

## Examining STEM Career Choice of International College Students in the United States

**Xun Liu**

Consortium for Family Strengthening Research  
University of South Carolina  
Columbia  
South Carolina.

**Jiaqi Li**

Educational Leadership  
Educational and School Psychology  
Wichita State University  
Wichita, Kansas.

### Abstract

---

*This study examined the nature and difference of STEM career choice among international college students in the U.S., by using Baccalaureate and Beyond Longitudinal Study (B&B: 08/12). STEM and Non-STEM differences among gender, race/ethnicity, SAT scores, STEM credits, STEM GPA, annualized salary in 2009 and 2012, and hours worked per week were examined. Results indicated a significant difference in STEM credit earned among international college students. Recommendations for future research on STEM career choice among international students were discussed.*

---

**Keywords:** career choice, international college students, STEM major

### Introduction

Examining STEM Career Choice of International College Students in the United States Over the past decades, the United States has been a primary provider of higher education for international students all countries of the world that host foreign students. According to Institute of International Education (IIE, 2018), there are nearly one million international college students studying in the U.S., representing more than 200 nationalities; the top fields of study are: Engineering, Business and Management, Math, and Computer Science. These international students contributed \$39 billion and supported more than 455,000 jobs to the U.S. economy during the 2017-2018 academic year (National Association of Foreign Student Advisers [NAFSA], 2018). As international student enrollments annually increase at U.S. universities and colleges, a large number of students are seeking employment and internship opportunities in the U.S. upon graduation. There are 203,462 international students obtaining the Optional Practical Training (OPT, an immigration status that permits international students to work under a student visa after they have earned a degree in the U.S. universities and colleges) during 2017 and 2018 (IIE, 2018). Despite the importance to the U.S. economy development and campus diversity, few studies have focused on career development concerns and needs of international college students, especially in science, technology, engineering, and mathematics (STEM) fields (Hou, Osborn, & Sampson, 2017; Lin & Flores, 2011). Thus, the current study aims to expand our understanding of the STEM career choice of international college students in the United States.

## ***STEM and International College Students***

Technically, STEM is an acronym for the fields of science, technology, engineering, and math. According to Department of Homeland Security (DHS, 2016), *science, technology, engineering, and math field* refers to “a field included in the Department of Education’s Classification of Instructional Programs taxonomy within the two-digit series or successor series containing engineering, biological sciences, mathematics, and physical sciences, or a related field” (p.1). In particular, *related fields* mean fields involving research, innovation, or development of new technologies using engineering, mathematics, computer science, or natural sciences (i.e., physical, biological, and agricultural sciences; DHS, 2016). Bureau of Labor Statistics reported that most of jobs required the certain expertise in STEM related technology and the percentage is expected to increase to 13 percent between 2012 and 2022 (Vilorio, 2014). STEM occupations are projected to grow by 8.0 percent from 2014 to 2024 (Fayer, Lacey, & Watson, 2017). Recent research has indicated that there is a consistently increasing demand for STEM education due to the dramatic growth of STEM-related job opportunities (Falco, 2016; Wang, Eccles, & Kenny, 2013). However, there has been substantial concerns regarding a shortage of STEM workers to meet the demands of the U.S. labor market (Bureau of Labor Statistics, 2015). For instance, there are 1.8 million bachelor’s degrees awarded in the U.S. between 2015 and 2016, including merely 331,000 (18%) in STEM fields (National Center for Education Statistics [NCES], 2019). Seen through the lens of a social justice perspective, STEM occupations are held predominantly by White and Asian males (National Science Foundation [NSF], 2015). Women and students from racial and ethnic minority groups are underrepresented in STEM fields (Mau & Li, 2018). Increasing recruitment and retention in the STEM pipeline for all underrepresented students (e.g., women, minorities, international students) might create a stronger workforce for future innovation and job creation in the United States. President Obama pointed out that immigrants and international students comprise an important part of U.S. workforce, especially in STEM-related high-tech industry (Obama, 2010). During 2017 and 2018 semester, approximately 45% of international students in the U.S. are major in the field of engineering, physical, life science, math, and computer science (IIE, 2018).

## ***International College Students Career Choice***

The literature on international student career choice dates back years (Arthur & Popadiuk, 2010; Hou, Osborn, & Sampson, 2018). It chronicles the existence of cross-cultural adjustment throughout the stages of life of study abroad, beginning with entering a new culture and culminating with transferring international expertise to work settings in the host countries (Arthur, 2007, 2008). Based on social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994), a careful review of the literature indicates that personal and contextual factors have been considered significant issues affecting career choice of international college students studying in the United States (Amuedo-Dorantes & Furtado, 2019; Reynolds & Constantine, 2007; Singaravelu, White, & Bringaze, 2005). Personal factors include gender and race/ethnicity (Jang, Pak, & Lee, 2019), indirectly influencing self-efficacy (Lin & Flores, 2011), career interests, and outcome expectation (Franco, Hsiao, Gnilka, & Ashby, 2019; Reynolds & Constantine, 2007), whereas contextual factors are closely related to immigration policy (e.g., obtaining H-1B visa, which is a working visa that allows U.S. employers to hire foreign workers; Amuedo-Dorantes & Furtado, 2019), cultural context (e.g., individualism vs. collectivism; Sheu, Liu, & Li, 2017; Triandis, 1995), and acculturative stress (Franco et al., 2019). In addition, opportunity structure variables (e.g., job market trend; Sheu & Jordon, 2017), English proficiency (Lopez, 2002), bachelor’s major, GPA, annual salary, and career persistence (Xu, 2013) might be related to the career choice of international students, yet they have rarely been studied and warrants further investigation.

## ***Theoretical Framework***

Given the distinctive characteristics of STEM career choice mentioned above, the constructs of SCCT (Lent et al., 1994) well explain the role of person, environment, and cognitive process in formulating and pursuing career choices. To date, SCCT has been widely supported by research focusing on the prediction of career choice among college students (Chan, 2018; Li et al., 2019). According to Lent et al. (2002), personal factor (or called person inputs by Lent et al., 1994; including gender, race, disability, personality, and predispositions) and contextual factor (called background context) influence learning experiences, which influence self-efficacy beliefs and outcome expectancies. Together, these factors influence career interests, which influence choice goals, actions, and performance attainments. For instance, a young boy from India is encouraged to read and learn about computer science and given opportunities to take computer science classes. These learning experiences, afforded

---

by his socioeconomic status and familial approval, influence the development of his beliefs in his ability to do well in computer science, which leads to his career interests and goals in computer science. Finally, he will likely end with his career in computer science field.

### ***Purpose of the Study***

Guided by SCCT (Lent et al., 1994, 2002), the purpose of this study was to examine personal and contextual factors affecting STEM career choice between STEM and Non-STEM international college students. Unlike many studies that have used a single sample, we used a nationally representative longitudinal dataset published in NCES. Specially, two research questions were investigated. First, what is the nature of personal variables, learning experiences, and career outcomes between STEM and Non-STEM international college students? Second, is there any significant difference between STEM and Non-STEM international college students in terms of SAT scores, STEM GPA, STEM credits earned, annual salary in 2009, and annual salary in 2012 and hours worked per week in 2012?

### ***Method***

#### **Data Sources**

This study uses the public-use data of Baccalaureate and Beyond Longitudinal Study (B&B) administered by the National Center for Educational Statistics (NCES; 2018). The B&B purports to track students' education and work experiences after they complete a bachelor's degree by drawing a series of cohorts from the National Postsecondary Student Aid Study (NPSAS) that collects data from nationally representative samples of postsecondary students and institutions (NCES, 2019). The current B&B includes four cohorts: the first one (about 11,000 students) collected in 1993, the second one (about 10,000 students) in 2000, the third one (approximately 19,000 students) in 2008 and followed up with in 2009 and 2012, and the fourth one drawn in 2016 (NCES, 2019). The third B&B cohort samples are representative of graduating seniors in all majors. Data used for the current study were based on the third cohort but included additional degree attainment and employment information over four years, from 2007-08 to 2011-12. This data set is titled B&B:08/12 and released by NCES in December 2018. Our population in B&B:08/12 is focused on international students (i.e., comprised of 0.98% of the whole sample) based on their immigrant status (e.g., holding a F-1 Student Visa; a visa for international students who are looking to enter the United States to pursue their studies; U.S. Citizenship and Immigration Services; USCIS, 2019).

#### **Variables**

Based on SCCT (Lent et al., 1994), we defined three group variables (i.e., personal, learning experiences, and career outcomes) in the current study.

- First, personal variables include gender (i.e., male, female), race/ethnicity (i.e., White, Black or African American, Hispanic or Latino, Asian, American Indian or Alaska Native, Native Hawaiian/Other Pacific Islander, Other, and more than one race), and age (i.e., the survey requests the respondents' ages at their degree award dates).
- Second, learning experiences variables include SAT scores (i.e., the survey requests the respondents' SAT I combined scores), STEM GPA (i.e., the survey requests the respondents' cumulative undergraduate GPA), STEM credits earned (i.e., the survey requests a total of normalized credits earned in STEM courses at the bachelor's degree institution), and the Highest level of education expected as of 2007-08 (i.e., the survey requests the highest level of education that the respondent ever expects to complete).
- Lastly, career outcome related variables include occupations, primary job related to bachelor's degree major as of 2012 (i.e., indicated the relationship between the respondent's current or most recent primary job and their 2007-2008 bachelor's degree; each item is coded on a 4-point ordinal scale: 0 = not related, 1 = closely related, 2 = somewhat related, 3 = skipped), hours worked per week in 2012 (i.e., indicates that hours the respondent reported working per week at the current or most recent primary job), annual salary in 2009 (i.e., indicates the respondent's income from their current job as of the B&B:09 interview), and annual salary in 2012 (i.e., indicates the respondent's income from their current job as of the B&B:12 interview).

## Results

We conducted a descriptive analysis to examine STEM career choice as a function of personal variables, learning experiences, and career outcomes among international college students. Additionally, *t*-tests were used to answer the following research questions.

*Research question one: What is the nature of personal variables, learning experiences, and career outcomes between STEM and Non-STEM international college students investigated by the B&B:08/12 study?*

### Personal Variables

The B&B:08/12 was composed of approximately 140 self-identified international students. The average age of students was  $M = 25.8$ , with a standard deviation of .83. Of all international college students, 61.87% were males and 38.13% were females; 20.87% were White, 26.54% were Black or African American, 7.19% were Hispanic or Latino, and 45.39% were Asian. A summary of descriptive statistics matrix for gender and race/ethnicity is presented in Table 1.

**Table 1: Percentage of International Students by Gender and Race/Ethnicity**

	Gender		Race/Ethnicity			
	Male	Female	White	Black or African American	Hispanic or Latino	Asian
STEM	82.89	17.11	17.30	32.54	<i>N/A</i>	46.85
Non-STEM	49.58	50.42	22.64	20.50	10.05	46.81

*Note.* *N/A* = No report.

### Learning Experiences

Of all international students interviewed, 20.59% STEM and 15.40% Non-STEM students expected a bachelor's degree, 61.11% STEM and 65.52% Non-STEM students expected a master's degree, and 18.30% STEM and 19.08% Non-STEM students expected a doctoral degree as a function of STEM major and educational expectation as of 2007-08.

### Career Outcomes

27.82% of international college students (32.67% of Non-STEM students) reported that their primary job in 2012 was not related to bachelor's degree major; 33.63% (38.15% of Non-STEM students) reported that their primary job in 2012 was closely related to bachelor's degree major; and 38.55% (29.18% of Non-STEM students) reported that their primary job in 2012 was somewhat related to bachelor's degree major. There is not a report of STEM students in this category due to a small sample size.

Regarding primary occupation as of 2012, the top selections included: Computer/Information Systems (18.60%), Business (11.85%), Business Management (11.60%), and Postsecondary Educators (11.19%) among international college students.

*Research question two: Is there any significant difference between STEM and Non-STEM international college students in terms of SAT score, STEM GPA, STEM credits earned, annual salary in 2009, annual salary in 2012, and hours worked per week in 2012?*

**Table 2: Descriptive Statistics for SAT scores, STEM credits earned, GPA, Annualized Salary reports (09/12), and Hours worked per week in 2012.**

	STEM		Non-STEM	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
SAT scores	<i>N/A</i>	<i>N/A</i>	1054.52	32.86
STEM: credits	94.91	6.66	16.19	2.28
STEM: GPA	3.26	0.10	3.07	0.10

Salary in 2009	35058.19	8,477.83	22134.01	6,613.28
Salary in 2012	103609.93	13,316.70	37463.49	6,680.67
Hours worked per week	N/A	N/A	37.96	2.50

*Note.* *M* = Mean, *SE* = Standard error, *N/A* = No report.

Table 2 displays the mean and standard errors of STEM credits earned, STEM GPA, annualized salary in 2009 and annualized salary in 2012. Based on the descriptive statistics summarized above, we conducted *t*-tests to examine if there is any significant difference between STEM and Non-STEM majors among international college students. Using the Data Lab data tools (i.e., Power Stats) provided by the NCES website, we calculated the absolute *t* values for STEM credits earned ( $t = 11.18$ ), GPA ( $t = 1.34$ ), annualized salary in 2009 ( $t = 1.2$ ) and 2012 ( $t = 1.56$ ). Results indicated that STEM credits earned show a significant difference ( $t > 1.96$ ;  $p < .05$ ) between STEM and Non-STEM international students. There is not any significant difference found between STEM and Non-STEM international students on STEM GPA, annualized salary in 2009, or in 2012.

### **Discussion**

The aim of the current study was to examine the nature and difference of personal variables, learning experiences, and career outcomes between STEM and Non-STEM international college students in the United States. Overall, the findings partially supported Fouad and Santana’s (2016) study on the applicability of SCCT to examine factors affecting underrepresented populations in STEM fields, especially for women and racial-ethnic minority groups. Contrary to stereotypes of STEM fields as a White male domain (Buck et al., 2008), our results showed that male and Asian students were leading groups pursuing STEM education and careers among all international college students, which is consistent with Byars-Winston et al.’s (2015) finding that Asian men were the only group overrepresented in STEM occupations.

The current study also revealed that there is a significant difference between STEM and Non-STEM majors among international students on their STEM credit earned. Yet, this is not surprising because students in STEM degree majors should take more STEM related credit hours than Non-STEM students. With regard to common arguments offered for STEM career academic preparation, we find no evidence that SAT scores or GPA plays a key role in shaping disparities in choice of STEM majors. In addition, there is a huge difference of annualized salary in 2012 between STEM ( $M = 103609.93$ ,  $SE = 13,316.70$ ) and Non-STEM ( $M = 37463.49$ ,  $SE = 6,680.67$ ) international students. For a labor supply perspective, high-paying salary and professional development in STEM fields might be two strong factors influencing international students in their career decision-making process (Hazen & Alberts, 2006). For instance, Clemens (2013) reported that Indian programmers in the U.S. earn wages six times higher than comparable works in India. Although the majority of international students choose to return to their countries of origin, many eventually become immigrants to the U.S. and obtain employment opportunities for professional development (Crockett & Hays, 2011).

Prior research has demonstrated that international students (e.g., especially from Asian countries) predominantly selected the mathematics and science fields (Leong, 1995); however, our findings revealed that computer/information system (18.60%), business (11.85%), business management (11.60%), and postsecondary educators (11.19%) were the main academic major choices for international students. These changes are in line with the economic trends described earlier (Fayer, Lacey, & Watson, 2017). Furthermore, 72.18% of all international students reported that their primary job is closely or somewhat related to bachelor’s degree major. Our findings confirmed that international college students are more likely to persist in their bachelor’s degree major because they might consider it to be a valuable endeavor and condition to their future career success. Thus, to promote proactive and productive career choices among international students, it is important to evaluate their competence and confidence in their current majors.

### **Implications for Career Counseling**

The results of the current study have important practical implications for career counselors working with international college students. First, personal and contextual variables have been regarded as pivotal components

among career counselors to understand how clients make their career choices (Lent et al., 2000). Addressing personal, familial, academic, cultural, and social concerns of international college students may be essential to the development of their career choices. Given diverse cultural and ethnic backgrounds of international students, career counselors may seek to develop culturally appropriate intervention strategies to help their clients in their career decision-making process. However, it is recommended that the kind of intervention should be customized to the needs of the individual international students. Second, career counselor should be aware of gender and ethnic inequality of international students in STEM majors and consider how personal and contextual factors impact woman and underrepresented minority students in their career choice and development. In order to do this, assertive communication may help career counselors have a deeper understanding of the possible career choices of international students. Third, it is important that career counselors assess how family might be affecting international students' career decision-making. If international students are feeling stressed in light of family influence and involvement on their career development, career counselors should help their clients overcome any external barriers and challenges causing career indecisiveness and decision-making confusion.

### **Limitations and Future Research**

Although the findings of this study are important, we interpret the results with some caution. First, by utilizing the B&B:08/12 database with its large, nationally representative sample and longitudinal data, the findings of the present study can be generalized to all international college students. However, some limitations did rise in the use of the B&B database. One limitation was that we utilize public-use data and statistical tools provided by NCES, which may limit the interpretation of the results obtained. Future research should utilize restricted-use data to obtain more detailed information. Second, a small sample size limited the precision of career choice estimates. Although we used a nationally representative sample, the target population only accounts for 0.98% of the original sample, which is not big enough compared to other subsamples retrieved from the dataset. Third, the B&B:08/12 database is now somewhat dated. Although the dataset was released in December 2018, the data were collected from 2007-08 to 2011-12. Personal and academic characteristics of international students as well as their focus of career choice in the U.S. have changed a great deal over the past decades. More research should be conducted to reflect the changes of the current international college students in the United States.

### **Conclusion**

In summary, the present study indicated that there is a significant difference in STEM credit hours earned between STEM and Non-STEM majors among international college students in the United States. Although no significant differences of gender, race/ethnicity, STEM GPA, SAT scores, annual salary, and hours worked per week were found in STEM career choice, gender and race inequity are still present among international college students. Further research may use the restricted B&B database to investigate how international college students make STEM career choice under the impact of globalization.

### **References**

- Amuedo-Dorantes, C., & Furtado, D. (2019). Settling for Academia? H-1B Visas and the Career Choices of International Students in the United States. *Journal of Human Resources* 54(2), 401-429. <https://www.muse.jhu.edu/article/724358>.
- Arthur, N. (2007). Career planning and decision-making needs of international students. In M. Pope & H. Singaravelu (Eds.), *A handbook for counseling international students in the U.S.* (pp. 37-56). Alexandria, VA: American Counseling Association.
- Arthur, N. (2008). Counseling international students. In P. Pedersen, J. G. Draguns, W. J. Lonner, & J. E. Trimble (Eds.), *Counseling across cultures* (6<sup>th</sup> ed., pp. 275-290). Thousand Oaks, CA: Sage.
- Arthur, N., & Popadiuk, P. (2010). A cultural formulation approach to career counseling with international students. *Journal of Career Development*, 37, 423-440. doi:10.1177/0894845309345845.
- Buck, G., Clark, V., Leslie-Pelecky, D., Lu, Y., & Cerda-Lizarraga, P. (2008). Examining the cognitive processes used by adolescent girls and women scientists in identifying science role models: A feminist approach. *Science Education*, 92. doi:10.1002/sci.20257



- 
- Bureau of Labor Statistics. (2015). *STEM crisis or STEM surplus? Yes and yes*. Bureau of Labor Statistics. Washington, DC: Author. Retrieved from: <https://www.bls.gov/opub/mlr/2015/article/stem-crisis-or-stem-surplus-yes-and-yes.htm>
- Byars-Winston, A. M., Branchaw, J., Pfund, C., Leverett, P., Newton, J. (2015). Culturally diverse undergraduate researchers' academic outcomes and perceptions of their research mentoring relationships. *International Journal of Science Education*, 37, 2533–2554. doi:10.1080/09500693.2015.1085133
- Clemens, M. A., (2013). Why do programmers earn more in Houston than Hyderabad? Evidence from randomized processing of US Visas. *The American Economic Review*, 103(3), 198-202.
- Crockett, S. A., & Hays, D. G. (2011). Understanding and responding to the career counseling needs of international college students on U.S. campuses. *Journal of College Counseling*, 14, 65-79. doi:10.1002/j.2161-1882.2011.tb00064.x
- Department of Homeland Security. (2016). *STEM Designated Degree Program List*. Department of Homeland Security. Washington, DC: Author. Retrieved from: <https://www.ice.gov/sites/default/files/documents/Document/2016/stem-list.pdf>
- Falco, L. D. (2017). The school counselor and STEM career development. *Journal of Career Development*, 44(4), 359–374. doi:10.1177/0894845316656445
- Fayer, St., Lacey, A., & Watson, A. (2017). *STEM occupations: Past, present, and future*. U.S. Bureau of Labor Statistics. Washington, DC: Author.
- Fouad, N. A., & Santana, M. C. (2017). SCCT and underrepresented populations in STEM fields: Moving the needle. *Journal of Career Assessment*, 25(1), 24-39. doi:10.1177/1069072716658324
- Franco, M., Hsiao, Y., Gnilka, P. B., & Ashby, J. S. (2019). Acculturative stress, social support, and career outcome expectations among international students. *International Journal for Educational and Vocational Guidance*, 19, 275-291. doi:10.1007/s10775-018-9380-7
- Hazen, H. D., & Alberts, H. C. (2006). Visitors or immigrants? International students in the United States. *Population. Space and Place*, 12, 201-216. doi:10.1002/psp.409
- Hou, P., Osborn, D. S., & Sampson, J. P. (2018). Acculturation and career development of international and domestic college students. *The Career Development Quarterly*, 66, 344-357. doi:10.1002/cdq.12155
- Institute of International Education. (2018). *International Student Enrollment Trends, 1948/49 -2017/2018*. Open Doors Report on International Educational Exchange. Retrieved from <http://www.iie.org/opendoors>
- Jang, H., Pak, S., & Lee, D. (2019). Meta-analysis: The role of race/ethnicity and gender in career choice. *Journal of Asia Pacific Counseling*, 9, 119-135. doi:10.18401/2019.9.2.8
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79–122. doi:10.1006/jvbe.1994.1027
- Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47, 36-49. doi:10.1037/0022-0167.47.1.36
- Leong, F. T. L. (1995). *Career development and vocational behavior of racial and ethnic minorities*. Mahwah, NJ: Lawrence Erlbaum.
- Li, J., Mau, W. C., Chen, S. J., Lin, T. C., & Lin, T. Y. (2019). A qualitative exploration of STEM career development of high school students in Taiwan. *Journal of Career Development*. doi:10.1177/0894845319830525
- Lin, Y., & Flores, L. Y. (2011). Job search self-efficacy of East Asian international graduate students. *Journal of Career Development*, 3, 186-202. doi:10.1177/0894845311418655
- Lopez, A. E. (2002). Factors influencing career decision-making and post-secondary career choices of a cohort group of female Cuban immigrants. *Dissertation Abstracts International*, 62(12-A), 4088.
- Mau, W. C., & Li, J., (2018). Factors influencing aspirations in STEM careers of underrepresented high school students: A two-year follow-up. *Career Development Quarterly*, 110, 65-84. doi: 10.1002/cdq.12146
- National Association of Foreign Student Advisers. (2018). *The United States of America benefits from international students*. Retrieved from [https://www.nafsa.org/sites/default/files/ektron/files/underscore/econvalue\\_2018.pdf](https://www.nafsa.org/sites/default/files/ektron/files/underscore/econvalue_2018.pdf)
- National Center for Education Statistics. (2018). *NCES postsecondary surveys*. Washington, DC: Author. Retrieved from: <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2017136>

- National Center for Education Statistics. (December 2, 2019). *Baccalaureate and beyond longitudinal study*. Washington, DC: Author. Retrieved from: <https://nces.ed.gov/surveys/b&b/about.asp>
- National Center for Education Statistics. (February 2019). *Indicator 26: STEM Degrees*. National Center for Education Statistics. Washington, DC: Author.
- National Science Foundation. (2015). *Women, minorities, and persons with disabilities in science and engineering: 2015* (Special Report NSF 11-309). Arlington, VA: Author. Retrieved from <http://www.nsf.gov/2015/nsff15311/tables.cfm>
- Obama, B. (2010). *Remarks by the President on comprehensive immigration reform in El Paso, Texas*. Washington DC: U.S. Government Printing Office. Retrieved from White House website: <https://obamawhitehouse.archives.gov/the-press-office/2011/05/10/remarks-president-comprehensive-immigration-reform-el-paso-texas>
- Reynolds, A. L., & Constantine, M. G. (2007). Cultural Adjustment Difficulties and Career Development of International College Students. *Journal of Career Assessment*, 15(3), 338–350. doi:10.1177/1069072707301218
- Sheu, H., & Bordon, J. J. (2017). SCCT research in the international context: Empirical evidence, future directions, and practical implications. *Journal of Career Assessment*, 25, 58-74. doi:10.1177/1069072716657826
- Sheu, H., Liu, Y., & Li, Y (2017). Well-being of college students in China: Testing a modified social cognitive model. *Journal of Career Assessment*, 144–158. doi:10.1177/1069072716658240
- Singaravelu, H. D., White, L. J., & Bringaze, T. B. (2005). Factors influencing international students' career choice: A comparative study. *Journal of Career Development*, 32(1), 46–59. doi:10.1177/0894845305277043
- Triandis, H. C. (1995). *Individualism & collectivism*. Boulder, CO: Westview.
- U.S. Citizenship and Immigration Services. (May 22, 2019). *Student and employment*. Retrieved from: <https://www.uscis.gov/working-united-states/students-and-exchange-visitors/students-and-employment>
- Vilorio, D. (2014). STEM 101: Intro to tomorrow's job. *Occupational Outlook Quarterly*. Bureau of Labor Statistics. Retrieved from: <https://www.bls.gov/careeroutlook/2014/spring/art01.pdf>
- Wang, M., Eccles, J. S., & Kenny, S. (2013). Not lack of ability but more choice: Individual and gender differences in choice of career in science, technology, engineering, and mathematics. *Psychological Science*, 24(5), 770-775. doi: 10.1177/0956797612458937.
- Xu, Y. J. (2013). Career outcomes of STEM and non-STEM college graduates: Persistence in majored-field and influential factors in career choices. *Research in Higher Education*, 54(3), 349-382. doi:10.1007/s11162-012-9275-2