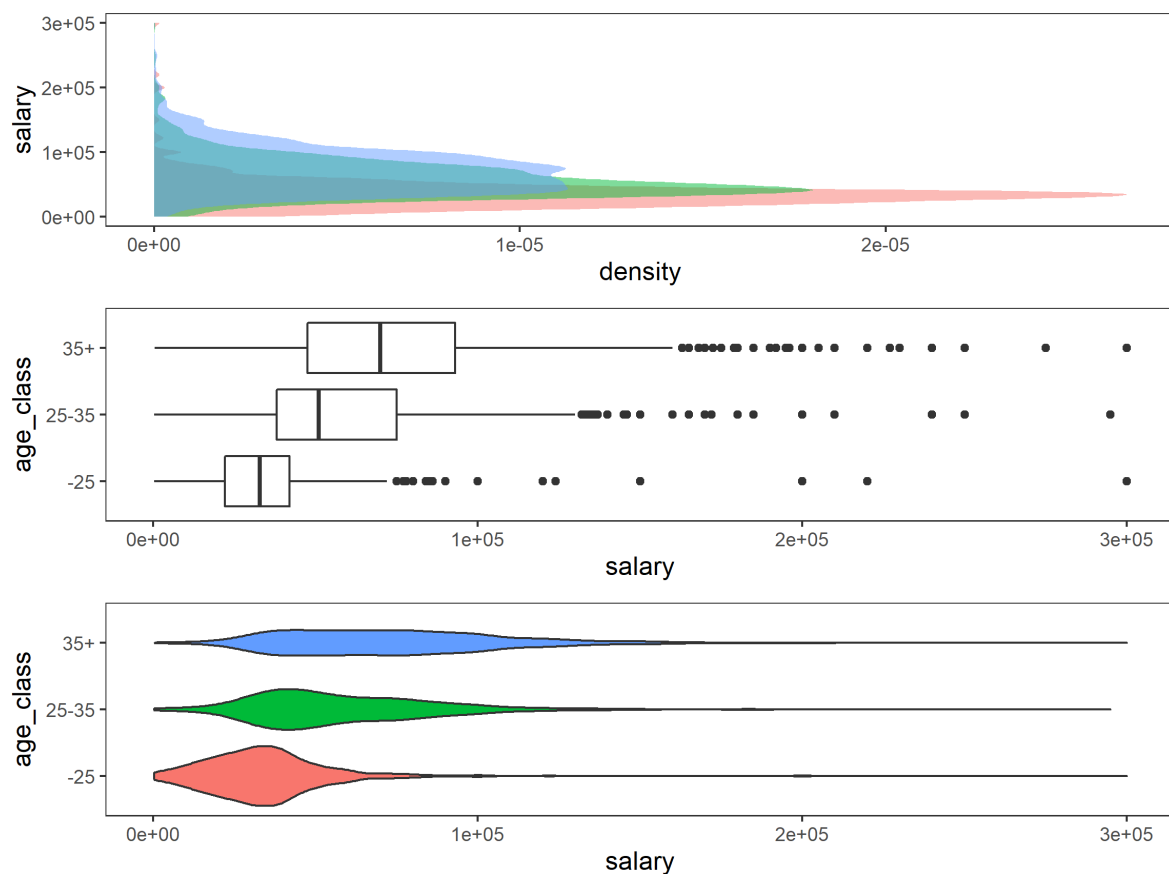


Table 15 shows the effect the variable *age_class* has among all groups on the dependent variable salary. The p-value for the one-way ANOVA for the variable *age_class* is < 0.0001 ($7.76e-204$) and, therefore, statistically significant. This implies that there is a statistically significant difference in the mean value of salaries between the groups of individuals who are *under 25*, *between 25 to 35*, and *above 35* years old.

Table 15: *One-way ANOVA results for the independent variable age_class*

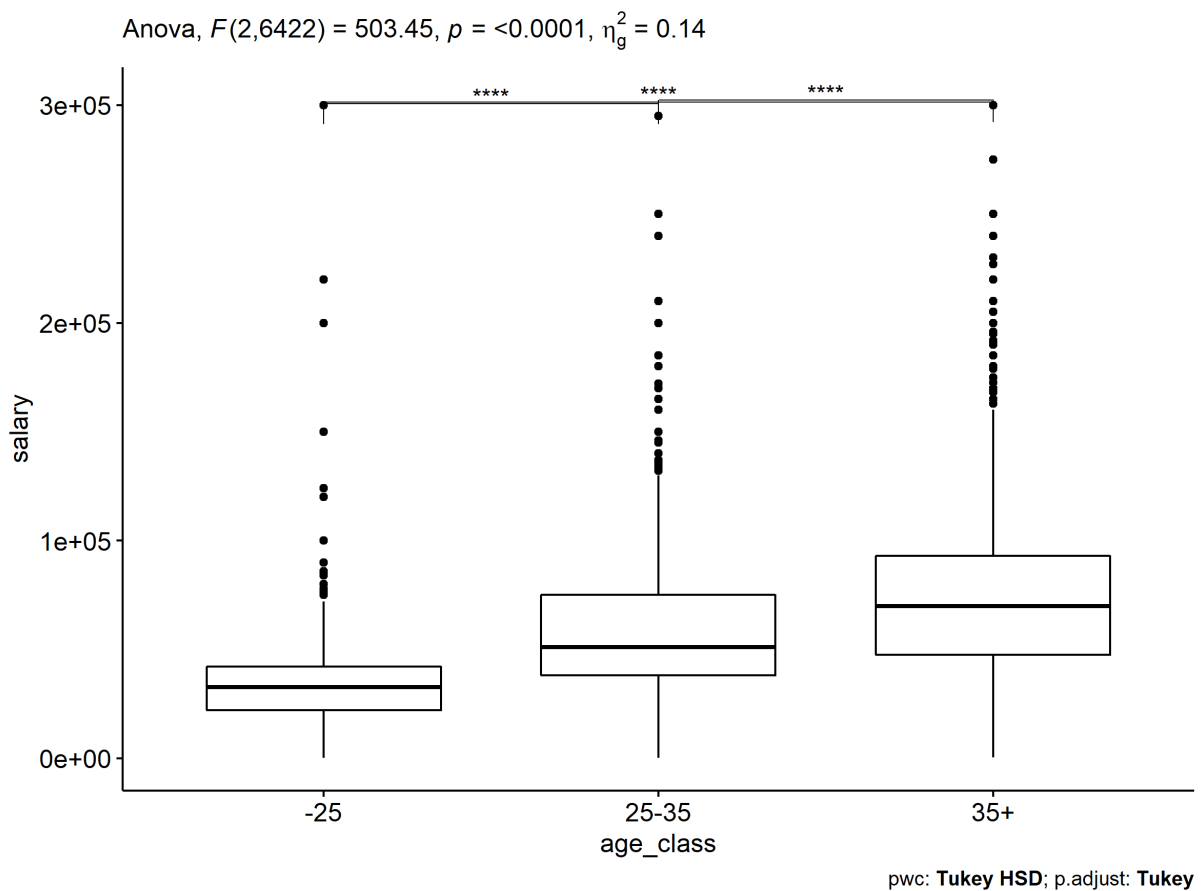
Effect	DFn	DFd	F	p	P<.05	ges (η^2)
<i>age_class</i>	2	6 422	503.453	7.76e-204	*	0.136

Table 16 shows the values in the post-hoc comparisons between groups within the variable *age_class*. The table reveals that there is a statistically significant difference (in salary) among age groups. The estimate value shown is the calculated mean difference (in salary) between groups; the largest difference being between graduates *under 25* compared to those *over 35*, and the smallest difference between 23-35 and *over 35*, respectively: \$35,506 and \$15,176.

Table 16: *Pairwise comparisons between groups within the independent variable age_class*

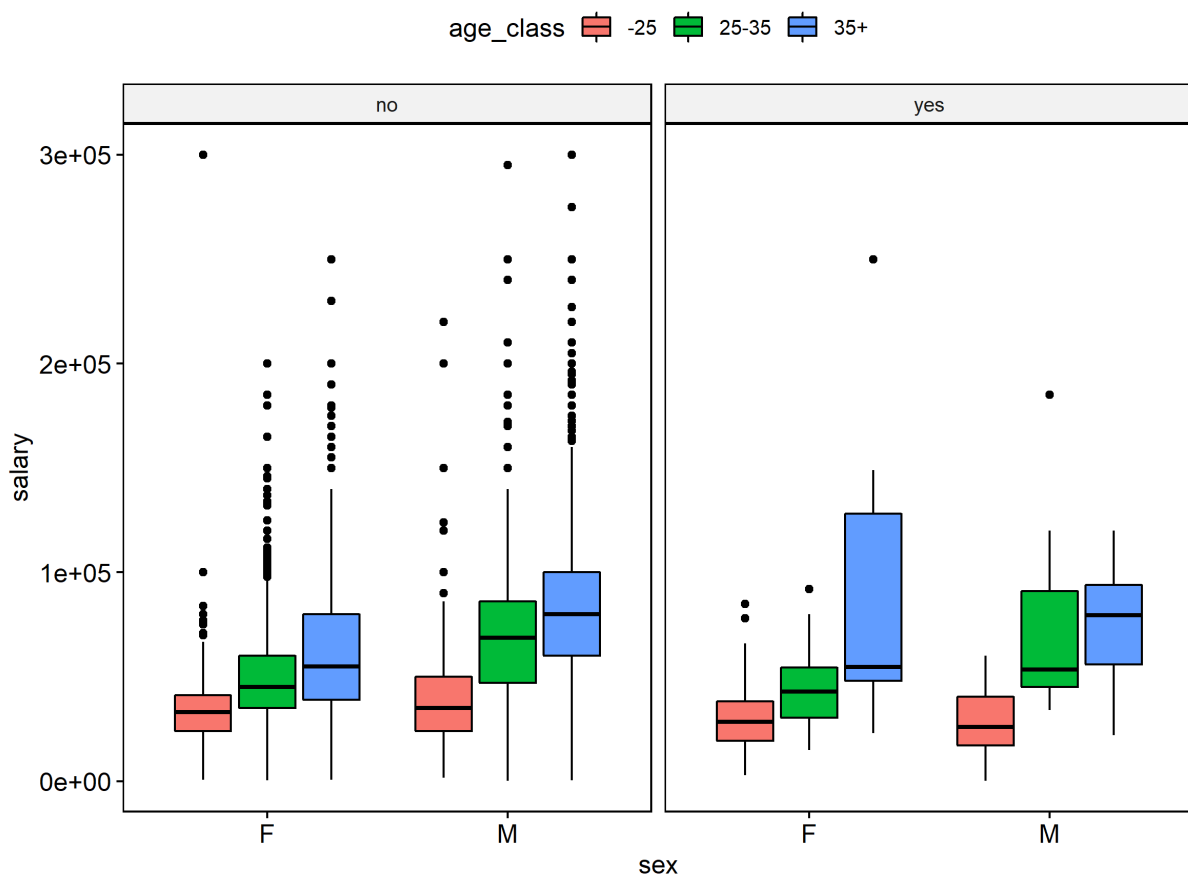
Group 1	Group 2	estimate	p	t. P<.05
-25	25-35	23330	7.36e-13	*****
-25	35+	35506	7.36e-13	*****
25-35	35+	15176	7.36e-13	*****

Figure 21 shows the post-hoc Tukey HSD test that was run for the dependent variable *age_class*. This visual representation of the ANOVA post-hoc test output captures the data that has been previously described and displayed in Table 15 and Table 16.

Figure 21: One-way ANOVA Tukey post-hoc results for the independent variable *age_class*

The first three-way ANOVA calculated analyzed the independent variables *sex* and *study_abroad*, as previously noted the most significant of the independent variables, and *age_class*. Figure 22 depicts the results of this three-way ANOVA. The “no” and “yes” labels at the top of the figure are referring to *study_abroad* participation. The salary gender gap increases with age.

Figure 22: Three-way ANOVA results for the independent variables *age_class*, *sex*, and *study_abroad* with the dependent variable *salary*



For a numerical visualization of the above figure, Table 17 displays the exact numbers of the calculated three-way ANOVA.

Table 17: *Descriptive statistics of independent variables per group study_abroad, sex and age_class based on dependent variable salary*

study_abroad	sex	age_class	n	mean	sd	median
no	F	-25	433	33 802	19 854	33 000
no	F	25-35	1 226	49 424	23 483	45 000
no	F	35+	1 491	61 434	30 099	55 000
no	M	-25	191	41 659	31 365	35 000
no	M	25-35	978	69 189	32 443	68 809
no	M	35+	1 698	84 106	34 683	80 000
yes	F	-25	103	29 389	15 271	28 500
yes	F	25-35	26	45 698	22 314	42 820
yes	F	35+	10	98 550	86 469	54 750
yes	M	-25	34	28 453	16 211	26 020
yes	M	25-35	32	73 563	47 693	53 500
yes	M	35+	10	74 700	29 844	79 500

Findings reveal that among those who did not study abroad, both males and females have higher salaries recorded for individuals who are 35 years old and above. Among the individuals who did not study abroad, the individuals in the *age_class* category 35 years old and above have higher salaries. The lowest salaries are reported by individuals who are of age 25 years old and below. The calculated statistical interaction between the independent variables *study_abroad*, *sex*, and *age_class* can be observed in Figure 23. This shows a statistically significant interaction between these variables however not where. The findings show that the factors of studying abroad, sex and age class have significant differences in the salary outcomes of the individuals. This implies that *studying abroad*, *sex*, and *age_class* bring about the employability differences in salaries among students. Further pairwise tests could help identify more closely the possible differences.

Figure 23: 3-way ANOVA between independent variables *study_abroad*, *sex* and *age_class*

ANOVA Table (type II tests)

	Effect	DFn	DFd	F	p	p<.05	ges
1	study_abroad	1	6413	0.537	4.64e-01		8.38e-05
2	sex	1	6413	682.526	4.63e-143	*	9.60e-02
3	age_class	2	6413	392.716	1.28e-161	*	1.09e-01
4	study_abroad:sex	1	6413	3.155	7.60e-02		4.92e-04
5	study_abroad:age_class	2	6413	7.345	6.51e-04	*	2.00e-03
6	sex:age_class	2	6413	14.595	4.74e-07	*	5.00e-03
7	study_abroad:sex:age_class	2	6413	6.862	1.00e-03	*	2.00e-03

4.2.4 Program Level

The findings for the next independent variable to be evaluated are for level of study, noted here as *program*. Following the same procedure as with the previous independent variables, first a one-way ANOVA was performed to calculate if salary (reported in USD) was different for the two program categories. In Figure 24, the first chart on the far left, the y-axis indicates the frequency of the groups within the variable program, labeled density; the x-axis displays the salary per group as recorded in the OIE outcomes survey. On the middle and far right charts, salary values are shown in the y-axis and the breakdown of groups within the variable program is on the x-axis; *UNDG* is for undergraduate students and *GRAD* is for graduate students. Salary is shown to be different between programs, with the mean values of undergraduates at \$39,276 and graduates at \$66,906.

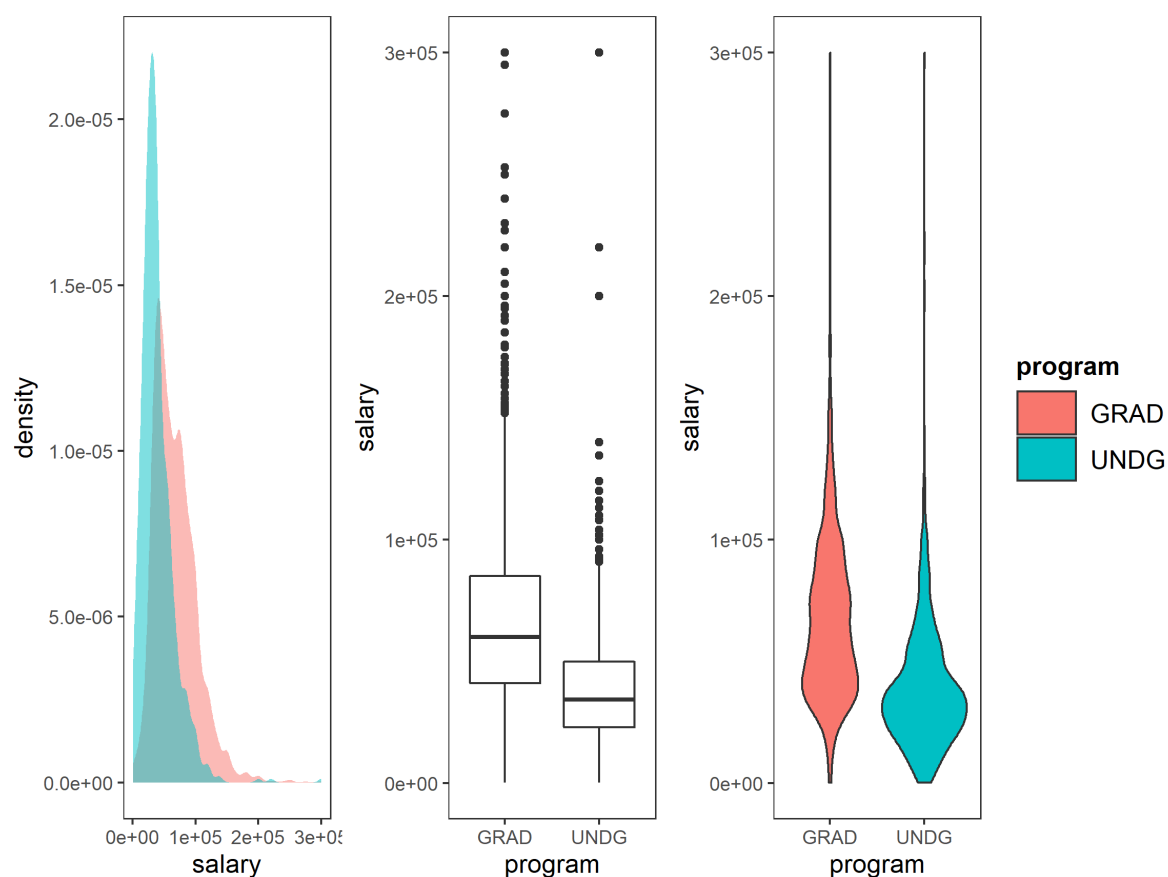
Figure 24: Visual overview of independent variable *program* by dependent variable *salary*

Table 18 shows the *effect* within all groups in the variable *program*. The p-value for the one-way ANOVA for the variable *program* is < 0.0001 ($4.91e-100$) and, thus, statistically significant. This implies that there is statistically significant difference in the mean value of salaries between the groups of individuals who are in different classes and courses in the universities.

Table 18: One-way ANOVA results for the independent variable *program*

Effect	DFn	DFd	F	p	P<.05	ges (η^2)
program	1	6 645	466.445	4.91e-100	*	0.066

Table 19 shows the values in the post-hoc comparisons between groups within the variable *program*. The table reveals that there is a statistically significant difference (in salary) between programs. The estimate value shown is the calculated mean difference (in salary) between groups (level of study): 27,630 (USD). As visible in the previous chart, the calculation shows

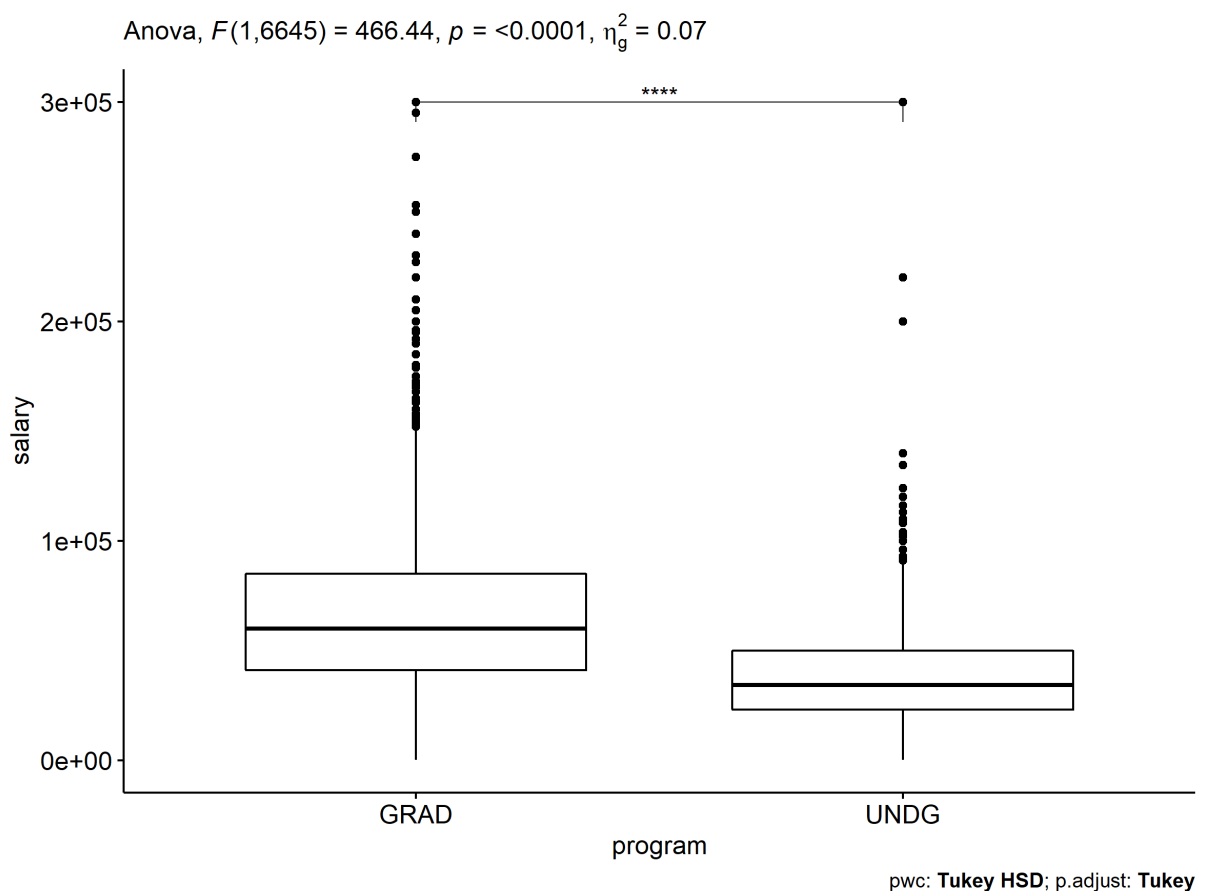
a difference in salary between undergraduate and graduate students, with graduate students reporting higher annual earnings.

Table 19: Pairwise comparisons between groups within the independent variable program

Group 1	Group 2	estimate	p	t. P<.05
GRAD	UNDG	27.630	0	****

Figure 25 shows the post-hoc Tukey HSD test that was run for the independent variable *program*. This visual representation of the ANOVA post-hoc test output captures the data that has been previously described and displayed in Table 18 and Table 19.

Figure 25: One-way ANOVA Tukey post-hoc results for the independent variable program



The next three-way ANOVA that was calculated and analyzed was again between the independent variables *sex* and *study_abroad*, and as Figure 26 shows, *program*. Again, the descriptive fields at the top of the visual (labeled no and yes, respectively) refer to *study_abroad*

participation. It is of particular note that male undergraduate program alumni who study abroad reported the lowest annual salary.

Figure 26: *Three-way ANOVA results for the independent variables program, sex, and study_abroad with the dependent variable salary*

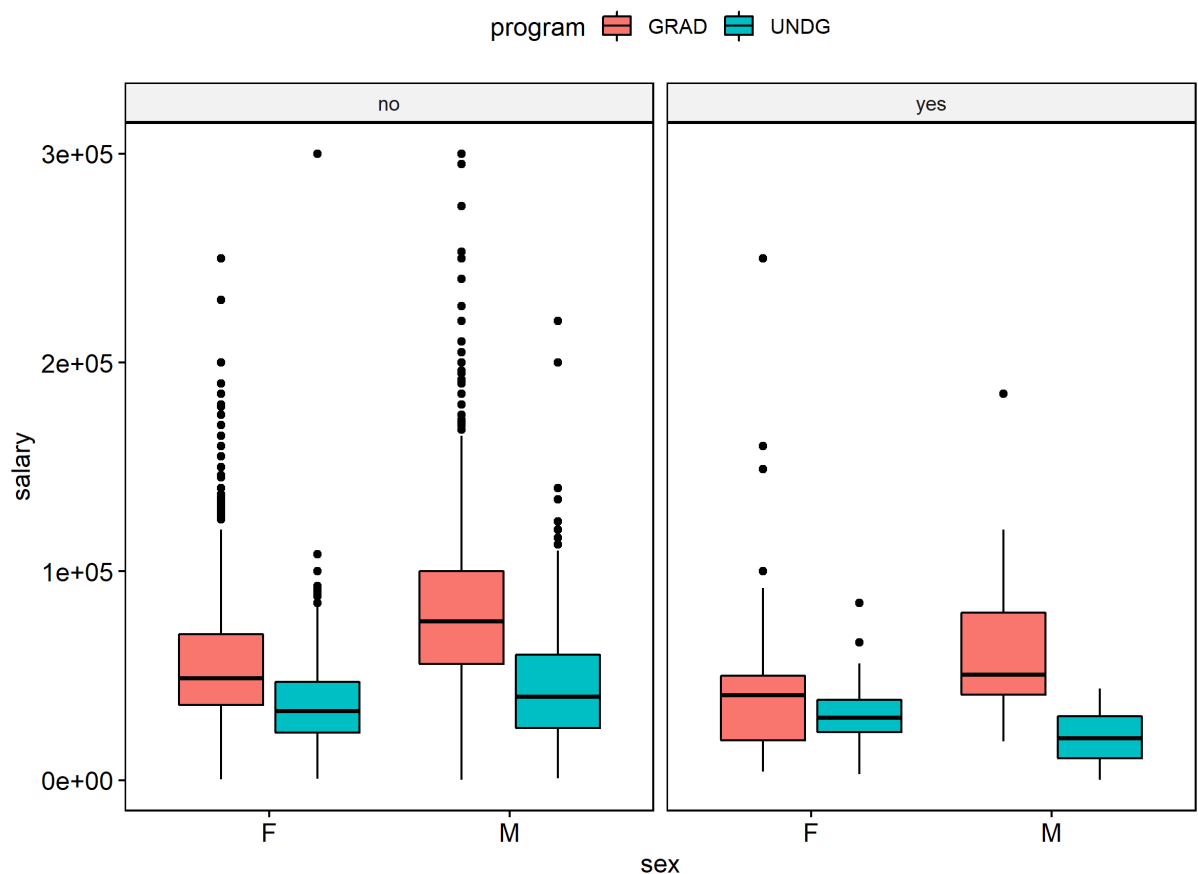


Table 20 displays the exact means of the dependent variable *salary* as calculated by the independent variables. Here one can observe the previously noted unexpected outcome of undergraduate men who study abroad reporting the lowest annual income, \$21,460.

Table 20: *Three-way ANOVA for independent variables per group study_abroad, sex and program based on dependent variable salary*

study_abroad	sex	program	n	mean	sd	median
no	GRAD	F	2782	55 210	27 756	48 000
no	UNDG	F	368	35 959	24 148	32 250
no	GRAD	M	2606	79 216	34 651	75 000
no	UNDG	M	261	45 972	30 924	39 000
yes	GRAD	F	62	45 138	45 683	38 500
yes	UNDG	F	77	31 197	14 210	30 000
yes	GRAD	M	54	66 597	41 366	50 500
yes	UNDG	M	22	21 460	12 668	20 000

The statistical interaction between the independent variables study_abroad, sex, and age_class can be observed in Figure 27. There is no statistically significant interaction among all 3 variables; however, there is one between sex and program.

Figure 27: *3-way ANOVA between independent variables study_abroad, sex and program*

ANOVA Table (type II tests)

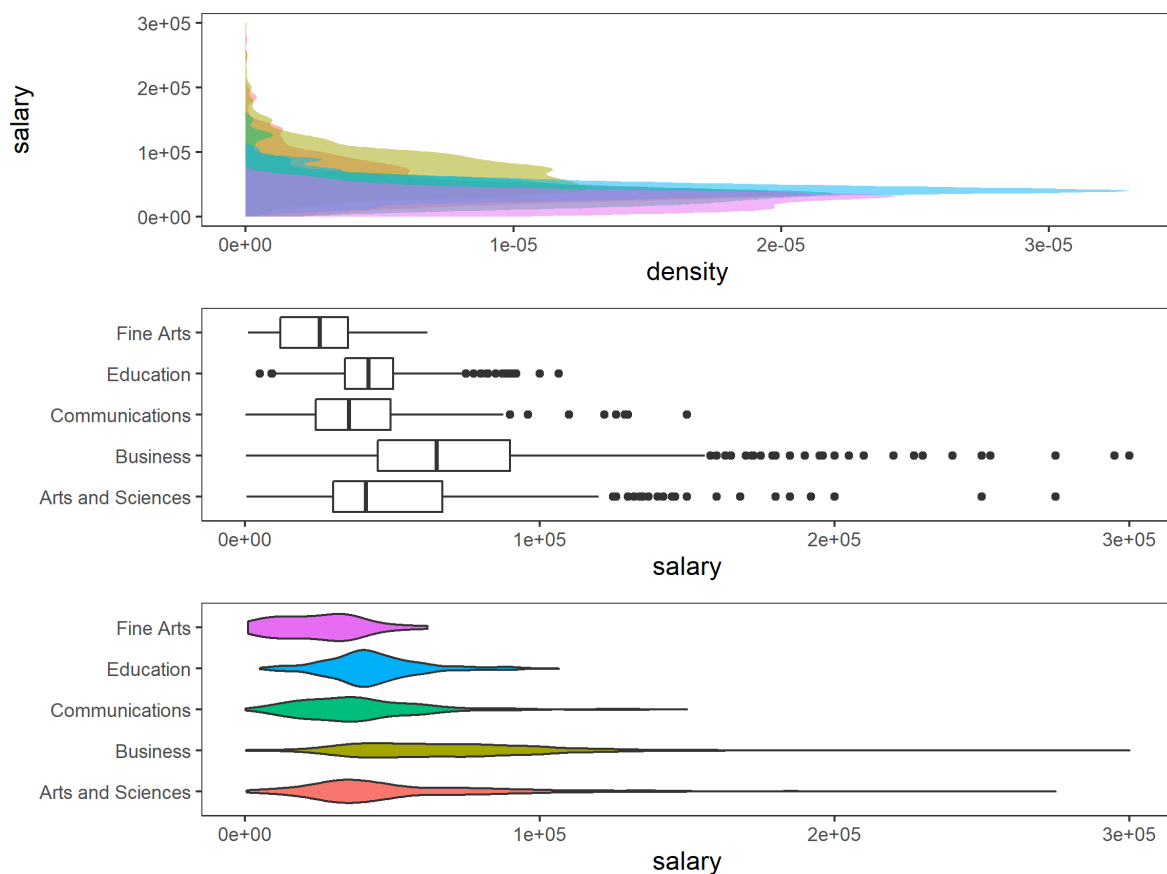
	Effect	DFn	DFd	F	p	p<.05	ges
1	study_abroad	1	6639	22.567	2.07e-06	*	3.00e-03
2	sex	1	6639	853.898	1.08e-176	*	1.14e-01
3	program	1	6639	401.046	1.13e-86	*	5.70e-02
4	study_abroad:sex	1	6639	5.250	2.20e-02	*	7.90e-04
5	study_abroad:program	1	6639	0.270	6.03e-01		4.07e-05
6	sex:program	1	6639	38.692	5.26e-10	*	6.00e-03
7	study_abroad:sex:program	1	6639	1.888	1.69e-01		2.84e-04

4.2.5 Major/Field of Study

The final independent variable to be evaluated is field of study, stated here as *major*. Following the same procedure as with the previous independent variables, first a one-way ANOVA was performed to calculate if salary (reported in USD) was different for the five major categories. These categories are, as mentioned in Chapter 3, the majors according to the college or school of the HEI. In Figure 28, the first chart on the top, the y-axis displays the *salary* per group as recorded in the OIE outcomes survey, while the x-axis indicates the frequency of the groups within the variable major, labeled density. On the middle chart, the breakdown of groups

within the variable *major* is on the y-axis, while *salary* values are shown on the x-axis. Salary is shown to be different between *majors*, with the major business reporting the highest reported mean salary and fine arts the lowest.

Figure 28: Visual overview of independent variable *major_category* by dependent variable *salary*



The one-way ANOVA performed for *major_category* also calculated statistically significant differences between the categories' mean salaries. The visual from Figure 28 is supported with the statistical details displayed in Table 21.

Table 21: One-way ANOVA results for the independent variable *major_category*

Effect	DFn	DFd	F	p	P<.05	ges (η^2)
major_category	4	6 426	161.787	2.38e-132	*	0.089

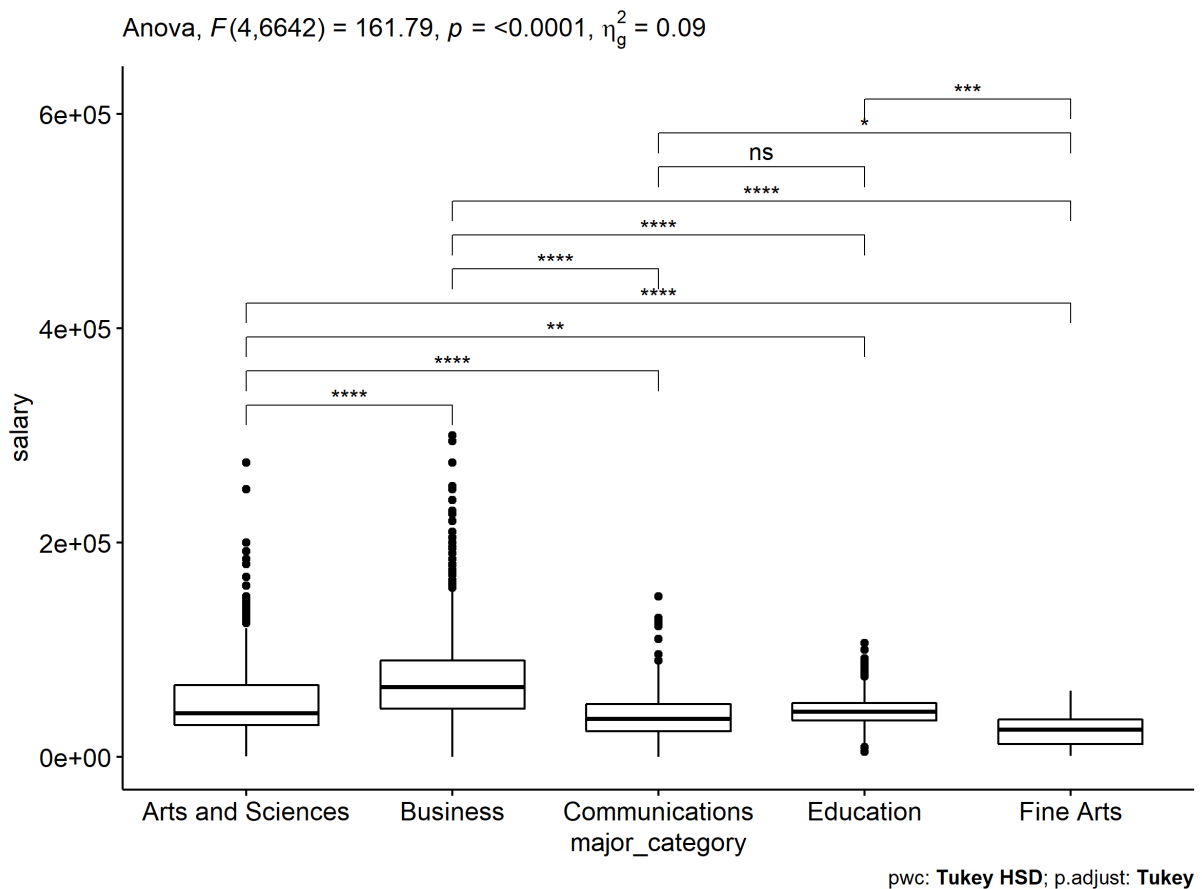
As noted with the previous calculations of independent variables, the simple ANOVA results may show statistical differences among groups but not within and to what extent. Table 22 displays the comparisons between the groups of *major_category*.

Table 22: *Pairwise comparisons between groups within the independent variable major_category*

Group 1	Group 2	estimate	p	t. P<.05
Arts and Sciences	Business	18 215.87	0	****
Arts and Sciences	Communications	-11 954.24	3.05E-06	****
Arts and Sciences	Education	-7 821.68	0.00281	**
Arts and Sciences	Fine Arts	-26 233.16	7.61E-09	****
Business	Communications	-30 170.12	0	****
Business	Education	-26 037.55	0	****
Business	Fine Arts	-44 449.03	0	****
Communications	Education	4 132.57	0.60100	ns
Communications	Fine Arts	-14 278.91	0.01840	*
Education	Fine Arts	-18 411.48	0.00055	***

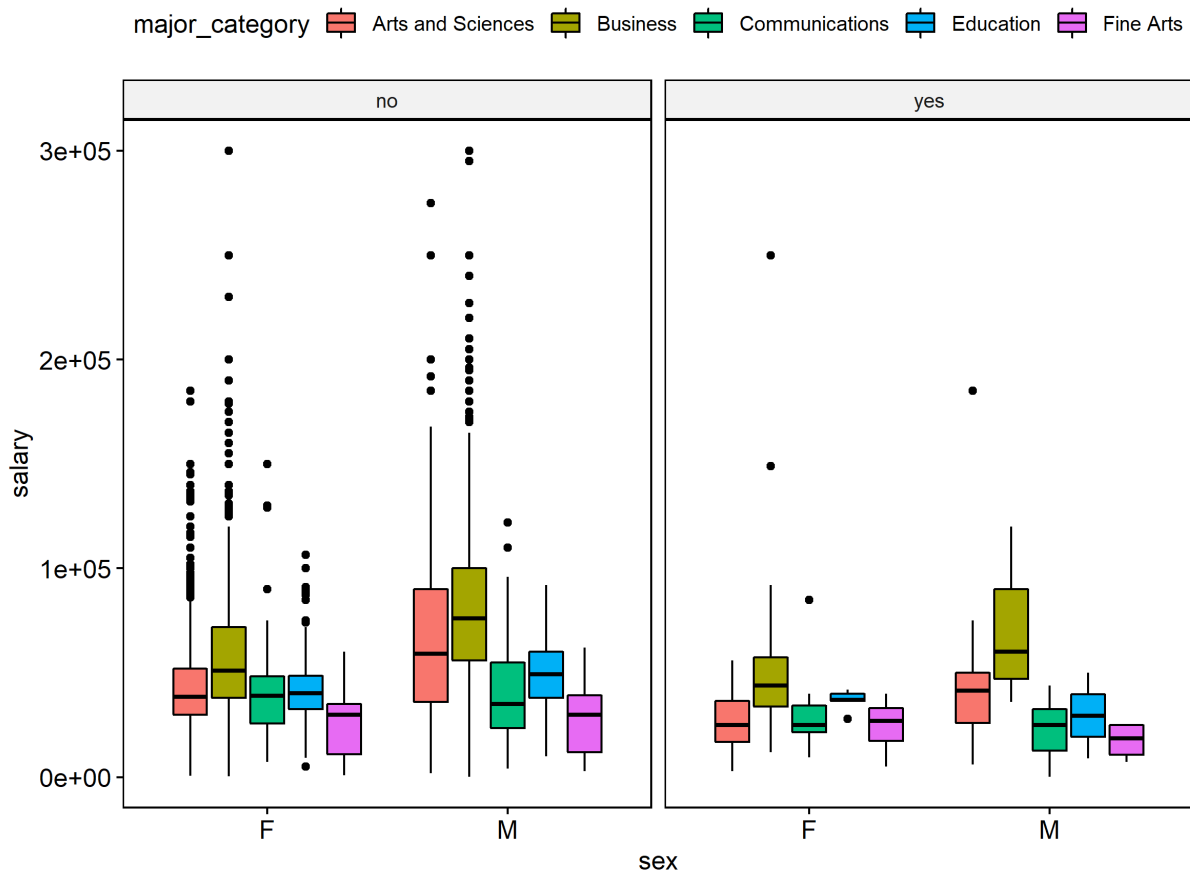
Figure 29 shows the post-hoc Tukey HSD test that was run for the dependent variable *major_category*. This visual representation of the ANOVA post-hoc test output captures the data that has been previously described and displayed in Table 21 and Table 22. Important to note here is that there is no statistically significant difference in the annual reported salaries between graduates from communications and education; similarly, there is a statistically significant, although marginal, difference between graduates from communications and fine arts. The largest difference can be noted between the major categories business and fine arts, with a discrepancy of \$44,449 in reported annual income.

Figure 29: One-way ANOVA Tukey post-hoc results for the independent variable *major_category*



The final three-way ANOVA that was calculated and analyzed was between the independent variables *sex* and *study_abroad* and as Figure 30 shows, *major_category*. Just as in the previous three-way ANOVA analyses, the descriptive fields at the top of the visual labeled no and yes, respectively, are referring to *study_abroad* participation. Of particular note is the representation showing male undergraduate program alumni who majored in fine arts and studied abroad with the lowest reported annual salary across all categories, even non-study abroad participants.

Figure 30: Three-way ANOVA results for the independent variables *major_category*, *sex*, and *study_abroad* with the dependent variable *salary*



The statistical interactions between the independent variables *study_abroad*, *sex*, and *major_category* can be observed in Figure 31

There is no statistically significant interaction between all 3 variables however there is one between *sex* and *major_category*. Females who study abroad while majoring in fine arts reported higher salaries than the males who also participated in study abroad and majored in fine arts. Similarly, females who study abroad while majoring in education also reported higher salaries than the males who studied abroad majoring in education.

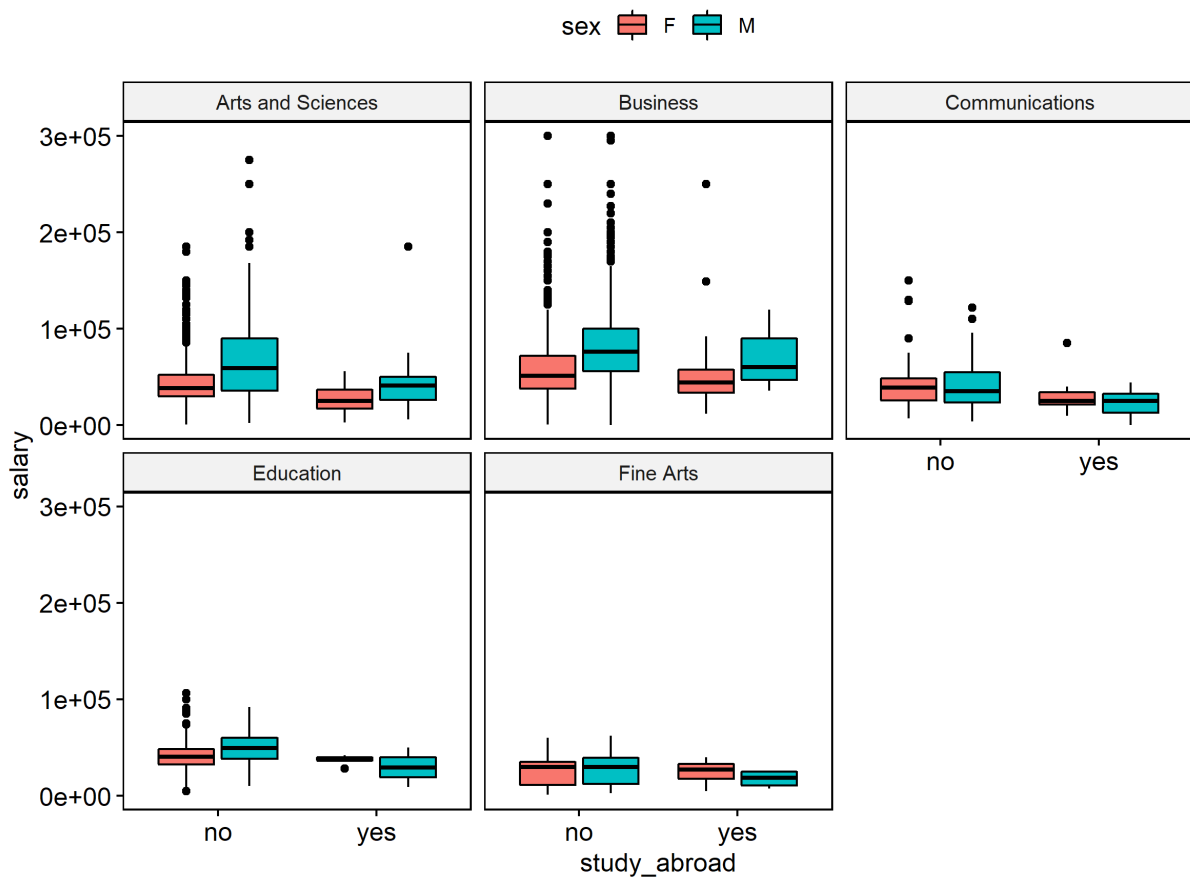
Figure 31: 3-way ANOVA between independent variables *study_abroad*, *sex* and *major_category*

ANOVA Table (type II tests)

	Effect	DFn	DFd	F	p	p<.05	ges
1	study_abroad	1	6627	20.103	7.46e-06	*	0.003000
2	sex	1	6627	710.806	7.54e-149	*	0.097000
3	major_category	4	6627	107.686	4.86e-89	*	0.061000
4	study_abroad:sex	1	6627	1.203	2.73e-01		0.000182
5	study_abroad:major_category	4	6627	1.684	1.51e-01		0.001000
6	sex:major_category	4	6627	10.454	1.93e-08	*	0.006000
7	study_abroad:sex:major_category	4	6627	1.095	3.57e-01		0.000660

To look more closely at each interaction within the *major_category*, the visual representation shown in Figure 32 makes this possible. Study abroad participants in each *major_category* report lower annual earnings compared to their non-study abroad counterparts. Male students who studied abroad and graduated in the *major_category* fields of communications, education and fine arts reported lower annual salaries than their female colleagues, whether they studied abroad or not; this is perhaps counterintuitive given the overarching narrative about the gender pay gap.

Figure 32: Three-way ANOVA results for the independent variables *major_category*, *sex*, and *study_abroad* with the dependent variable *salary* broken down by *major_category* groups



To further support the previous visuals, Table 23 shows the exact means of dependent variable salary as calculated by the independent variables *study_abroad*, *sex*, and *major_category*. Here one can observe the previously noted, unexpected outcome that men who study abroad in the fields of communications, education, and fine arts report a lower annual income than that of their female colleagues.

Table 23: *Three-way ANOVA for independent variables per group study_abroad, sex and major_category based on dependent variable salary*

study_abroad	sex	major_category	n	mean	sd	median
no	F	Arts and Sciences	660	44 970	26 747	38 500
no	F	Business	2 138	57 508	28 465	51 000
no	F	Communications	120	40 044	22 576	39 000
no	F	Education	207	42 313	16 743	40 320
no	F	Fine Arts	25	25 329	16 636	30 000
no	M	Arts and Sciences	317	66 263	39 769	59 000
no	M	Business	2 394	79 700	34 359	76 000
no	M	Communications	83	40 332	24 172	35 000
no	M	Education	58	49 609	17 125	49 300
no	M	Fine Arts	15	26 853	17 636	30 000
yes	F	Arts and Sciences	52	26 688	13 648	25 000
yes	F	Business	48	56 350	47 628	44 000
yes	F	Communications	16	29 933	16 728	25 000
yes	F	Education	5	36 720	5 359	37 100
yes	F	Fine Arts	18	24 756	10 625	27 000
yes	M	Arts and Sciences	31	55 534	52 671	41 333
yes	M	Business	29	68 448	25 247	60 000
yes	M	Communications	10	23 366	13 579	25 000
yes	M	Education	2	29 500	28 991	29 500
yes	M	Fine Arts	4	17 290	9 112	18 480

4.3 Summary of Results

4.3.1 Descriptive Statistics

Though the focus of the results remained with the dependent variable *salary*, initial descriptive statistics were calculated with the dependent variables *employment level* and *employment status*.

4.3.1.1 Employment Level

Among the sampled respondents in the various employment levels, those who recorded the highest amount of study abroad participation were in entry level positions, and those who reported the least amount were in mid-level employment positions. A plurality of respondents, both male and female, indicated that they were employed in mid-level positions. The majority of graduate level students reported holding mid-level positions, while a plurality of their undergraduate colleagues reported that they held entry level positions.

When reviewing the trends in the major category and employment level, a plurality of business majors reported mid-level employment, while also making up the largest major category overall. Similarly, students majoring in the Arts and Sciences and Education recorded the most responses in mid-level positions. Communications majors listed the highest number of students working in entry level employment. Lastly, students majoring in the Fine Arts reported the highest number of responses in the other category of employment (this could be searching for employment, unemployment, or continuing education).

Concerning age, those who had most recently graduated (under 25) were most likely to report entry-level employment. A majority of graduates from the age bracket 25 to 35 reported mid-level employment. The oldest age bracket (35 and above) had over twice the number of self-reported mid-level employment respondents as the youngest bracket.

4.3.1.2 Employment Status

When analyzing the possible impact of studying abroad on employment status, the majority of respondents who did not participate in a study abroad experience or program reported being in full-time employment positions. Similarly, the individuals who did not study abroad also reported the highest percentage of positions in full-time employment. When evaluating possible links to impacts of sex, comparable to the results with studying abroad and employment status, both male and female respondents reported the majority of positions in full-time employment. Likewise, when assessing the results between program levels, both undergraduate and graduate students reported the highest numbers in full-time employment. When reviewing all major categories and employment status, though the exact percentages varied, again here the majority for each category reported full-time employment statuses. Finally, as with all other dependent variables, the three age categories analyzed reported the majority of positions in full-time employment. Thus, with an overview of employment status,

no one variable or factor had a significant impact on employment status, across the board, the majority of respondents reported holding full-time employment positions.

4.3.2 ANOVA Results

The analysis of variance (ANOVA) calculations were completed for each independent variable separately, known as a one-way ANOVA. Further analysis was conducted using two and three-way ANOVA results when comparing two and/or three independent variables, respectively.

4.3.2.1 Study Abroad

The p-value for the one-way ANOVA for the variable *study_abroad* was < 0.0001 ($1.43e-18$), which is considered statistically significant; thus, the null hypothesis must be rejected. Rejecting the null hypothesis implies that there is a statistically significant difference in the mean value of salaries between the groups of individuals who study abroad and those who do not.

Two-way ANOVA results for the independent variables *duration* and *participation* in studying abroad in correlation with *salary* were conducted. With the exception of *faculty-led* programs, which at this HEI were recorded as less than a term, the longer the time abroad, the higher the outcome *salary*. This implies that short periods of studying abroad, such as a semester or term, did not significantly increase the salary level of an individual.

4.3.2.2 Sex

The p-value for the one-way ANOVA for the variable *sex* was < 0.0001 ($4.96e-182$) and, therefore, statistically significant, which means the null hypothesis was rejected. Similarly, this implies that there is a statistically significant difference in the mean value of salaries between the groups of individuals who are males and those who are females.

Three-way ANOVA results were calculated with the independent variables of *duration*, *sex* and *participation* in studying abroad in correlation with the dependent variable *salary*. Both sexes showed the greatest positive effect on *salary* with the *faculty-led* programs. The greatest variation amongst *duration* of time abroad and *salary* can be seen by men; in contrast, the effect of duration was minimally visible amongst female students. In general, the trend of males reporting higher salaries compared to females was visible throughout these calculations. The findings also show that those who participate in a faculty-led study abroad experience reported

the highest salaries among both males and females. These results show that those who do not participate in studying abroad have higher salaries than their colleagues who do, regardless of sex.

4.3.2.3 Age

The p-value for the one-way ANOVA for the variable *age_class* was < 0.0001 ($7.76e-204$) and, therefore, statistically significant; and with a p-value below 0.05, the null hypothesis was rejected. In other words, this means that there are differences in the mean value of salaries amongst the different age groups.

Three-way ANOVA results were calculated with the independent variables *age_class*, *sex*, and *participation* in studying abroad in correlation with the dependent variable *salary*. The findings show that comparisons of these variables have significant differences in the mean salaries reported. Salary results are similar among sex and age categories, regardless of study abroad participation. The lowest recorded salaries for both sexes can be seen in the youngest age category, followed by the middle age category, and the highest reported salaries are visible in the oldest age category.

4.3.2.4 Program Level

The p-value for the one-way ANOVA for the variable *program* was < 0.0001 ($4.91e-100$) and, thus, statistically significant; therefore, the null hypothesis which states that there is no difference in mean salaries between program levels was rejected. In other words, there is a difference in mean salaries between undergraduate and graduate students. The estimated mean difference in salary between undergraduate and graduate students was 27,630 (USD).

Three-way ANOVA results were calculated with the independent variables *program*, *sex*, and *participation* in studying abroad in correlation with the dependent variable *salary*. The calculation that depicted the most variation away from other trends, was undergraduate males who participated in study abroad, who reported the lowest annual salary.

4.3.2.5 Major

The one-way ANOVA for the independent variable *major* recorded a p-value under 0.05 and, just as in the calculations for the previous variables, this means there is a difference in the mean salaries between major groups. In other words, students who studied in the field of *business* reported different annual salary results as *fine arts* students. The pairwise comparisons

between all groups within the major variable showed statistically significant differences in salary outcomes.

Three-way ANOVA calculations were evaluated with the independent variables *major*, *sex*, and *participation* in studying abroad in correlation with the dependent variable *salary*. There is no statistically significant interaction between all 3 variables; however, there is one between *sex* and *major* category. This three-way ANOVA showed female *fine arts* majors who studied abroad reporting higher salaries than their male colleagues, also *fine arts* majors who studied abroad. Similar results were recorded for *education* majors. In contrast, *business* and *arts and sciences* majors reported higher salaries for male students in both study abroad participation categories. In general, study abroad participation in each *major* category resulted in lower annual salaries over their non-study abroad counterparts.

5 Discussion and Recommendations

This study aimed to assess what factors affect the employability outcomes of students at the HEI; specifically, it evaluated whether degree program (major) or study level affects HEI student employability outcomes. It measured HEI students' self-reported salary differences according to factors like sex and age group. Using that same self-reported survey data, provided by the HEI, the study culminated with a look at how differences in employability outcomes may relate to whether the HEI's alumni studied abroad or not. The study also included assessments of other dependent variables, *status* and *level of employment* as further employability outcomes. The connection between education and employability is disputed and can be quite controversial. What remains undisputed, however, is a strong, international focus on higher education as a means to ensure employment after graduate.

The analysis of findings, recommendations, and conclusions given in this chapter are in line with this study's objectives and hypotheses. Zooming out from a single case study analysis, this final chapter will also compare the results of this study with the findings from IIE and EIS. This chapter will also address this study's implications, particularly those for current and future students. Finally, this chapter concludes with suggestions for further research.

5.1 Analysis of Findings

Employability, as defined in the introductory chapter, refers to the capacity to gain and retain formal employment *or* find new employment, if necessary (Hogan, Chamorro-Premuzic and Kaiser, 2013); it is, as others describe, the “enhanced capacity” to secure employment (Glover, Law and Youngman, 2002). Given the restrictions of the dataset used in this study, employability was quantified by salary, shorthand for annual reported income.

5.1.1 Study Abroad

The most fundamental independent variable, or factor, evaluated was study abroad participation. The findings show that there is a statistically significant difference in the mean value of salaries between the those who study abroad and those who do not. Studying abroad could be one of the strategies students use to enhance their preparedness for the job market. Farrugia and Sanger (2017) argue that studying abroad facilitates the development of the ideal potential employee. These individuals boast a broad spectrum of skills, including intercultural competencies like flexibility, adaptability, curiosity, confidence, self-awareness, problem

solving, communication, language proficiency, and tolerance for ambiguity. These are in addition to any course-related content knowledge acquired while enrolled abroad. This argument is consistent throughout much of the literature surrounding outcomes of studying abroad.

This particular study could not corroborate any supposed benefits of study abroad on employability with quantifiable results. In fact, for the majority of the statistical analysis calculated using the independent variable *study abroad*, study abroad participants self-reported salaries which were consistently lower than their counterparts who had not participated in any form of study abroad. Previous studies' insights may explain these results. DeGraaf et al. (2013) examined the long-term personal and professional impacts of participating in a study abroad program. In their paper, Degraaf et al. mention the 2009 Study Abroad for Global Engagement (SAGE), which explored both the short and long-term impacts of studying abroad, specifically on personal and professional development. They quote another 2009 study by Benson-Schrambach that analyzed professional development outcomes from study abroad experiences. "Alumni who had studied abroad further in the past saw their experience abroad affecting their vocational direction more than alumni who had studied abroad more recently." (DeGraaf et al., 2013; Benson-Schrambach, 2009). Certainly, one should acknowledge the subset of study abroad alumni whose situations may, in fact, demonstrate the opposite, aka that study abroad may have less of a positive (or even a detrimental) effect on salaries in the years immediately following graduation. The few outliers that would portray the contrary, or rather mirror the sentiments from the literature; but they are just that, a few outliers without statistical significance.

Possible explanations or further hypotheses for these results could be related to the general trend of low study abroad participation among U.S. university students. NAFSA reported²⁸ study abroad participation as less than 2% of all U.S. students enrolled at higher education institutions. Figure 7 depicts this situation quite well: the HEI reported only 7% study abroad participation over the ten years observed (2009-2019). Comparing data from 7% of the population versus 93% can present a distorted picture of the reality of many individual students. An additional hypothesis for this incongruity, concerning program level, will be presented later in this chapter.

²⁸ NAFSA's data is based on statistics reported by the U.S. Department of Education National Center for Education Statistics as well as from the IIE annual Open Doors Report on International Educational Exchange.

5.1.1.1 Study Abroad – Qualitative Narrative from OIE Survey

The hard numbers that are found in statistical analysis can have limitations in portraying the full reality of a situation. In the post-graduation survey that the HEI sends all students 6 weeks after their official graduation date (again, the basis for the quantitative analysis in this dissertation), there is both a scaled question asking students to reflect on the impact of their study abroad experience as well as an open question for recent graduates on the satisfaction of their study abroad experience. These questions' responses allow for a brief, qualitative supplement to this heavily quantitative research. While the trends previously noted in the impact analysis may have depicted a somewhat grim outlook concerning the correlation between study abroad and employability, students do report high levels of satisfaction with their study abroad experience (impact being listed overwhelmingly – 71% – as “very significant”).

The open-ended question in the HEI post-graduation survey asks, “Do you have a defining moment at HEI?” Even though the question does not target studying abroad explicitly, many responses to this question reflect upon studying abroad as a favorable experience, which is noteworthy. When reviewing the numerous responses on the reported satisfaction students had with their study abroad experience, many sentiments similar to this student's came up: “My study abroad ... taught me so much about myself and the world. It was by far a defining moment for me.” Despite not mentioning a specific reference to the professional impacts after their time abroad, this reflection on the experience can be understood as generally positive.

Table 24: *Select responses from OIE Survey: study abroad experience*

<i>Studying abroad opened up new opportunities for me academically, professionally, and personally.</i>
<i>My study abroad experience had a huge impact on me. I gained so much worldly experience while studying there.</i>
<i>Studying abroad really got me interested in working in international higher education. I had the opportunity to see the world, and now I want that for other students.</i>
<i>The study abroad experience will always be my most memorable. It was great to have the opportunity to have this "hands-on" experience while learning about doing business abroad.</i>

These remarks from student responses may be useful in bridging the gap for those students who do have an employment status to report at 6 weeks after graduation but still evaluate their study abroad experience as positive and impactful on their professional lives.

Without engaging in the debate of the privilege that is attached to opportunities to study abroad, there are barriers for many students when it comes to studying abroad. Beyond what can be understood from taking excerpts from survey responses of students who are reflecting on their study abroad experience, one could also take into consideration, with this dissertation's specific limitations in mind, that the approach to life of those individuals with the possibility to study abroad varies from individuals who do not. For example, a student who is already working in a full-time employment situation, may be less likely to take time away from work in order to study abroad; looking at this student's records and responses 6 weeks post-graduation will look very different from a student who, for example, who seeks their first professional experience after graduation. Similarly, the reflections noted by the students could hint at the necessity to find other aspects and measurements of employability outcomes beyond salary.

5.1.2 Sex

Sex is often used as a categorical control variable in research, and it was found to be a significant factor in this study as well. The results show that there is a statistically significant difference in the mean value of self-reported salaries between males and females. Males consistently reported higher salaries than their female colleagues. This finding is consistent with the arguments made throughout the gender pay gap literature as well as many studies observing employment trends. Similarly, the HEI enrollment percentages based on sex are in line with U.S. averages (53% females and 47% males). Many studies – even academic lifetimes – have been spent exploring the role that sex plays in the relationship between education and employability.

The literature points out many likely reasons as to why females continue to report lower annual earnings than males; thus, it is perhaps worth emphasizing the less expected results of this study: when males reported lower wages than their female counterpart. This comes into play once further independent variables were considered in junction with sex (two and three-way ANOVA). When looking at *program level*, for example, undergraduate male students who studied abroad reported the lowest annual income; while males who majored in business reported the highest salaries, even when studying abroad. Males who studied fine arts and studied abroad recorded the lowest overall annual earnings. The greatest variation in salary among duration of time abroad and salary can be seen by men. Some findings applied equally to men and women. For example, alumni of faculty-led study abroad programs seemed to have enjoyed a greater positive effect on salary than those who participated in other forms of study abroad. Moreover, both males and females earned more with time.

5.1.3 Age

The findings show that there is statistically significant difference in the mean value of salaries between the groups of individuals in between each age category: under 25, between 25 to 35 and above 35. Moreover, it is important to keep in mind that the mode age of all students in this study is reported at 22 years old at the time of graduation. Besides the highest reoccurring age at graduation, the other top 6 reported ages fall into the 25-35 age group; meaning the majority of the data for the independent variable *age* is in the middle age group, which may further influence other variables or factors like program level and ultimately employment outcomes. Van der Heijden et al, (2016) noted in their research that such variations in income may be partially influenced by age. This study's results follow what might be considered a banal correlation: with an increase in age comes an increase²⁹ in annual earnings. When including other independent variables, the standard trend in age and income distribution does not change. The same is true when assessing other forms of employment outcomes like status and level. The older age groups reported more senior level positions and lower levels of unemployment compared to their younger colleagues. Trends with non-traditional students may impact the averages of the age group categories, however for this study there was no significant impact on the employment outcomes as reported by age.

5.1.4 Program Level

This study evaluated and compared employment outcomes between undergraduate and graduate students alike. The results from this study showed a statistically significant difference in the mean value of salaries between the two groups. Taking human capital theory into consideration, a greater difference for annual reported income should be afforded to those students who invested more. Hence graduate students' salaries should be (and were) reported higher than their undergraduate counterparts, on average \$27,630 annually. This study's data reported 83% of recent graduates as graduate students and only 17% undergraduate students responding to the outcomes survey and providing salary information.

Along similar lines, when looking at other employment outcomes, status, and/or level, this may further support why graduate students on average reported higher earnings than undergraduate students. Graduate students reported higher position levels, including mid, senior and chief executive levels. Specifically, graduate students held 95% of the senior level positions reported. Graduate students also reported having higher percentages of full-time employment

²⁹ This trend only applies, as noted by OECD data, until the average age of retirement.

(70% vs. 56% for undergraduate degree program graduates) and lower percentages of unemployment (8% vs. 16%) than the undergraduate students. One may assume that level of study correlates with some aspects of the age category; graduate students, because they must also first complete an undergraduate degree program, are older than the average undergraduate student. Both assumptions followed general trends; also, in this study, older and graduate students reported higher salaries and employment positions along with lower levels of unemployment. They were also less likely to hold entry level positions.

5.1.5 Major

The last independent variable to be evaluated was major, or more precisely given the adaptation of the multiple majors is field of study. The findings from this study show a statistically significant difference in the mean value of salaries between the major groups. The largest difference in annual salaries reported was between students who studied business and those who studied fine arts; this difference amounted to \$44,449 annually.

Further analysis with two and three-way ANOVA's depict some basic generalizations with regard to studying abroad, sex, and major. As noted in the previous chapter, the results showed that female identifying students who studied abroad while majoring in the fine arts reported higher annual salaries than their male counterparts. This result is worth mentioning because it is an example that goes against the trend of gender pay gap that indicates men earning more on average for the same work, but it also illustrates the more foundational pattern of women who study abroad reporting higher impact on salaries than their male colleagues. Again, the results showed that female students who studied abroad while majoring in education noted higher salaries than their male counterparts. When only looking at study abroad participation, each major category reported lower annual earnings compared to their counterparts who had not studied abroad; nevertheless, male students who studied abroad and graduated in the major category fields of communications, education and fine arts reported lower annual salaries than their female colleagues - whether they had studied abroad or not.

5.1.6 Summary of Analysis

There is an overarching theme to the main takeaways of this analysis, and as dreary as it may seem, this study rendered statistically insignificant results for the impact of study abroad participation on annual salary. This dissertation's findings do not follow the narrative often portrayed with the benefits of studying abroad on graduate employability (may be due to the

limitation of the timing of the sampling – snapshot 6 weeks post-graduation). The results generally followed stereotypical gender norms and international, unfortunately still prevalent in this day in age, gender pay gap regardless of students' study abroad participation or not. Similarly, the results mirrored conventional assumptions along lines of major, irrespective of study abroad participation. Further, the results echoed the banal patterns of salary rates between program levels and age groups regardless of study abroad experience or not, rendering it practically trivial.

5.2 Comparison with Other Studies

An important step in the analysis process is seeing how studies, or more precisely results of studies, align or vary with other research that is similar in a quantifiable manner. This section aims to compare the findings from this study with the findings from two larger studies from the Institute of International Education (IIE) and the European Commission. This also directly targets the last research sub-question:

- How does the data from the HEI compare to the findings from the IIE and EIS?

The IIE funded “Gaining an Employment Edge: The Impact of Study Abroad on 21st Century Skills & Career Prospects in the United States” in 2017. This study investigated the connection between study abroad programs and the development skills that contribute to employment and career development. (Farrugia & Sanger, 2017) The European Commission funded the Erasmus Impact Study (E.I.S.) in 2014. This study identified the personality traits relevant for employers when recruiting new employees – that is to say those other than field-specific skills and job-related experience. The E.I.S. research determined that the employers look more closely at personality traits than traditional learning outcomes. (Brandenburg et al. 2014)

Both studies incorporated a mixed methods approach, using quantitative (surveys) as well as qualitative (interviews) approaches. This approach differs slightly from that used in the first tier of this study; nevertheless, these larger studies offer the best opportunity for comparison between institutional results and large global study results. The IIE impact study takes the perspective of American students and the I.E.S. that of European students. These studies were chosen for comparison because those populations align with that of the HEI, given its focus on the U.S. and Europe.

As mentioned at the outset of this dissertation, a comparison of its results with larger studies is key to validating findings, while also understanding trends and patterns on a larger

scale. Both studies incorporate mixed methods approaches (quantitative through surveys but also qualitative through interviews) that vary slightly from the approach used in this study; however, the important comparison here is between institutional results and large global study results. The IIE impact study takes the perspective of American students and the IES that of European students; given the HEI's largest student and campus population in both of these regions, the comparison is of similar geographic locations and respective cultural norms and employment patterns.

5.2.1 Institute of International Education

The 2017 IIE report on the impact of study abroad on employment skills and career prospects (Farrugia & Sanger, 2017), encompassed both interviews and a survey of study abroad alumni; the latter will be the focus of this comparison. Perhaps most importantly, the IIE report discovered significant differences, or one could even say inequalities, in initial salaries between males and females, both by their study abroad participation and by their professional field or industry. The study examined the starting initial salaries of males who had studied abroad to males who had not, and females who had studied abroad to females who had not and discovered that both males and females who had studied abroad were paid less at first. For example, male students who had studied abroad earned a lower average wage than males who had not; females who had studied abroad, with the exception of students majoring in chemistry, earned a lower average salary than their female colleagues who had not. The study further showed that males who had studied abroad earned less than their non-study abroad counterparts in four of the six disciplines examined; and for the female identifying students, those who studied abroad earned less in two of the six disciplines observed. (Farrugia & Sanger, 2017)

Nevertheless, the IIE study findings revealed that studying abroad has an overall positive impact on the development of a wide range of 21st century job skills. A total of 4,565 responses were used in the study. As Farrugia and Sanger note in the 2017 study, demographic characteristics recorded racial identity, study abroad destination, duration of SA, major employability outcomes of respondents' years of work experience, current industry and annual salary. (p. 9-11) The findings from this study, similar to other comparable studies, discovered that studying abroad broadens career possibilities. Farrugia and Sanger specifically noted that the skills gained through study abroad have a long-term impact on career progression and promotion. (2017) Additionally, longer periods of studying abroad may exhibit a higher impact on subsequent job offers and the acquisition of desirable professional skills. Short term

programs, this study found, are most effective at fostering skills like teamwork. The study found that those who were particularly keen and appeared to value the benefits of studying abroad the most were STEM majors, more precisely when it came to those skills attained that on the surface appear less related to their major. Farrugia and Sanger also found that choosing a less familiar destination was positively correlated with the individual's perception of the effect on their own career. Not surprisingly, the study also established that "student intentionality and highly structured programs contribute to skill development". (Farrugia & Sanger, 2017) As is also the case with the results of the EIS study (see next paragraph), skill development influence on career trajectory. In a similar study on ERASMUS programs but prior to the EIS study, Teichler and Janson (2007) found that more than half of the participants polled (54%) claimed that their study abroad experience aided them in landing their initial employment. The outcomes of this study align with both those of EIS and IIE in that a study abroad experience is on the one hand "academically, culturally, and linguistically valuable," but also "expected to have a positive impact on subsequent employment." (Teichler and Janson, 2007) This means that the majority of recent study abroad students enrolled consider a year of international education as beneficial and contributing to their curriculum vitae, something that makes them stand out in the job selection process. What the IIE study findings have in common with the results of this dissertation study is that while the numbers may not bear it out, students perceive that study abroad has been beneficial. This perception is important because it points toward non-salary-dependent benefits of study abroad: civic awareness, intercultural competency, identity work/self-discovery, humility, civic engagement, charity, etc.

5.2.2 Erasmus Impact Study

The EIS study emphasized the role of study abroad on job interviews and employment offers after program completion. For Erasmus students in particular, it is increasingly important to enhance their employability while abroad. While this may be in part due to the need to obtain their return on their investment, students who partake in studying abroad are often expected to have acquired the aforementioned skills and competencies associated with such experiences. The EIS results, as reported by Brandenburg et al., found that skills employers are looking for, in this characterized as transversal skills, are the same skills identified with often being obtained during or due to an Erasmus exchange program, or rather Erasmus time abroad. The EIS study found that on average, 92% of employers are looking for transversal skills in addition to field knowledge (91%) and relevant work experience (78%). (Brandenburg et al., 2014)

EIS findings further suggest that Erasmus alumni are better prepared and more likely to find their first job along with enhancing their career development. Not surprisingly, the study also concluded that Erasmus students tend to have a more international lifestyle and are more likely to move and live abroad than their colleagues who did not participate in an Erasmus program.

Employment rates are often influenced by mobility. (Brandenburg et al., 2014) Students who have traveled or moved around previously are twice as likely as someone who did not travel overseas to experience long-term employment, as noted in the EIS findings. Similarly, the EIS results found that students who studied abroad had a 23% lower unemployment rate than their counterparts who did not travel abroad. Employers surveyed said that graduates with international experience, a percentage that has risen by 51% since 2006, are given greater professional accountability more often. Ten years after graduation, 77% of Erasmus alumni surveyed occupied jobs with leadership elements, and Erasmus alumni were 44% more likely to occupy executive positions than non-mobile alumni. (Brandenburg et al., 2014) This distinction was only noticeable at the lower and middle management positions, as there were no gaps in favor of graduates who participated in Erasmus exchange programs at the top management level.

Like the IIE study, EIS examined how its mobility exchanges contributed to competencies and skills that the current and future labor markets required. In the EIS qualitative responses, former Erasmus students associated their experience abroad with such skills and competencies; and further mentioned that it was these international competencies that assisted their access and success in the labor market. (Bracht et al. 2006) To further assess outcomes of studying abroad and the link with gaining skills and competencies, EIS compared differences between students who did and did not participate in mobility programs. This may come as no surprise when looking at the underlying goal of the Erasmus+ program, which aims to “bridge the gap between academia and the world of work” (Bracht, et. al. 2006).

5.2.3 IIE and EIS Comparison with this Research

Both large-scale studies, IIE and EIS, provided qualitative and quantitative results regarding the impact of studying abroad on students' employability. The IIE covered American students' mobility and experiences while the EIS was a European Commission undertaking with its respective geographical locations. This dissertation study was purely quantitative in its analysis and more closely aligns with the IIE when it comes to citizenship and geographical locations of the participants' mobility. The results of both large studies focused more on the

skill acquisition as the measurable outcome from mobility while this dissertation focused on annual salary as the dependent variable and quantifiable effect of studying abroad.

Similarities are found among all results when it comes to the differences among sex and program of study (major). That is not to say that any or all of the studies found positive correlations with studying abroad and employability, but more to say that all results followed national and even international trends concerning factors like sex and major.

5.3 Implications and Recommendations

5.3.1 Relating to Research

The findings revealed that students who studied abroad reported similar or lower annual salaries at 6 weeks post-graduation. This leaves room for further research and assessments at different points in students' careers. Therefore, researchers should focus on a given study abroad programs' impact at 5- or 10-years post-graduation assessment; this would allow to better understand the effect of studying abroad on employability on a more granular level.

Key demographic information in this dataset was missing, which would further shed light on the topic and the overall results: ethnicity, level of financial assistance, and prior job data to name a few. As taken into consideration for other studies, further research should ensure that "all" factors leading to employability are present in the data. This would give a more realistic assessment of the impact of studying abroad and limiting if not eliminating that misguided correlations are calculated and concluded. Along similar lines, going beyond the student point of view, more research should be done on human resource experts and hiring managers' perspectives on student mobility and their respective institutions and programs preparing their future employees.

The limitation of decentralized storage and sharing of research analysis data that was mentioned and present in this study, can often have an impact on sample size and accuracy. Future research, and university management in general, should, as much as possible, address data processing issues to help alleviate this constraint and unfortunate limitation.

This study relied on data from a single institution. One suggestion for further research would be to include other similar institutions and their respective data in order to expand the capacity of the studies to generalize the study findings. Similarly, more geographical representation should be included, with a representative institution and also student population in all the continents to ensure minimal bias in sampling. This research used purely quantitative

methods of analysis. One recommendation, as done in both larger aforementioned studies (IIE and EIS), a mixed methods approach could prove to be beneficial. This would inherently allow for a narrative to support or refute the statistical data, and thus providing a more accurate picture of reality.

Finally, this study only focused on reported annual income as the measurable consequence of the impact of studying abroad (dependent variable). New studies should consider other variables to measure outcomes of employability. Examples could be found within institutional assessment plans on the success or student satisfaction with their study abroad programs – location – duration – curricula – etc.

5.3.2 In Practice

The following suggestions for practical application refer to higher education institutions and their staff and faculty, given the focus of this dissertation and the data provided for this research. While the acquisition of competences and skills required to be successful in the 21st century workforce is often correlated as a major outcome of studying abroad, alongside what is often considered both personal and professional growth in being more well-rounded, humane and empathetic, studies indicate that international educational mobility expands an individual's future career possibilities. It has been argued that studying abroad enhances an individual's understanding of career opportunities and boosts their confidence to pursue identified opportunities. This argument is associated with the positive association between pursuing an international career and studying abroad. This study, however, revealed negative employability and lower salaries for the students who study abroad. Results suggest that, as salaries or employability are concerned, there may be no significant return on an investment in study abroad.

An assumption found throughout the literature and often supported at least anecdotally is that a student's major or field of study may also influence whether or not they are likely to participate in opportunities to study abroad; similarly, at the onset of selecting their major, student selects may already have preconceived notions of their salary expectations upon graduation. These factors should be considered when developing study abroad programs, curricula and in assessments of the programs.

If the findings of this dissertation study are indeed accurate and representative on a larger scale, and study abroad does not result in tangible financial benefits for alumni, then institutions may want to consider reevaluating their approach to study abroad programs. For example,

universities could aim at investing in students studying “locally” and more resources could be channeled into developing students and their career readiness in order to support successful employability. Further, the skills and competencies so often associated with studying abroad, should be built into the student experience regardless of whether a student chooses or can go abroad. This in no way should eliminate or even necessarily reduce the opportunities for students to gain international experiences, however, there could be an added benefit of including internationalization at home in curricula, co-curricular activities, and student life at large.

5.4 Conclusion

Based on the existing sets of data, the author was unable to unequivocally establish a statistically significant answer for these differences; nevertheless, it is probable that salaries are influenced by the uneven proportions of males and females who study abroad; discrepancies in the forms of employment that males and females are engaged in. These numbers must still be seen in the light of wider sex wage inequality that persists on a global scale. Whatever the causes, this discovery raises concerns around sex representation and warrants further investigation. While the literature and anecdotal narrative around the positive influence studying abroad has for graduate’s professional lives (salary, position, status of employment), the results from this study show no concrete evidence that align with that sentiment; keeping in mind, however, that this study’s data only encompasses a snapshot in graduates’ employment through a post-graduation survey 6 weeks after their degree completion.

The presumed relation between desired employability outcomes and higher education is the predecessor to connecting employability outcomes with studying abroad. As higher education has become more widely available to the masses, so has the students’ expectation for a return on their investment (tuition fees and general costs associated with a university education). Students’ demands for a return on their investment have increased in recent years, which can often come with higher price tags. Higher education institutions often review, among other crucial factors, the importance of instilling in them a global mindset and providing them with international experience in order for their students to succeed in the global labor market. As much of the literature has pointed out, also highlighted in both the IIE and EIS studies, the most frequently cited advantages of studying abroad can essentially be boiled down to three areas: maturity, language literacy, and enhanced cultural understanding. Students who have participated in study abroad programs predominantly report that the experience was a wise investment in their future and that it has had a significant positive impact on their lives.

This dissertation takes no stance in the argument over the underlying purpose of higher education nor how higher education institutions should adapt according to labor market demands and thus changes in student motivation. Similarly, the dissertation acknowledges the continuous challenges with access to studying abroad and the inherent barriers of privilege associated with the concept.

As Higgs et al. noted, “Students need to accumulate a range of experiences from their time at university if they wish to be successful in this more competitive and dynamic labour market” (Higgs et al, 2019); following this logic, this dissertation could argue that such an experience could or even should be studying abroad. Global competitiveness is described in education as the collection of skills and factors that enable students, or rather recent graduates, to be more productive in their respective societies and around the world. Along similar lines, Higgs et al. along with other authors mentioned in this research, would agree that the current market competitiveness requires the development of global competence. To further connect higher education with employability, the aim of institutions should then be to equip their students with the knowledge and skills needed to be successful in society and professional life. This demands that students have the understanding, expertise, and experience necessary to comprehend, manage, and succeed in an integrated, global market. Higher education institutions, as stated by Higgs et al., can focus on developing global skills and knowledge based on universal sets of behaviors, talents, and expertise that can be interrelated, multidisciplinary, and applied in a range of contexts, both locally and internationally. (Higgs et al, 2019)

There are many factors impacting student employability, in addition to the effect of studying abroad, the ones included in this research were sex, age, program level of study, and major. The reported annual salary of students who studied abroad and those who did not was shown to be different in this study (a very banal however accurate statement). Literature suggests, as one may also assume, that salaries tend to rise with age; and similarly, the gender pay gap still exists. Individuals' salaries often vary depending on the field and career path they have chosen. The results of this study followed national and international trends and what one might expect for employability outcomes according to sex, age, and major. In this research, the added variable of studying abroad has shown no statistically significant impact on those trends.

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Annex / Appendices

IRB Approval

Office of Academic Affairs

September 24, 2018

TO: Eileen Zechmeister

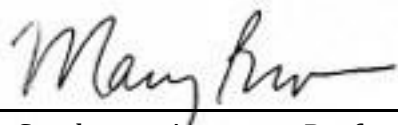
FROM: HEI Institutional Review Board

RE: The Impact of Studying Abroad on the Transition to Employability

STATUS: Approved

NOTES:

- The IRB Proposal Number for this research project is SU18-25.
- The proposal has been approved through June 30, 2023. You are required to submit a summary of your findings upon completion.
- Complete the **Periodic Review/End of Project** form upon completion of your research project. You may reapply for a project extension if needed.
- You are also required to promptly notify the IRB Chair of any problems that arise during the course of the research.



Eric Goedereis, Associate Professor, Psychology
Mary Preuss, Associate Professor, Biological Sciences
Co-Chairs, University Institutional Review Board

HEI Survey Instruments

2010-2011 Graduate Follow-up Survey

Section 1 - GENERAL INFORMATION	
Name (Last, First, Middle Initial)	Birth/Maiden Name
Address	
City / State / Zip	
Telephone	Is this a new address? ☐ Yes ☐ No
E-mail Address	
Major(s)	Graduation Date (Month and Year)
Did you complete an internship while attending? ☐ Yes ☐ No	
How satisfied were you with your education? ☐ Satisfied ☐ Neutral ☐ Dissatisfied	
Current Employment or Educational Status <i>(please select only ONE of the four categories below that best describes your current status)</i>	
☐ Employed Employed in a position (includes full-time and part-time employment, self-employment, contract positions or temporary positions) <i>(Please complete Section 2 of this survey "Employment Information")</i>	
☐ Continuing Education Continuing your education (i.e. graduate or doctoral programs and professional schools) <i>(Please skip to Section 3 of this survey and complete "Continuing Education" information)</i>	
☐ Unemployed Currently not working but seeking employment.	
☐ Not Seeking Employment	

Section 2 - EMPLOYMENT INFORMATION (ALL INFORMATION WILL BE KEPT CONFIDENTIAL)
Employer Name
Employer City / State / Zip
Industry (check the industry that most closely represents your employer) ☐ Agriculture & Natural Resources ☐ Architecture & Construction ☐ Arts, Audio/Video Technology, Communications & Entertainment ☐ Education & Training ☐ Accounting, Finance, Insurance & Real Estate ☐ Government & Public Administration ☐ Health Care (Practitioners, Hospitals & Residential Care, Medical Laboratories & Research) ☐ Hospitality, Food Service & Tourism ☐ Human Services (Counseling & Mental Health Services, Family & Community Services, Personal Care) ☐ Information Technology ☐ Law, Public Service, Corrections & Security ☐ Manufacturing ☐ Military ☐ Retail ☐ Science, Technology & Engineering (Life & Natural Sciences, Research & Development) ☐ Transportation, Distribution & Logistics ☐ Other _____
Position/Job Title
Salary
Employment Relevance (please check all that apply) Is this position related to your area of study? ☐ Yes ☐ No Is this position related to your career interests? ☐ Yes ☐ No Does this position require a college degree? ☐ Yes ☐ No
Have you ever utilized any programs or services offered by the University's Career Services department? ☐ Yes ☐ No
Section 3 - CONTINUING EDUCATION
Name of School/College/University
Educational Institution City/State/Zip
Field of Study / Academic Program
Degree Sought ☐ Masters ☐ Doctorate ☐ Professional
How satisfied are you with your current educational experience? ☐ Satisfied ☐ Neutral ☐ Dissatisfied

HEI Outcomes Survey Instrument AY16-17**Cover Email**

Dear [First Name]:

Congratulations on your recent graduation from HEI!

We invite you to tell us about your experiences at HEI by completing an online survey. We will use your responses to inform our decision making to ensure high quality learning experiences for future students.

Please follow this link to the survey which will take about 10 minutes to complete: edu/outcomes-survey. (Note that you will be prompted to enter your edu email address in order to verify your graduation. Your edu email address is: [emailaddress@.edu] .)

The survey will remain open until [close date].

Thank you for your participation. We look forward to continuing our relationship with you as an alumnus of the University.

Sincerely,

[Dean's Signature]

Survey Instrument

First Page

Welcome to HEI's Outcomes Survey.

Thank you for taking the time to provide your feedback on your experiences at HEI. This survey will take approximately 10 minutes to complete. Please be assured that your answers will be kept strictly confidential. You will not be identified by name in any report of the results.

To complete this survey, please move from page to page in the survey using only the buttons provided at the bottom of each page.

Answer each question by clicking on the response that best describes your opinion. If the page is longer than your viewable screen, scroll down the screen to see the remaining responses or questions. When you have answered all the questions on a page, click the "Next" button at the bottom of the page to move to the next page.

You may move backward by using the "Previous" button at the bottom of the screen. If you move back more than one question, you may have to re-fill the intermediate screens with your responses.

If you should have to stop while completing the survey, know that your answers will be preserved for 1 week. You can return and complete the survey at a more convenient time. *(Please note that if you leave the survey and do not return to it within the week, your responses will be recorded and you will be unable to complete the survey later.)*

To submit your responses, you will be alerted to the final question. Choosing next after the final question will submit your responses.

If you want to know more about this survey or if you have any technical questions, please contact: John Doe, Assistant Director, Office of Institutional Effectiveness, HEI at johndoe@edu.

Part A

Please tell us about your experience by answering the following questions.

Please rate your level of satisfaction with the following HEI processes.

	Very Satisfied	Mostly Satisfied	Mostly Dissatisfied	Very Dissatisfied	Don't Know/Not Applicable
a. Applying to and being admitted by HEI					
b. Initial orientation to HEI and my program of study					
c. Academic Advising					
d. Registering for classes					
e. Applying for and receiving financial aid					
f. Paying tuition and fees					
g. Accessing and using library resources					
h. Using HEI's technology to assist in my learning					
i. Accessing and using the Writing Center					
j. Assistance with career planning					

Please indicate your level of agreement with the following.

In my program of study:	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. The student learning outcomes were clear to me.					
b. I understood how the courses helped me to achieve the student learning outcomes.					
c. I understood the ways concepts could be applied to practice.					
d. I recognized how concepts in one course related to those in other courses.					
e. I was able to link new concepts to my prior knowledge.					
f. I perceived connections between my program of study and the world around me.					

If Major 1 Division is School of Education, the following questions are asked.

Please indicate your level of agreement with the following.

My experiences in my program of study have enhanced my ability to:	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. Be a knowledgeable learner.					
b. Be an informed instructor					
c. Be a reflective collaborator.					
d. Be a responsive educational professional.					
e. Respect myself.					
f. Respect Others.					
g. Respect my professional community.					

If Major 1 Division is School of Education, the following questions are asked.

Please indicate your level of agreement with the following.

As a result of my program of study, I have :	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. Enhanced my awareness of global diversity.					
b. Deepened my content knowledge.					
c. Refined my professional skills.					
d. Strengthened my respect for my profession's ethical standards.					
e. Improved my instructional strategies.					
f. Improved my skills using assessment and evaluation methods.					
g. Enhanced my use of technology.					

If Major 1 Division is School of Communications, the following questions are asked.

Please indicate your level of agreement with the following.

As a result of my program of study, I have :	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. Utilize the terminology, theories and principles of my field.					
b. Identify the aesthetics of quality media.					
c. Express visual and auditory concepts artistically and effectively.					
d. Interpret media messages and their impact on society.					
e. Analyze situations/issues in my field and develop appropriate solutions.					
f. Produce effective and creative tactics.					
g. Produce impactful stories.					
h. Understand the global impact of my field.					

Please indicate your level of agreement with the following.

During my experience:	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. I was encouraged to interact with other students.					
b. I was encouraged to interact with my instructors.					
c. I felt respected as a learner.					

If respondent is an Undergraduate, the following questions are asked.

Please rate the impact of the following on your learning and/or development.

	Very Significant	Somewhat Significant	Not Very Significant	Not At All Significant	Did Not Participate	Don't Know/Not Applicable
a. Student clubs and organizations						
b. Campus events						
c. Living in HEI housing						
d. Study abroad						
e. Community service/ Volunteering						
f. Job on campus or work-study in the community						
g. Participating in and/or conducting research						
h. Internship or field experience						
i. Culminating experience (e.g. capstone course, senior project or thesis, portfolio)						

If respondent is a Graduate, the following question is asked.

Please rate the impact of the following on your learning and/or development.

	Very Significant	Somewhat Significant	Not Very Significant	Not At All Significant	Did Not Participate	Don't Know/Not Applicable
a. Culminating experience (e.g. capstone course, integrative project or thesis, portfolio)						

Please indicate your level of agreement with the following.

My HEI experience has enhanced my ability to:	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. Apply the knowledge and skills gained from my HEI experience.					
b. Acquire job- or work-related knowledge and skills.					
c. Articulate my own values, beliefs, and ways of thinking and the influences on them.					
d. Interact effectively with people whose backgrounds and perspectives differ from my own.					
e. Understand multiple worldviews and experiences.					
f. Reach my potential academically.					
g. Reach my potential professionally.					
h. Continue to learn and to develop my strengths and talents.					

If Major 1 is Counseling, the following questions are asked.

Please indicate your level of agreement with the following.

My experiences in my program of study have enhanced my ability to:	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. Use a variety of basic and advanced counseling skills in sessions with my clients.					
b. Identify and address legal, ethical, and professional issues in counseling.					
c. Work effectively with clients from diverse backgrounds.					
d. Identify and work effectively with developmental issues clients typically encounter across the lifespan.					
e. Address clients' career-related concerns.					
f. Effectively facilitate group counseling sessions.					
g. Conceptualize how family dynamics affect my clients.					
h. Select, administer, and interpret assessment instruments relevant to my intended area of practice.					
i. Understand a variety of methods commonly used to conduct research and program evaluation.					

Please indicate your level of agreement with the following.

	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. Overall, I am satisfied with the program and curriculum.					

Please indicate your level of agreement with the following:

	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. I would recommend HEI to a colleague, friend, or family member.					
b. I consider the investment I made in my HEI program worthwhile.					

Did you have a “defining moment” at HEI? Tell us about your best HEI experience.

Part B

Please tell us what you have been doing since graduating from HEI by answering the following questions.

What is your current primary activity? Please select one.

- Employed full-time (30 or more hours/week)
- Employed part-time (less than 30 hours/week)
- Seeking employment
- Not seeking employment
- Student /Continuing Education
- Volunteer/Civic Work
- Prefer not to answer

If current primary activity is Employed full-time or Employed part-time, the following questions are asked.

Please indicate your level of agreement with the following.

	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree	Don't Know/Not Applicable
a. My current employment is related to my HEI degree or certificate.					
b. My HEI experience has helped me prepare for or advance in my career.					

In what industry do you currently work?

- Accounting, Finance, Insurance, & Real Estate
- Agriculture & Natural Resources
- Architecture & Construction
- Arts, Audio/Video Technology, Communications, & Entertainment
- Education & Training
- Government & Public Administration
- Health Care (Practitioners, Hospitals & Residential Care, Medical Laboratories & Research)
- Hospitality, Food Service, & Tourism
- Human Services (Counseling & Mental Health Services, Family & Community Services, Personal Care)
- Information Technology
- Law, Public Service, Corrections, & Security
- Manufacturing
- Retail
- Science, Technology, & Engineering (Life & Natural Sciences, Research & Development)
- Serving in the U.S. Military
- Transportation, Distribution, & Logistics
- Wholesale Trade
- Other **(Please Specify)** _____
- Prefer not to answer/Not applicable

Which level of the following best describes your current position?

- Chief Executive
- Senior level
- Mid-level
- Entry level

Not in a position offering career advancement
 Other **(Please Specify)** _____
 Prefer not to answer /Not applicable

Please indicate your individual annual salary earnings before taxes in U.S. dollars. (NOTE: Use only numbers. Do not include decimals.) THIS INFORMATION IS ONLY REPORTED IN AGGREGATE.

Please provide us with information on your current employment.

What is your position or job title?

What is the name of your employer?

	City	State	Zip Code	Country
Where is your employment located?				

If current primary activity is Student/Continuing Education, the following questions are asked.

	Masters	Doctorate	Professional	Other
What degree are you seeking?				

What is your current field of study or academic program?

What is the name of the school, college, or university that you are attending?

	City	State	Zip Code	Country
Where is your institution/school located?				

All respondents are asked the following question, except for those responding “US Military” for the industry in which they currently work.

Are you currently serving or have you served in the U.S. Military? Yes, No

The following questions are asked of those responding that they are currently serving or have served in the U.S. Military or industry in which they currently work is US Military.

As someone who is serving or has served in the U.S. military, please tell us your status, branch, and rank.

Status:

Active Duty Military
Military Reservist
National Guard Member
Veteran Retired
Veteran Separated
Other

Branch:

Air Force
Army
Coast Guard
Marines
Navy

Rank: **(drop down list)**

What are the years of your service?

Please enter your starting year of service:

If you have completed your service, please enter the year that your service ended. (If you are currently serving, leave this item blank.):

All are asked the following:

Please update your contact information, with the assurance that your survey responses will be kept confidential.

Name
Preferred email address
Telephone number (if in the United States)
Mailing address

The following is the final survey question.
Choosing next after the question will submit your responses.
Thank you for taking the time to complete this survey.

If you want to know more about this survey or if you have any technical questions, please contact: John Doe, Assistant Director, Office of Institutional Effectiveness, HEI at johndoe@edu.

Do you have any other comments or recommendations for HEI?

Zusammenfassung

Eine bessere Arbeitsmarktfähigkeit und ein höheres Gehalt waren nicht immer Schwerpunkt oder das Ziel von Hochschuleinrichtungen oder deren Studenten. Mit der Zeit und vor allem, als die Hochschulbildung für die breite Masse zugänglich wurde, oft mit höheren Gebühren, stiegen jedoch auch die Erwartungen der Studenten an die Rentabilität ihrer Investition.

Angesichts des Fokus auf die Entwicklung und Ausweitung internationaler Bildungsmöglichkeiten im Bereich der Hochschulbildung, ist es wichtig, die tatsächlich messbaren Ergebnisse und Auswirkungen dieser Erfahrungen auf die Studierenden, näher zu untersuchen. Angesichts des zunehmenden globalen Wettbewerbs ist für den Erfolg von Hochschulabsolventen wichtig, dass sie in der Lage sind, die internationale wirtschaftliche Konkurrenz zu übertreffen. Es stellt sich dann die Frage, ob Auslandserfahrung während des Studiums ein wesentlicher Faktor für die Arbeitsmarktfähigkeit von Studierenden ist.

Diese Dissertationsstudie untersuchte die Ergebnisse der Arbeitsmarktfähigkeit von Studenten (sowohl Studenten als auch Absolventen) an einer Universität im mittleren Westen der USA. Die abhängigen Variablen waren die Ergebnisse der Arbeitsmarktfähigkeit: Gehalt, Arbeitsstatus und Position. Die untersuchten unabhängigen Variablen waren Auslandserfahrung während des Studiums, Geschlecht, Alter, Studiengang und Studienfach.

Die ersten Ergebnisse dieser Forschung beginnen mit deskriptiven Statistiken, die einen grundlegenden quantitativen Überblick über die Daten und Ergebnisse geben. Die Hauptergebnisse wurden in einer Varianzanalyse (ANOVA) berechnet und für die abhängige Variable Gehalt mit jeder unabhängigen Variablen separat ergänzt, bekannt als einfache ANOVA. Weitere Analysen wurden von zwei- und dreifachen ANOVA durchgeführt, in dem jeweils zwei und/oder drei unabhängige Variablen verglichen wurden. Die Unterschiede zwischen allen unabhängigen Variablen erwiesen sich als statistisch signifikant, was bedeutet, dass es Unterschiede im angegebenen Jahresgehalt zwischen Studenten gab, die an Ausland- bzw. Austauschprogramme teilnahmen, und solchen, die dies nicht taten. Weitere Unterschiede zwischen der Auslandsstudienbeteiligung und den anderen unabhängigen Variablen erwiesen sich ebenfalls als statistisch signifikant. Diese Unterschiede spiegeln jedoch größtenteils nicht die oft angenommene Prämisse wider, dass ein Auslandsstudium einen positiven Einfluss auf die Beschäftigungsfähigkeit von Studierenden haben kann.