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Early Career Outcomes of International Bachelor's Degree Recipients from U.S. Institutions: The Role of International Status and Region of Origin

Xiushan Jiang
University of Kansas, USA

ABSTRACT

Based on neo-racism theory and human capital theory, this study examined whether international bachelor's degree recipients who graduated from U.S. institutions have significant early career outcome differences compared to domestic bachelor's degree recipients in terms of major-job match, annual earnings, and job satisfaction. Recognizing the significant differences in language, culture, and socio-economic conditions among immigrants from different countries of origin, this study further explored possible differences in career outcomes of international bachelor's degree recipients by regions of origin. The findings of this study suggest that international degree recipients have gained labor market parity in major-job match as well as salary and job satisfaction with their domestic counterparts, all things being equal. Further, this study found evidence that region of origin plays an important role in shaping international bachelor's degree recipients' major-job match and annual earnings. The policy implications for postsecondary institutions and the U.S. as a society are discussed.

Keywords: major-job match, earnings, job satisfaction, neo-racism, international bachelor's degree recipients

Over the past two decades, U.S. postsecondary institutions have experienced a continuous increase in international undergraduate student

enrollment. The total number of international undergraduate students enrolling in U.S. higher education institutions has reached 349,016 in 2015-2016, a dramatic increase of 59.55% compared to 1996-1997 (IIE, 2016). From the perspective of postsecondary institutions, tuition revenues generated by the influx of international undergraduate students have helped relieve the financial constraints faced by many public higher education institutions due to state budget cuts. A recent analysis by the National Association of Foreign Student Advisors found that international students studying at U.S. colleges and universities contributed $32.8 billion and supported more than 400,000 jobs in the U.S. economy during the 2015-2016 academic year alone (NAFSA, 2016).

From the perspective of international undergraduate students, many aspire to work in the U.S. upon graduating, making an improved employment outcome in the future job market one of the most important returns on their investment in U.S. higher education (Austine & Shen, 2016; Nilsson & Ripmeester, 2016). Although previous studies have examined a variety of career outcomes of foreign-born workers with graduate degrees from U.S. institutions (Corley & Sabharwal, 2009; Jiang, 2016; Kim, Wolf-Wendel, & Twombly, 2011; Mamiseishvili, 2011), no studies have focused on career outcomes of international bachelor's degree recipients who graduated from the U.S. institutions and worked in the U.S. To bridge the gap in previous literature, this study examines the possible role of international status on early career outcomes by testing whether international bachelor's degree recipients have significant early career outcome differences compared to domestic bachelor's degree recipients in terms of major-job match, annual earnings, and job satisfaction. Furthermore, this study explores whether career outcomes of international bachelor's degree recipients differ significantly by regions of origin.

Studying career outcomes of international bachelor's degree recipients is particularly important for U.S. postsecondary institutions in recruiting future international undergraduate students, as well as for the U.S. in terms of retaining STEM talent needed for the knowledge-based economy. The career outcomes of international bachelor's degree recipients in the U.S. may shape future international undergraduate students' decisions about whether to study abroad and, if so, whether they choose the U.S. as their destination (Gribble, 2014; Gribble & Blackmore, 2012). With a large number of graduates holding degrees from western countries crowding the labor market in their home countries, previous research has suggested that

future international students are likely to place more emphasis on acquiring foreign work experience in order to later secure desirable jobs in their home countries (Gribble & Blackmore, 2012). Thus, in the current highly competitive global education market, understanding career outcomes of international bachelor's degree recipients working in the U.S. is critical for U.S. postsecondary institutions to compete with other major host countries, such as Canada, Australia, and the United Kingdom, for qualified undergraduate students (Gribble, 2014; Lawrence, 2013). Likewise, studying career outcomes of international bachelor's degree recipients can provide useful insights for the U.S. to better attract and retain foreign talent in STEM fields, which is critical for the U.S. to maintain its leading position in the global knowledge-based economy (Shachar, 2006).

Previous studies suggest that international bachelor's degree recipients may be more likely to face obstacles converting their U.S. credentials into career success in the U.S. job market relative to their domestic peers, possibly due to their international status (Cantwell & Lee, 2010; Chakravartty, 2006; Lee & Opio, 2011; Lee & Rice, 2007). Examining the experiences of international postdoctoral researchers (postdocs), Cantwell and Lee (2010) argued that international status is more than a legal category, and it is defined by a sense of alienation and discrimination. Previous studies also suggested that international students and international postdoctoral researchers in U.S. institutions tend to be discriminated against due to their foreign culture (Cantwell & Lee, 2010; Lee & Opio, 2011; Lee & Rice, 2007). Therefore, this study explores how foreign-born workers with bachelor's degrees from U.S. higher education institutions transition from international undergraduate students to highly skilled workforce participants in the U.S. job market, with particular emphasis on the role of their international status on early career outcomes.

Recognizing significant differences in language, culture, and socio-economic conditions among immigrants by region of origin, this study further explores possible differences in career outcomes of international bachelor's degree recipients by region of origin. Previous studies have consistently found that the employment experiences of immigrants in their host countries are not fixed but instead vary by country/region of origin (Bratsberg & Ragan, 2002; Hou & Balakrishnan, 1996; Phythian, Walters, & Anisef, 2010; Reitz & Breton, 1994). Supporting this view, prior literature on the employment outcomes of immigrants suggested that while immigrants are visible targets for racial, cultural, or ethnic discrimination in

their host country, immigrants from non-European backgrounds also attain lower economic achievement than immigrants of European origin (Bratsberg & Ragan, 2002; Hou & Balakrishnan, 1996; Phythian et al., 2010; Reitz & Breton, 1994). Therefore, the current study hypothesizes that there may be significant differences in the career outcomes of international bachelor's degree recipients by region of origin.

Accordingly, this study explores the following research questions:

- For those who received their bachelor's degrees from U.S. higher education institutions, does international status (i.e., workers with temporary work visas) play a unique role in determining early career outcomes (major-job match, annual earnings, and job satisfaction)?
- For international bachelor's degree recipients with temporary visas, does the region of origin have a unique effect on early career outcomes?

LITERATURE REVIEW

Prior research on immigrants' major-job match suggested an association between foreign status and major-job match, meaning that foreign workers tend to hold jobs unrelated to their college majors. Exclusively focusing on foreign immigrants, most of whom were not trained within the U.S. educational system, prior research found that immigrants were more likely to hold jobs unrelated to their college major in their host country compared to domestic workers (Arbeit & Warren, 2013; Dean, 2009; Frank, 2009; Trevelyan & Tilli, 2010). Previous research also revealed the likelihood of mismatch between education and jobs is greater among immigrants with college degrees from their home country than those who received college degrees from their host country (Arbeit & Warren, 2013; Dean, 2009; Frank, 2009; Trevelyan & Tilli, 2010).

The extent of major and job mismatch, however, appears to differ by region of origin. For example, for immigrants in Canada, those from western regions had more success finding jobs related to their majors than immigrants from the Middle-East and Asia (Dean, 2009). In another study focusing on immigrants in the U.S. labor market, Arbeit and Warren (2013) found that immigrants who received their academic degrees from U.S. higher education institutions had the highest level of major-job match, followed by those with degrees from countries that are predominantly White

and English-speaking. Immigrants who received their degrees from Asian and African countries had the lowest level of major-job match.

Prior literature on the career success of immigrants suggests that all else being equal, immigrants may have lower pay compared to domestic workers (Bratsberg & Ragan, 2000; Chiswick & Miller, 2007; Ze & Xie, 2004). Building on the human capital framework, a large body of research has consistently found that that the earning gap between immigrants and native-born workers can be explained by their human capital factors, such as language proficiency and devalued foreign education (Bratsberg & Ragan, 2000; Chiswick, 1978; Chiswick & Miller, 2007; Miranda & Zhu, 2012). However, a number of studies have argued that discriminatory practices in the host country diminished the labor-market value of immigrants' human capital; thus, immigrants were penalized for their foreign status (Boyd & Thomas, 2002; Phythian et al., 2010).

In addition, prior research studying experiences of international students also found evidence that international students' college experiences vary by region of origin, depending on how different their foreign culture is from the U.S. dominant culture. Students from Asia, India, Latin America, and the Middle East reported considerable indirect or direct discrimination, whereas students from countries in Europe, Canada, and New Zealand did not report any direct negative experiences related to their race or culture (Lee & Opio, 2011; Lee & Rice, 2007). Supporting this view, prior literature on employment outcomes of immigrants also suggest that while immigrants, primarily from non-European countries, are visible targets for racial, cultural, or ethnic discrimination in the host country, immigrants from non-European backgrounds also hold lower economic achievement than immigrants of European origin (Bratsberg & Ragan, 2002; Hou & Balakrishnan, 1996; Phythian, et al., 2010; Reitz & Breton, 1994).

Because job satisfaction is a primary determinant of labor-market mobility (Freeman, 1978; Hellman, 1997), job performance (Mount, Ilies, & Johnson, 2006), and personal well-being (Rode, 2004), this study seeks to further examine job satisfaction as an important career outcome measure. As previously discussed, immigrants often suffer from lower job satisfaction compared to domestic workers. In particular, visible minority immigrants have lower career satisfaction than non-visible minority immigrants (Yap, Holmes, Hannan, & Cukier, 2014). Visible minority immigrants are generally defined as those who are non-Caucasian in race or non-white in skin color (Yap et al., 2014). Focusing on international doctorate recipients

and faculty who received their degrees from U.S. postsecondary institutions, research shows that foreign status appears to be closely associated with job satisfaction: Foreign-born scientists report lower work satisfaction than U.S.-born peers, even though their academic productivity is greater than their U.S.-born peers (Mamiseishvili, 2011).

The areas in which the foreign-born scientists lagged the most behind U.S.-born scientists were found in level of satisfaction with salary, level of responsibility, job security, and intellectual challenge (Corley & Sabharwal, 2007). Focusing on managers, professionals, and executives in Canada, Yap et al. (2014) found that foreign-born immigrants experienced significantly lower career satisfaction than native-born workers in Canada, for instance. In addition, previous studies have found evidence that job satisfactions of foreign-born workers may differ significantly by country/region of origin (Cantwell & Lee, 2010; Jiang, 2016).

THEORETICAL FRAMEWORK

Prior research on career outcomes of immigrants have suggested that no single theory can fully explain the disadvantaged career outcomes of immigrants in the U.S. (Bratsberg & Ragan, 2002; Chiswick, 1978; Phythian et al., 2010; Zeng & Xie, 2004), thus this research uses human capital theory and neo-racism theory as multiple theoretical lenses to understand if and how international bachelor's degree recipients are disadvantaged compared to their domestic peers in their early career outcomes. Human capital theory suggests that individuals become more productive by investing in education and training, which in turn improves career outcomes, especially life-time earnings, occupational choice, and status (Becker, 2009; Paulsen, 2001; Rosenbaum, 1986). According to the theory, international bachelor's degree recipients are hired by U.S. employers primarily because they have the knowledge and skills that are needed in the U.S. economy. Without academic training and bachelor's degrees from the U.S., international bachelor's degree recipients may not be able to secure employment in the U.S.

Human capital theory is based on the premise that the labor market is meritocratic, hence individuals with more credentials and education will have better outcomes in the job market. In reality, however, the labor market is hardly completely meritocratic. Instead, workers must negotiate with potential employers to determine the market value of their educational

investments (Anisef, Sweet, & Freeman, 2003). In this negotiation process, neo-racism theory provides a unique theoretical lens to explain why international status may negatively influence career outcomes of international bachelor's degree recipients.

Neo-racism theory, also called new racism, emphasizes a type of discrimination based on culture and nationality rather than on race (Balibar, 1992; Barker, 1981; Hervik, 2004; Spears, 1999). Neo-racism occurs within a context that promotes the culture of individual enterprise as well as social and political individualism and considers the dominant culture superior, while the culture of immigrants that differs from the dominant culture is excluded and discriminated against (Balibar, 1992; Barker, 1981; Hervik, 2004; Spears, 1999). It is worth noting, however, that neo-racism and biological racism are not mutually exclusive; instead, they can coexist and share similar purposes, which are exclusion, denial of rights, and mistreatment toward outsiders in forming a cultural hierarchy (Balibar, 1992; Barker, 1981; Hervik, 2004; Spears, 1999).

As suggested in the previous studies (Cantwell & Lee, 2010; Chakravartty, 2006; Lee & Opio, 2011; Lee & Rice, 2007), although international bachelor's degree recipients successfully acquired their credentials from U.S. institutions and located jobs in the U.S., their ability to convert their U.S. degrees into career success might be strongly limited by potential discriminations against foreigners. The widespread culturally specific stereotypes, which are closely associated with region of origin, negatively affect postdocs' career advancement opportunities (Cantwell & Lee, 2010). Therefore, this study hypothesized that career outcomes of international bachelor's degree recipients may be significantly disadvantaged, possibly due to recipients' international status and may differ by region of origin.

It is also worth noting that international bachelor's degree recipients are more likely to be influenced by neo-racism in the early stages of their careers. Due to employment visa (i.e., H-1B) regulations, the majority of foreign temporary workers experience restricted mobility, which in turn, makes them vulnerable to exploitation, lower pay, and longer working hours (Matloff, 2003) and limits their negotiating power (Lowell, 1999).

RESEARCH METHOD

Data Sources and Sample

The primary datasets used in this study are the National Survey of Recent College Graduates (NSRCG), administered by the National Science Foundation (NSF). To have a greater sample size of international bachelor's degree recipients with temporary visas, I built comprehensive data sets from five data collection points over 10 years (2001, 2003, 2006, 2008, and 2010). The NSRCG survey sampled individuals who graduated from U.S. institutions two or three years prior to the survey year. International Bachelor's Degree Recipients (IBDR) are defined as non-U.S. citizens holding temporary resident visas, and Domestic Bachelor's Degree Recipients (DBDR) are defined as native-born U.S. citizens (excluding naturalized citizens). The final sample consists of 22,033 bachelor's degree recipients who graduated from U.S. institutions from 2000 to 2009 and worked full-time (35 hours or more per week) during the survey week in the United States. Following previous studies, full-time employees are defined as those who work more than 35 hours per week (Kim & Sakamoto, 2010; Kim & Zhao, 2014). Of those, 401 (1.82%) are international bachelor's degree recipients (IBDR) who were born in non-U.S. countries and hold temporary working visas (H-1B), and 21,632 (98.18%) are domestic bachelor's degree (DBDR) recipients. In terms of region of origin for international bachelor's degree recipients, the majority of IBDR were from Asia (54.36%), followed by North and South America (24.44%), Europe (10.72%), and Africa (10.48%).

Variables

The current study examined three dependent variables: major-job match, annual earnings, and job satisfaction. Major-job match is an ordinal categorical variable that indicates the extent that college graduates' principal jobs are related to their highest degrees, with 1 being not related, 2 being somewhat related, and 3 being closely related. Earnings is a continuous variable that measures the basic annual salary of bachelor's degree recipients as of the survey reference week. Job satisfaction was measured by an ordinal categorical variable with a four point-likert scale (from 1 = very dissatisfied to 4 = very satisfied).

A series of independent variables included in the statistical analysis is categorized into three groups: demographic, academic experience, and

labor market variables. Demographic variables include gender, race/ethnicity, age, marital status, and parental education. Previous research has consistently claimed career stratifications that are largely attributed to gender and race, with male and White enjoying better career outcomes compared to female and racial minorities (Robst, 2007; Xu, 2013; Thomas, 2000, 2003; Zhang, 2008; Liu, Thomas, & Zhang, 2010; Kim & Sakamoto, 2010; Kim & Zhao, 2014). Parental education, considered a proxy of family socio-economic background, is an important variable given that college graduates from privileged family background are more likely to convert their high-quality educational background into success in the labor market (Borgen, 2015; Rivera, 2015). Bachelor's degree recipients are coded as a continuing generation if at least one parent received a bachelor's degree or higher, while having no parents or guardians with at least a bachelor's degree is considered a first-generation student. Marital status and age are also known to influence career outcomes including wage premiums, promotion, and likelihood of major-job match (Fogg & Harrington, 2012; Miree & Frieze, 1999; Robst, 2007).

Academic experience variables include the field of study where recipients received their bachelor's degrees. Because the majority of participants in this study majored in STEM majors, field of study was coded into a dummy variable with 1 representing STEM majors and 0 representing non-STEM majors. STEM majors in this study consisted of Computer and Information Science, Mathematics, Agricultural Science, Biological Science, Physical and Chemical Science and Engineering, while the non-STEM majors included Social Science, Psychology and Health-related Science. The NSRCG survey did not carry undergraduate grade point average as a continuous variable but instead a categorical variable with five categories (3.75-4; 3.25-3.74; 2.75-3.24, 2.25-2.74, less than 2.25). Following previous studies (e.g., Jones & Jackson, 1990), the self-reported overall undergraduate grade point average is coded into four categories (3.75-4; 3.25-3.74; 2.75-3.24, less than 2.75 being a reference group). Prior literature has consistently found evidence that the stratification in college quality results in different economic returns to higher education investments (Thomas, 2000, 2003). Among previous studies, Barron's rankings have been widely used to measure college selectivity (Brewer, Eide, & Ehrenberg, 1996; Monks, 2000; Thomas & Zhang, 2005; Liu et al., 2010). However, since the NSRCG survey only carries the 1994 Carnegie classifications, I utilized the grouping strategy created by Hersch (2013) to

convert Carnegie classification into four tiers based on a comparison of institutions in the 1994 Carnegie classifications to Barron's Profiles of American Colleges for 1994. Tier 1 institutions are private Research I and private Research II universities; tier 2 institutions are private Liberal Arts I colleges; tier 3 are public Research I universities; and tier 4 are the remaining four-year colleges and universities with Carnegie classification available, excluding specialized institutions (Hersch, 2013). The institutional selectivity was coded into four tiers, with tier 1 being the reference group. It is worth noting that the data set for this study consists of individuals from five data collection points over 10 years. In order to capture the effect of graduation timing on career outcomes, this study included a series of dummy variables for each year of the graduation from 1999 to 2009, with 1999 being the reference year. By utilizing multiple years of data, this study seeks to understand the possible effect of graduation year on career outcomes.

A list of labor market variables includes employer sector, employer size, employer region, having a supervisory role, and job tenure (years of experiences on the current job). Given the difficulty of receiving an H-1B visa under the current visa process and the fact that international bachelor's degree recipients working at higher education institutions could avoid the lottery process and receive the H-1B more easily than their peers who have to go through the lottery process (USCIS, 2016), this study includes employer sector in the statistical analysis, coded as two categories: postsecondary institutions, including four-year and two-year institutions, and non-postsecondary institutions, including non-profit industry and state/local government (reference group). Employer regions also have significant influences on earnings, partially due to the varied economic conditions of the regional labor market and the cost of living differences among regions (Fog & Harrington, 2012; Kim & Sakamoto, 2010; Thomas, 2003). Employer region was coded as Northeast, Midwest, South, and West, with Northeast serving as the reference group. Given that larger employers are more likely to have human resources departments needed to navigate the complex immigration visa application process for hiring international students, and given that larger employers are more likely to obey immigration law to give international students salaries comparable to domestic students (Brown & Medoff, 1989; Levina & Xin, 2007; Matloff, 2003), employer size as a continuous variable was included in the statistical analysis (Levita & Xin, 2007). To examine if there is a glass ceiling effect in

the labor market causing racial and ethnic minorities to be less likely to be promoted to managers compared to Whites (Kim & Zhao, 2014; Zeng, 2011), this study includes whether individuals hold supervisor status recoded as a categorical variable with 1 indicating supervisors and 0 indicating non-supervisors.

Prior literature has consistently presented the significant positive associations among career outcome variables: major-job match, salary, and job satisfaction. For instance, the mismatch between college training and occupations has significant negative effects on monetary and non-monetary career outcomes, such as earnings, job satisfaction, and turnovers (Bender & Heywood, 2011; Kucel & Vilalta-Bufı, 2012; Nordin, Persson, & Rooth, 2010; Robst, 2007; Xu, 2013). Furthermore, income has been considered as one of the most significant predictors of job satisfaction in previous studies (Judge, Cable, Boudreau, & Bretz, 1995; Kim, Kim, Jaquette, & Bastedo, 2014; Liu et al., 2010). Therefore, this study includes major-job match in the analysis on earnings. Similarly, major-job match and earnings are included in the analysis on job satisfaction.

Statistical Analysis

For the two career outcome measures that are ordered categorical variables, major-job match (1 = not related, 2 = somewhat related, and 3 = closely related) and job satisfaction (1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = somewhat satisfied, and 4 = very satisfied), two separate sets of ordered logistic regression analyses were conducted. With this approach, this study examines whether international status significantly affects the probability of having jobs related to majors (or job satisfaction) after taking into account all other relevant predictors (Hosmer & Lemeshow, 2000). The final model for the ordered logistic regression is specified as follows:

$$\text{Log}\left(\frac{p(y_i \le m|x)}{p(y_i > m|x)}\right) = \beta_0 + \beta * \text{INTER} + \alpha * \text{DEMO} + \gamma * \text{EDU} + \delta * \text{JOB} + \sum_{t=2}^{11} \kappa_t \text{YEAR}_{ti}$$

For the final model on major-job match outcome, m ranged from 1 to 3 because there were three categories in the outcome measure (1 = not related, 2 = somewhat related, and 3 = closely related). For the ordered logistic regression model on job satisfaction outcome that had four categories (1 = very dissatisfied; 2 = somewhat dissatisfied; 3 = somewhat

satisfied; 4 = very satisfied), m ranged from 1 to 4. The results of ordered logistic regression were reported in odds ratio (the exponent of the log odds) rather than the log odds because they were easier to interpret and understand (Long & Freese, 2006). In the ordered logistic regression model, odds ratios were interpreted as the odds of an outcome being less than or equal to m versus being greater than m, with one unit change in the predictor variable, holding other covariates constant (Bruin, 2006).

In the model, the variable INTER denotes IBDR, with DBDR being the reference group. The variable DEMO denotes a vector of demographic indicators, such as gender, race/ethnicity, age, marital status, having children, and parental education. The variable EDU represents a vector of academic experience indicators, including field of study, undergraduate GPA and college selectivity. The variable JOB denotes a vector of job market characteristics, such as employer size, employer sector, employer region, and supervisor status. In addition, the variable YEAR represents a vector of dummy variables for each year of the graduation from 1999 to 2009, with 1999 being the reference year to control for the fixed effects of graduating timing.

Given that log transformation allows coefficients to be interpreted as the percent changes in earnings given a one unit change in the independent variable, and the distribution of annual earnings was skewed (the skewness was 1.19), the value of annual earnings was log transformed and considered to have a linear combination of the international status and other demographic, educational and job market variables plus an error term (Pohlman & Leitner, 2003).

$$\text{Logged(earnings)} = \beta\_0+\beta*\text{INTER}+\alpha*\text{DEMO}+\gamma*\text{EDU} +\delta*\text{JOB}+\kappa*\text{MJM}+\sum\_(t = 2)\text{^}11\ \kappa\_t\ \text{YEAR\_ti}+\mu$$

To understand if the region of origin has a unique effect on early career outcomes, a separate three set of analyses were conducted in which international bachelor's degree recipients were disaggregated into four regions (Europe, Asia, North and South America, and Africa) with domestic bachelor's degree recipients being the reference group. Finally, NSRCG data, as other national represented surveys administered by NSF, were collected through the surveys that utilized stratified and two-stage PPS sampling techniques. Therefore, this study used the command SVY in

STATA in order to effectively control for the sample design effect using the final survey weight (WTSURVY) (Kim, Saatcioglu, & Neufeld, 2012).

RESULTS

Differences between International and Domestic Bachelor's Degree Recipients in Demographic, Educational Experience, and Labor Market Characteristics

The results in Table 1 and Table 2 present the descriptive statistics on the distribution of demographic, educational experience, and job market characteristics by international status. In general, IBDR (59.1%) were more likely to be males relative to DBDR (52.32%). IBDR were slightly younger (25.5 years old for IBDR and 26.3 for DBDR), less likely to be married (15.46% for IBDR and 25.67% for DBDR), and less likely to be first-generation students (28.18% for IBDR and 39.97% for DBR). More than half of IBDR (53.37%) were Asian, followed by Hispanic (17.46%), Black (14.96%), and White (14.21%). On the other hand, the majority of DBDR were White (65.67%), followed by Hispanic (16.18%), Black (13%), and Asian (5.31%).

Of the academic experiences, IBDR were highly concentrated in STEM fields compared to DBDR (82.54% for IBDR and 65.03% for DBDR). With regard to college selectivity, IBDR were more likely than DBDR to graduate with degrees from highly selective universities. Around 22% of IBDR graduated from Tier 1 and Tier 2 institutions, while the corresponding figure for DBDR was roughly 13%. In addition, IBDR were likely to have higher GPA than DBDR. Over 62% of IBDR held GPAs higher than 3.74 as compared to only 47% of DBDR.

With regard to labor market-related characteristics, IBDR were more likely than DBDR to work in the Northeast (26.43% for IBDR and 18.31% for DBDR). On the other hand, IBDR were less likely than DBDR to work in the South and West (31.17% and 22.94% for IBDR relative to 34.99% and 25.92% for DBDR). There were no statistically significant differences between IBDR and DBDR in employer sector, supervisor status, job tenure, or employer size.

Table 1. Descriptive Statistics of Categorical Independent Variables (N = 22,033)

		IBDR	DBDR
Demographic characteristics			
Gender	Male	59.10% (237)	52.32% (11,318)
	Female	40.90% (164)	47.68% (10,314)
Marital status	Married	15.46% (339)	25.67% (5,552)
	Not-married	84.54% (62)	74.33% (16,080)
First generation	College degree	71.82% (288)	60.03% (113)
	Less than college degree	28.18% (12,985)	39.97% (8,647)
Race	White	14.21% (57)	65.67% (14,205)
	Asian	53.37% (214)	5.31% (1,149)
	Hispanic	17.46% (70)	16.18% (3,500)
	Black	14.96% (60)	13.00% (2,788)
Educational background			
Major	STEM major	82.54% (331)	65.03% (14,067)
	Non-STEM major	17.46% (70)	34.97% (7,563)
College selectivity	Tier one	14.71% (59)	8.34% (1,804)
	Tier two	7.73% (31)	5.17% (1,118)
	Tier three	35.16% (141)	30.33% (6,562)
	Tier four	42.39% (170)	56.16% (12,148)
GPA	3.75-4	22.19% (89)	13.34% (2,885)

	3.25-3.74	39.90% (160)	34.26% (7,411)
	2.75-3.24	30.42% (122)	38.85% (8,404)
	less than 3.24	7.48% (30)	13.55% (2,932)
Year Bachelor's Degree Awarded	1999	12.72% (51)	9.21% (1,992)
	2000	10.47% (42)	9.37% (2,027)
	2001	7.73% (31)	10.37% (2,243)
	2002	8.23% (33)	9.97% (2,157)
	2003	6.23% (25)	10.50% (2,271)
	2004	7.48% (30)	10.95% (2,369)
	2005	8.98% (36)	11.00% (2,380)
	2006	9.73% (39)	7.16% (1,549)
	2007	7.48% (30)	7.80% (1,688)
	2008	9.23% (37)	6.74% (1,457)
	2009	11.72% (47)	6.93% (1,499)
Job market characteristics			
Employer sector	Education institutions	18.70% (75)	16.23% (3,510)
	Government and industry	81.30% (326)	83.77% (18,122)
Employer locations	Northeast	26.43% (106)	18.31% (3,961)
	Midwest	19.45% (78)	20.77% (4,494)
	South	31.17% (125)	34.99% (7,570)

	West	22.94% (92)	25.92% (5,607)
Supervisor status	Yes	24.69% (99)	27.03% (5,847)
	No	75.31% (302)	72.97% (15,785)

Note. *p < .05, **p < .01, ***p < .001.

All demographic, educational background and job market characteristics differences between IBDR and DBDR returned statistically significant χ^2 scores except for employer sector and supervisor status.

Table 2. Descriptive Statistics of Continuous Independent Variables (N = 22,033)

	IBDR	DBDR	Min.	Max.	*t*-test
Age at the survey year	25.52	26.31	19.00	75.00	2.90**
Logged earnings	10.83	10.73	2.4	14.03	-3.65**
Job tenure	1.40	1.60	0	38.00	ns
Employer size	5.03	5.17	1.00	7.00	ns

Note. *p < .05, **p < .01, ***p < .001.

The logged earnings were an independent variable in career satisfaction analyses. For the employer size, the bigger the number is, the larger the employer size is.

Career Outcome Differences between International and Domestic Bachelor's Degree Recipients

The distribution of major-job match and job satisfaction by international status is presented in Table 3 and Table 4. IBDR were significantly more likely than DBDR to be employed in jobs that were closely related to their majors (χ^2 = 37.87, p < .0001). Significantly larger percentages of IBDR reported that their jobs were closely related to their majors than did DBDR. A chi-square test on job satisfaction indicated that there was no statistically significant difference between IBDR and DBDR in job satisfaction. As shown in Table 5, after adjusting for currency inflation

(in 2015 dollars), IBDR made $6,094 more on average than DBDR ($57,721 vs. $51,626). The t-test result showed that IBDR had significantly higher annual earnings than DBDR ($t = 4.39$; $p < .0001$). Two chi-square tests were conducted to see if significant differences exist in major-job match and job satisfaction by region of origin.

Table 3 and Table 4 show that there were significant differences in major-job match ($\chi^2 = 14.57$, $p < .0001$) and job satisfaction ($\chi^2 = 19.77$, $p < .05$) by region of origin. As of major-job match, 19.51% of IBDR from Africa had jobs that were not related to their majors, whereas less than 8% of IBDR from Asia, Europe, and North and South America reported the same. In terms of job satisfaction, IBDR from Asia and Africa were less likely to be satisfied with their jobs as compared to IBDR from Europe and North and South America. 53.49% of IBDR from Europe and 46.94% of IBDR from North and South America were very satisfied with their jobs, but the corresponding figures for IBDR from Africa and Asia were 29.27% and 33.03%, respectively.

Table 3. Percentage Distribution of Major-Job Match: Differences by International Status and by Regions of Origin

	Not related	Somewhat related	Closely related	χ^2
DBDR	20.32%	30.97%	48.71%	37.87***
IBDR	7.98%	34.16%	57.86%	
IBDR (by region of origin)				
Europe	6.98%	18.60%	74.42%	14.57***
Asia	6.42%	38.07%	55.50%	
North and South America	7.14%	33.67%	59.18%	
Africa	19.51%	31.71%	48.78%	

Note. *$p < .05$, **$p < .01$, *** $p < .001$.

The post-hoc test was conducted to examine the mean differences of DBDR and IBDR by region of origin. The significant mean difference between IBDR and DBDR found in the t test (Table 2) is probably attributed to the

statistically significant difference between IBDR from Asia and DBDR in the Tukey-Kramer pairwise comparisons (Tukey-Kramer = 6.41; $p < .05$) (Table 6) because there were no significant differences in mean earnings among DBDR and IBDR from Europe, North and South America, and Africa.

Table 4. Percentage Distribution of Job Satisfaction: Differences by International Status and Region of Origin

	VD	*SD*	*SS*	*VS*	χ^2
DBDR	5.22%	11.65%	42.03%	41.11%	ns
IBDR	3.24%	10.47%	47.88%	38.40%	
IBDR (by region of origin)					
Europe	2.33%	11.63%	32.56%	53.49%	19.7*
Asia	2.29%	13.76%	50.92%	33.03%	
North and South America	5.10%	5.10%	42.86%	46.94%	
Africa	4.88%	4.88%	60.98%	29.27%	

Note. **p* < .05, ***p* < .01, ****p* < .001. *VD* = Very dissatisfied, *SD* = Somewhat dissatisfied, *SS* = Somewhat satisfied, *VS* = Very satisfied

Table 5. Mean Differences in Earnings by International Status

Group	Group means		Mean difference	*t*-test
IBDR vs. DBDR	$57,721	$51,626	$6,094	4.39***

Note. **p* < .05, ***p* < .01, ****p* < .001.

In order to control for the possible influence of currency inflation on earnings, salaries were converted into 2015 dollars by using the inflation calculator from the Bureau of Labor Statistics (CPI Inflation Calculator, 2015). The mean differences between IBDR and DBDR before and after inflation adjustment were reported above.

Table 6. Mean Differences in Earnings by Region of Origin

Group	Group means		Mean difference	Tukey-Kramer test
U.S. vs. Europe	$51,600	$57,000	$5,392	1.81
U.S. vs. Asia	$51,600	$60,100	$8,492	6.41*
U.S. vs. North and South America	$51,600	$55,300	$3,687	1.87
U.S. vs. Africa	$51,600	$51,300	$311	0.1
Europe vs. Asia	$57,000	$60,100	$3,100	0.95
Europe vs. North and South America	$57,000	$55,300	$1,706	0.47
Europe vs. Africa	$57,000	$51,300	$5,703	1.34
Asia vs. North and South America	$60,100	$55,300	$4,806	2.03
Asia vs. Africa	$60,100	$51,300	$8,803	2.65
North and South America vs. Africa	$55,300	$51,300	$3,998	1.1

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

In order to control for the possible influence of currency inflation on earnings, salaries were converted into 2015 dollars by using the inflation calculator from the Bureau of Labor Statistics (CPI Inflation Calculator, 2015). The mean differences between IBDR and DBDR before and after inflation adjustment were reported above.

The Role of International Status on Career Outcomes

Table 7 presents the coefficients of international status on three career outcomes across four models constructed in this study. As shown in Table 7, for major-job match, IBDR were 1.77 times more likely to hold jobs related to their undergraduate major than DBDR, without controlling for any covariates. After controlling for demographic variables in model 2 and educational experiences in model 3, the effect of international status on major-job match was positive and statistically significant (odds ratio = 2.13, $p < .001$ in model 2 and odds ratio = 1.74, $p < .001$ in model 3). In the final model, after taking into account bachelor's recipients' demographic characteristics, educational experiences, and a series of job market

characteristics, the odds of holding jobs that were related to their undergraduate majors were 1.82 times higher for international bachelor's degree recipients than domestic bachelor's degree recipients.

With regard to job satisfaction, as shown in Table 7, IBDR did not differ significantly in job satisfaction relative to DBDR prior to controlling for any covariates in model 1 (odds ratio = 1.14, $p > .05$). After controlling for age, race/ethnicity, gender, parental education, and marital status, IBDR were actually 1.29 times more likely to be satisfied with their jobs than DBDR. After taking into account bachelor's degree recipients' educational experiences, IBDR were not statistically different from their DBDR counterparts on job satisfaction. After controlling for covariates in demographics, educational experiences, and job market characteristics in model 4, there were no significant differences between international and domestic bachelor's degree recipients in job satisfaction. The result suggests that regardless of whether IBDR share similar characteristics with their DBDR counterparts, there was no consistent difference on career satisfaction by IBDR status.

In terms of earnings, model 1 showed that before controlling for any other relevant variables, the logged annual earnings for IBDR was 18% higher than the logged annual earnings for DBDR. This difference was statistically significant at the .001 level. After adding demographic factors in model 2, the significant positive effect of being IBDR on earnings decreased but was still statistically significant at the .01 level. model 2 showed that after controlling for demographic characteristics of bachelor's degree recipients, IBDR still held a 10% advantage in the annual earnings relative to their DBDR peers. However, after taking into account field of study, college selectivity, and undergraduate GPA, there were no significant differences between IBDR and DBDR in annual earnings. This trend persisted after job market characteristics of bachelor's degree recipients were taken into account in model 4. The results of sequential analyses show that the significant difference in annual earnings between international and domestic bachelor's degree recipients (the 18% earnings advantage of international bachelor's degree recipients) may be largely attributed to variations in field of study, college selectivity, and undergraduate GPA between international and domestic bachelor's degree recipients. Thus, in general, international status did not have a significant effect on earnings after taking into account bachelor's degree recipients' demographic, educational experiences, and job market characteristics.

Table 7. Coefficients of IBDR relative to DBDR on Career Outcomes

	Model 1	Model 2	Model 3	Model 4
Major-Job Match^{+}	1.77***	2.13***	1.74***	1.82**
Career Satisfaction	1.14	1.29*	1.17	1.08
Earnings	0.18***	0.1**	0.06	0.05

Note. + Odds ratio. *p < .05, **p < .01, ***p < .001.

Model 1 only included international status in the analysis; model 2 included international status and demographic factors; for model 3, educational background factors were added to model 2; and in model 4, job market characteristics were added to model 3. For the analysis on career satisfaction, major-job match and earnings were added to model 4 as additional job market characteristics. For the analysis on earnings, major-job match was included in model 4 as a job market characteristic.

The Role of Region of Origin on Career Outcomes

To understand whether region of origin has any impacts on career outcomes, I conducted a separate set of analyses in which the IBDR variable was disaggregated into four regions: Europe, Asia, North and South America, and Africa, with DBDR being the reference group. The findings are presented in Table 8.

For major-job match, region of origin mattered across four regions of IBDR after taking into account bachelor's degree recipients' demographic, educational experiences, and job market characteristics. While IBDR from Europe were 3.23 times more likely to find jobs that were related to their undergraduate majors than DBDR, IBDR from Africa did not differ significantly from DBDR in major-job match, all things being equal. Similar to IBDR as a group, IBDR from Asia and North and South America were 1.72 times and 2.2 times more likely, respectively, than DBDR to hold jobs that were related to their undergraduate majors. By contrast, there were no significant variations in the job satisfaction by region of origin after controlling for bachelor's degree recipients' demographic, educational experiences, and job market characteristics.

For annual earnings, IBDR from the region of North and South America held a significant earning advantage of 12% relative to DBDR, all things being equal. On the other hand, IBDR from Europe, Asia, and Africa did not have significant earnings differences as compared to DBDR, all things being equal. These findings suggest that the region of origin is an

important factor to be considered when explaining career outcomes differences between international and domestic bachelor's degree recipients.

Table 8. Coefficients of IBDR relative to DBDR on Career Outcomes: By Region of Origin

	Major-job Match^{+}	Career Satisfaction^{+}	Earnings
Europe	3.23**	1.4	-0.19
Asia	1.72***	0.97	0.07
North and South America	2.2**	1.44	0.12***
Africa	0.83	0.91	0.07

Note. + Odds ratio. *p < .05, **p < .01, ***p < .001.

Analysis was conducted using a full model (model 4) that includes countries of origin, in addition to all other independent variables such as demographic factors, educational background factors, and job market characteristics. For the analysis on career satisfaction, major-job match and earnings were added to model 4 as additional job market characteristics. For the analysis on earnings, major-job match was included in model 4 as a job market characteristic.

DISCUSSION AND CONCLUSIONS

The findings of this study suggest that international bachelor's degree recipients were significantly more likely to hold jobs that were related to their major compared to domestic bachelor's degree recipients, but international bachelor's degree recipients did not differ significantly from domestic bachelor's degree recipients in the annual earnings or job satisfaction after taking into account effects of demographic, educational experiences, and job market characteristics. Further, this study found that region of origin played an important role in influencing international bachelor's degree recipients' major-job match and earnings but did not have a significant effect on job satisfaction. Specifically, international bachelor's degree recipients from Asia, Europe, and North and South America were more likely to have jobs related to their undergraduate majors compared to domestic bachelor's degree recipients, but those from Africa did not differ significantly in major-job match with domestic bachelor's degree recipients.

International bachelor's degree recipients from North and South America held an earnings advantage of 12% over domestic bachelor's degree recipients, whereas international bachelor's degree recipients from Asia, Europe, and Africa did not have a significant difference in earnings compared to domestic bachelor's degree recipients, all things being equal.

The positive association between international status and major-job match suggests that international bachelor's degree recipients have a better match between their undergraduate fields of study and current employments. In other words, the results of this study indicate that international bachelor's degree recipients may be more capable of utilizing the human capital they acquired in U.S. institutions in their early employment in the U.S. job market (Robst, 2007). Given the positive relationship between major-job match and career outcomes, such as earnings and job satisfaction (Bender & Heywood, 2011; Kucel & Vilalta-Bufi, 2012; Nordin et al., 2010; Robst, 2007; Xu, 2013), international bachelor's degree recipients are in a better position than domestic bachelor's degree recipients to utilize their investments in undergraduate education for their early career success.

This advantage in major-job match for international bachelor recipients, however, should be better understood within the context of current U.S. immigration regulations on temporary visa holders. In order for international bachelor's degree recipients to legally work in the U.S., they have to apply for H-1B working visas, which impose several constraints on the types of employment can be taken (USCIS, 2016). One key requirement for international bachelor's degree recipients to gain H-1B visas is that international students' jobs must be in occupations that are closely related to their fields of study (USCIS, 2016). Under this regulation, international bachelor' recipients can be employed only in jobs that are related to their majors, whereas domestic bachelor's degree recipients can freely select jobs. It is worth noting that the positive effect of international status on major-job match may only be evident at the early stage of their careers because, after they gain their permanent resident status, the restraint on the match between field of study and occupation will be removed. Research has shown that once international students gained permanent resident status, their career outcomes, such as pay, job mobility, and job opportunities are all significantly improved (Lan, 2013).

The current study found that international status does not play a significant role in shaping bachelor's degree recipients' earnings and job satisfaction in the early stage of their careers. The finding that international

bachelor's degree recipients have gained parity with domestic bachelor's degree recipients in earnings and job satisfaction suggests the importance of transferability of human capital acquired in the host country for the career success of immigrants in that host country. Prior literature studying foreign immigrants, most of whom did not hold U.S. postsecondary degrees, revealed that all things being equal, immigrants were more likely to have lower pay compared to domestic workers, possibly due to the lower transferability of foreign degrees in the host countries (Bratsberg & Ragan, 2002; Chiswick & Miller, 2007; Zeng & Xie, 2004). By comparison, the parity between international and domestic bachelor's degree recipients in the three career outcomes suggested in this study highlights the importance of skills and knowledge acquired from U.S. institutions for international bachelor's degree recipients, suggesting that human capital gained from U.S. institutions not only helps international bachelor's degree recipients locate jobs in the U.S. job market but also enables them to overcome the profound barriers associated with immigrants without host country education, allowing them to gain labor market parity with domestic bachelor's degree recipients in both earnings and job satisfaction.

This study also found evidence of the origin effect on career outcomes, suggesting that international bachelor's degree recipients from North and South America hold an earnings advantage of 12%, while those who are from Asia, Europe, and Africa do not have a significant difference in earnings compared to domestic bachelor's degree recipients, all things being equal. This finding confirms the importance of examining the macro-factors (region of origin in this study) when studying career outcomes of foreign-born workers in the host country, as illustrated in previous studies (Chiswick, 1978; Jasso & Rosenzweig, 1990; Phythian et al., 2010). Within the human capital framework, previous studies argued that variations in career outcomes of immigrants in western-developed countries by country of origin may largely be due to the human capital stock of immigrants acquired in their home countries that are not fully transferable in the host country (Chiswick, 1978; Jasso & Rosenzweig, 1990; Phythian et al., 2010). Contrary to this view, this study found that the region of origin effect still plays a role in shaping international bachelor's degree recipients' economic career success, even when they acquire credentials at the same academic level and from the same U.S. institutions.

As to why international bachelor's degree recipients from North and South America hold an earnings advantage over those from other regions of

origin, this finding might be explained by the community effect (Sporlein & Tubergen, 2014; Tubergen, Mass, & Flap, 2004). The community effect posits that, when the large influx of immigrants from certain countries form sizable communities in the host country, such as Mexicans in the United States, or Indians in the United Kingdom, researchers have suggested that sizable immigrant groups perform better economically than smaller immigrant groups, based on the assumption that immigrants are more willing to help co-ethnics (Sporlein & Tubergen, 2014; Tubergen et al., 2004). According to the data from the U.S. Census Bureau, 45 percent of immigrants (19.5 million people) reported having Hispanic or Latino origins; Mexicans accounted for approximately 27 percent of immigrants in the United States, making them by far the largest foreign-born group in the country, followed by India (6%) and China (5%) (Zong & Batalova, 2017). Therefore, it is likely that international bachelor's degree recipients from North and South America, primarily Hispanic or Latino origins, may have an edge in the U.S. job market due to the support from their ethnic communities compared to other smaller ethnic groups.

This study's findings offer U.S. postsecondary institutions with a better understanding of how international bachelor's degree recipients perform when transitioning from international students to highly skilled workers in the U.S., as well as how these students have converted their undergraduate education into career success within the U.S. job market. This study provides some evidence that international bachelor's degree recipients, at least those who successfully located jobs in the U.S., have gained parity with their domestic counterparts in major-job match, annual earnings, and job satisfaction. The comparable career success between international and domestic bachelor's degree recipients indicates that higher education institutions may need to be aware that the career success of international workers with U.S. degrees in the U.S. job market may depend on academic levels because, as revealed in this study, international bachelor's degree recipients have gained comparable career success to their domestic peers, while previous research has found the negative effect of international status on career outcomes (Cantwell & Lee, 2010; Chakravartty, 2006; Jiang, 2016). Thus, higher education institutions may consider providing different career services for international students by academic level when preparing international students for their transition from temporary students to the skilled workforce.

Furthermore, U.S. postsecondary institutions need to understand the importance of assisting international students in improving their career outcomes both in the U.S. and in other foreign countries in order for U.S. postsecondary institutions to be competitive in the intense global market for qualified international talents. A recent study reveals that of all institutional services, international students are least satisfied with career services, particularly with the ability of the institutions to assist in employment and career advancement (Roy, Lu, & Loo, 2016). On the other hand, U.S. working experience has become more important than ever for international students with U.S. degrees, even if they work in their home countries voluntarily or involuntarily (Gribble, 2014; Gribble & Blackmore, 2012; Lawrence, 2013). That is, with the large number of international students returning to home countries, U.S. degrees alone are not enough for international students to stand out in the highly competitive job markets, such as China (Gribble, 2014; Gribble & Blackmore, 2012; Lawrence, 2013).

From the perspective of recruiting future undergraduate students, the pipeline of college students from major sending countries is likely drying up. For instance, in China, due to the government's one-child policy, there will be 60 percent fewer people aged 20 to 24 by 2030 than in 2010 (Fischer, 2014). Furthermore, China's continuing investment in its academic research infrastructure and the goal to create world-class institutions may make it a compelling destination not only for Chinese students but also for international students from other countries. Indeed, China hosted about 330,000 students in 2012 and has a target to reach 500,000 students by 2020 (International Consultants for Education and Fairs, 2015). Therefore, the experiences and satisfaction levels of international students, not only during students' academic experiences on campus, but also during their careers both in the U.S. and in other countries, may play crucial roles in the recruitment and enrollment process for the U.S. higher education institutions.

This study may also serve as a reminder for the U.S. higher education institutions and the U.S. as a society to continuously work on providing a welcoming climate for international students on campus and foreign-born workers in the labor market. The comparable career success of international bachelor's degree recipients to their domestic counterparts as suggested in this study should by no means be viewed as evidence for denying the possible effect of neo-racism toward foreigners both on campus

(Lee & Opio, 2010; Lee & Rice, 2007) and in the labor market (Cantwell & Lee, 2010; Chakravartty, 2006). Instead, foreign-born workers in the U.S. seem to face more discrimination than before in the current context of anti-immigrant political climate and increased instances of hate crimes toward foreigners.

Since the 2016 presidential election, college campuses have seen a rise in hate crime reports, targeting immigrants and racial minorities (Dreid & Najmabadi, 2016). For example, in February, 2017, two India-born engineers were shot in a possible hate crime in Kansas, leaving one dead and the other wounded, which raised new alarms about a climate of hostility toward foreigners in the U.S. (Eligon, Blinder, & Najar, 2017). Targeted hate crimes such as this, along with the unwelcoming climate associated with the discrimination toward foreigners may damage the recruitment of qualified international undergraduate students. A recent survey on 250 U.S. institutions conducted by the Institute of International Education, the Council of Graduate Schools and Enrollment Report revealed that 39% of responding institutions reported a decline in international applications in Fall 2017; institutions reported the highest declines in applications were from the Middle East Institutions, and applications from India and China have also been impacted (Trending Topics Survey, 2017). Undoubtedly, the U.S. still holds an inherent advantage in attracting international students due to the perceived high quality of its postsecondary education and the reputation of cutting-edge research (Altbach, 2004); however, providing a welcoming climate for international students will increase the U.S.'s ability to attract top talent.

The findings of this study also have implications for theoretical perspectives that have been used to explain the career differences between foreign-born and U.S.-born workers. First, this study found that all things being equal, international and domestic bachelor's degree recipients did not differ significantly in earnings or job satisfaction, which provides support for the use of human capital in explaining the career outcomes of two groups of graduates with similar skills and trainings (Becker, 2009). Since international bachelor's recipients received similar academic training in U.S. institutions and were hired with the same bachelor's degree, there should not be significant career outcome differences between these two groups, all things being equal.

On the other hand, this study found little evidence to support the neo-racism theory, which hypothesizes that if international bachelor's

degree recipients are prone to discrimination related to their foreign culture in the labor market, international status may have a significant negative effect on career outcomes of international bachelor's degree recipients (Balibar, 1992; Barker, 1981; Hervik, 2004; Spears, 1999). However, as illustrated above, the comparable career success between international and domestic bachelor's degree recipients should not viewed as an evidence for denying the importance of using neo-racism theory in explaining the disadvantaged career outcomes of foreign-born workers in the U.S. job market, as foreign-born immigrants are indeed facing some level of unwelcoming climate in the U.S. job market (Dreid & Najmabadi, 2016; Eligon et al., 2017). Further research may consider using qualitative studies to examine the influence of neo-racism on career outcomes of foreigners because international status is only considered as a proxy for neo-racism, and it is difficult to measure neo-racism statistically in quantitative studies.

This study enriches the research on international students' employment outcomes in the U.S. job market by confirming that international bachelor's degree recipients have achieved parity with their domestic counterparts in major-job match, earnings, and job satisfaction, at least at the early stage of their careers. Yet there is still a variety of questions that need to be answered in order to have a nuanced understanding of the employment outcomes for international students. The first question for future research is whether the parity between international and domestic bachelor's degree recipients occurs only at the early stage of their careers or if it changes in their later careers. This study cannot address this question due to the cross-sectional nature of the data examined, but future research could examine the longitudinal datasets related to international bachelor's degree recipients' career outcomes to tackle this issue. In addition, of particular interest for future research would be the origin effect on career outcomes of foreign-born workers in the U.S. labor market. The current study reveals that international bachelor's degree recipients from North and South America enjoy a significant 12% advantage in earnings compared to their peers from other regions of origin, but this study cannot fully explain why this difference occurs. Future research may be conducted to better understand the link between country of origin and career outcomes of foreign-born workers with degrees from U.S. institutions.

Lastly, this study has several limitations. This study only examines the career outcomes of individual international bachelor's degree recipients with full-time jobs at the time of survey. Hence, the findings are biased in

terms of only capturing the career outcomes of full-time international bachelor's degree recipients in the U.S. job market. In addition, international bachelor's degree recipients represented in the data were highly capable individuals who were able to successfully locate jobs in the competitive U.S. labor market, thus the findings of this study could not represent the career outcomes of international bachelor's degree recipients who have returned to their home country. Future research, therefore, may focus on career outcomes of those who work in their home countries with U.S. credentials in order to have a better understanding of the whole picture of the value of undergraduate education in the U.S. Furthermore, data analyzed in this study covered international bachelor's recipients who graduated from U.S. institutions from 1999 to 2009, thus this study may not fully capture employment outcomes of international bachelor's recipients who have graduated and worked in the U.S. after 2009.The next limitation of this study is the measure of college selectivity by using the grouping strategy created by Hersch (2013). There is no doubt that this strategy has its inherent disadvantage in precisely measuring the selectivity of colleges, but the NSRCG survey did not carry other selectivity measures. Thus, realizing this limitation, future research can search for a more comprehensive data to better take into account the effect of college selectivity on career outcomes of international bachelor's recipients.

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XIUSHAN JIANG, Ph.D., is a Research Analyst at the Academic Support Center at the University of Kansas, Edwards Campus. His research interests include international higher education, employment outcomes of international students and STEM education in the college setting. Email: xsh@ku.edu.

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