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Heterogeneity of Entrepreneurship Participation between Asian and White Females

by

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Abstract

I investigate race and gender differences in entrepreneurship participation in the US. I first confirm a finding from the previous literature that, among VC-backed firms, the proportion of females among Asian entrepreneurs is higher than the corresponding proportion among White entrepreneurs. I extend this finding to all types of entrepreneurs, including non-VC-backed ones. However, after controlling for basic non-race demographic variables, such as age, education, and marital status, I find no significant difference in entrepreneurship participation between Asian and White females. Instead, the difference is due to White males being more likely to be entrepreneurs than Asian males and White females. Moreover, exposure to an individualistic culture has a positive effect on male entrepreneurship participation, but no effect on female entrepreneurship participation.

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Contents

1 Introduction

Gender and race gaps in economic outcomes have persisted over time (Chetty et al., 2019; Fruttero et al., 2020; Quillian et al., 2017), though they have shrunk in recent years (F. D. Blau and Kahn, 2017; Goldin, 2006). [1] Research on diversity, equity, and inclusion (DEI) has been a fruitful area, with new empirical findings providing insightful implications (Bayer and Rouse, 2016). Despite this, gender and race gaps in the labor force persist, especially in leadership positions and high-rewarding jobs (Canning et al., 2012; Goldin, 2014; Quillian et al., 2017). These gaps are also prominent among entrepreneurs and investors (Ewens, 2022).

Recently Gompers and Wang (2017) find that among entrepreneurs of venture capital-backed startups, female representation is higher for Asians than Whites in the United States. Specifically, they find that while women are underrepresented in startups, the proportion of women is 3% higher among Asian entrepreneurs than among White entrepreneurs. They also state that factors such as education and work experience are not sufficient to explain this gap. Meanwhile, as they show, the percentage of Asians as entrepreneurs is higher than the percentage in the overall population and the labor force. This finding is surprising since Asians and women are often considered disadvantaged identities. Historically, there has been explicit discrimination against Asians in the United States, such as the Chinese Exclusion Act of 1882 and the 1924 Immigration Act, which reinforced political discrimination against Asian populations. Even today, anti-Asian sentiment, particularly towards the Chinese, has increased following the COVID-19 pandemic (Reny and Barreto, 2020), and some states have proposed restricting foreigners' ownership of properties (Chang,

[1] In this paper, we use the terms "woman" and "female", as well as "man" and "male," interchangeably, recognizing the importance of distinguishing between gender and sex and acknowledging that further discussion of these distinctions is beyond the scope of this paper.

2023). Given the impact of cultural proximity in lending (Fisman et al., 2017), Chinese startup founders may face higher barriers in raising funds, and females may be even less likely to successfully raise money than males (Brush et al., 2018).

The race and gender gap in entrepreneurship and investment has received relatively little research attention due to various reasons. Firstly, the available datasets often lack informative demographic variables such as race, age, and marital status. To address this issue, this study utilizes Crunchbase for VC-backed startup founders and applies a machine learning algorithm to predict race, while analyzing the Current Population Survey (CPS) to study all entrepreneurs, including non-VC-backed firms, with the latter providing key demographic variables. Secondly, cultural exposure is challenging to quantify and measure, and there is no direct dataset that reflects entrepreneurs' cultural origin and exposure. To address this challenge, the study employs Hofstede's cultural model and utilizes the individual's and parent(s)' birthplace to measure the impact of culture on entrepreneurship participation while controlling for basic demographic variables.

My study makes several contributions to the literature. First, to my knowledge, this is the first paper to consider race and gender among all entrepreneurs, including non-VC-backed ones. Second, this study advances our understanding of the intersection of race and gender in entrepreneurship. While previous literature has studied the race gap between White and Black populations (Fairlie and Robb, 2010), it has not explained the underrepresentation of White females, who are perceived as the dominant race population in the United States. Third, some literature argues that immigrants, as a selective group, are more likely to become entrepreneurs. It is worth categorizing different types of immigration and controlling for EB-5 VISA immigration, as the nature of different VISA types determines immigration purpose (Citizenship and Services, Accessed on 2023-03-21). However, people's birthplace and their parents' birthplace are correlated with cul-

tural exposure and immigration. Thus, it is important to investigate whether cultural differences lead people to be more likely to become entrepreneurs or whether people who immigrate from other countries are selective and thus more likely to start their own businesses.

The main focus of this paper is to investigate the higher proportion of females among Asian entrepreneurs than White entrepreneurs in the US, for both VC-backed and non-VC-backed firms. In this paper, to study both high-growth ventures and small businesses, I refer to owners of high-growth ventures who intend to raise capital from angel investors or venture capital as *founders* and these firms as *startups*, and people who have started a firm, including all type of firms, as *entrepreneurs*. To answer this question, I break it down into two parts:

- Does the gap between Asian female and White female entrepreneurs exist among all entrepreneurs in the population, including entrepreneurs not backed by VCs?
- Does the gap between Asian female and White female entrepreneurs exist among all entrepreneurs in the population, including entrepreneurs not backed by VCs?

I first replicate Gompers and Wang's finding (Gompers and Wang, 2017) using Crunchbase data for US firms to verify if the difference between the proportion of Asian female founders and White female founders still exists after the COVID-19 economic lockdown. I identify entrepreneurs with titles of "owners", "founder", or "co-founder", and predict their race based on their first and last names. I primarily focus on testing differences in race, gender, education, and venture failure. The results show that the proportion of females among Asian founders is higher than among White founders, and among founders, the proportion of people who received a bachelor's or higher education among Asians is significantly higher than among Whites for both males and females.

Then, I extend this finding to all types of entrepreneurs in the US by analyzing the Cur-

rent Population Survey (CPS), including non-VC-backed firms. I include people over 18, self-employed and incorporated, working more than fifteen hours per week for their primary job as entrepreneurs, and omit self-employed people who are not entrepreneurs (i.e. not incorporated), such as Uber drivers and social media influencers. I primarily focus on two general aspects in addition to race and gender: education and culture, which are implied by an individual's and parents' birthplace. I find the proportion of females among Asian entrepreneurs is higher than among White entrepreneurs. Also, the percentage of entrepreneurs among Asian females who were born in a collective culture is significantly higher than White females, while there is no significant difference between Asian and White males. Meanwhile, the percentage of entrepreneurs among Asian males who were born in an individual culture is significantly less than White males, while there is no significant difference between Asian and White females. However, after controlling for non-race demographic variables–age, education, marital status, and the number of children–there is no significant difference between Asian females and White females in terms of their likelihood of being entrepreneurs and exposure to collective culture does not significantly impact entrepreneurship participation. Instead, White males are significantly more likely to be entrepreneurs than Asian males. All else equal, exposure to an individualistic culture has a positive effect on whether males are entrepreneurs, but has no effect on females.

There are a few limitations of this research. First, I do not have the population of all VC-backed startups and all incorporated firms in the United States, to study if the cultural exposure and other variables would significantly differentiate VC-backed entrepreneurs. Second, I do not have the true ethnicity of the VC-backed startup founders and other demographics like age and household structures in Crunchbase. Therefore, for future research, informative datasets would be important. Also, even though Current Population Survey allows analysis for all types of en-

trepreneurs, the sample size in the CPS is limited, with only fewer than 200 observations of Asian Entrepreneurs in the dataset. Third, there might be unobservable culture exposure due to population distribution in some states, such as California. For future research, data collection would be a key part to provide insightful analysis results. Meanwhile, there might be a general gap in labor force participation due to cultural exposure, not limited to entrepreneurs.

The rest of the paper is organized as follows: Section 2 is the literature review, Section 3 studies VC-backed founders, Section 4 investigates the percentage of entrepreneurs in the overall population, and Section 5 concludes.

2 Literature Review

My study relates to three sets of literature on entrepreneurship. The first set relates to the gender and race gap in the labor force and entrepreneurship.[2] The second group of the literature set relates other demographic variables, such as immigration and household structure. The third set is about behavioral factors and cultural models.

2.1 Empirical Findings on Gender and Race Gap in Job Market

First, there is a persistent race and gender gap in the general labor force. Research shows that Black individuals are less involved in the labor force (Chetty et al., 2019; Quillian et al., 2017; Altonji and Blank, 1999). Similarly, women are still underrepresented in management positions and high-paying jobs, although the gender gap has been decreasing over the past three decades (Goldin, 2006; Goldin, 2014). In addition to the gap in the labor force, women and Black individ-

[2]See (Ewens, 2022) for a thorough review of the recent literature on race and gender in entrepreneurship.

uals are paid less compared to White males (Altonji and Blank, 1999).

Second, minorities are underrepresented in entrepreneurship and leadership teams in startups. Fairlie (2021) finds that men start new businesses at a 70% higher rate than women in 2018.[3] Although Whites are 11% more likely than Blacks to start a new business,[4] Asians are 10% more likely to do so than Whites.[5] Women are also less likely to start a high-growth potential venture than men (Guzman and Kacperczyk, 2019) and are underrepresented in executive teams (Canning et al., 2012; Goldin, 2014).

Third, disadvantaged groups face barriers at each stage of business. Based on the Kauffman Firm Survey (KFS), both women and Black individuals who start firms face disadvantages in terms of initial capital (Coleman and Robb, 2009; Fairlie et al., 2022). Additionally, the performance of women and Black individuals in business has been found to be worse than that of men and White individuals (Raina, 2019; Fairlie and Robb, 2010). Moreover, women and Black individuals are struggling with raising capital (Brush et al., 2018). Though women might have some advantages in the early stages of financing, a higher probability of receiving replies to sourcing emails (Gornall and Strebulaev, 2020), this advantage disappears in later stages and does not lead to a higher probability of successful financing (Brooks et al., 2014).

2.2 Additional Demographic Factors

Human and social capital are important for entrepreneurs (Bosma et al., 2004). Asians are related to higher academic performance and educational degrees (Goyette and Xie, 1999; Hsin and Xie, 2014). Meanwhile, the gender gap in education has been reversed in the United States (Van

[3]The rate of new male entrepreneurs was 0.41% in 2018, while it was 0.24% for females.
[4]The rate of new White entrepreneurs was 0.29% in 2018, while it was 0.24% for Blacks.
[5]The rate of new Asian entrepreneurs was 0.33% in 2018, while it was 0.29% for Whites.

Bavel et al., 2018), which implies that the percentage of women who received higher education is higher than among men.

Second, some literature argues that immigrants are a selective group (Vandor, 2021; Fairlie and Lofstrom, 2015). Immigrants themselves are more likely to receive higher education, and have more skills, while their children sometimes tend to be self-employed. However, the social and economic environment in other countries as well as cultural differences should also be considered in addition to individual capability and endowments (Portes, 1995).

Third, the family structure also correlates to the propensity of entrepreneurship entry. Regarding individuals, according to Levine and Rubinstein (2017), income and household structure are important factors to consider as entrepreneurs, particularly those who are self-employed in incorporated firms, tend to come from high-income, two-parent households. Regarding the impact of parents, the living area and occupation of family members impact a person's choice of becoming an entrepreneur (Guiso et al., 2021; Mishkin, 2021). In terms of recruitment, when male venture capital partners have more daughters, they are more likely to hire women to the management team (Wang and Gompers, 2021).

2.3 Cultural and Behavioral Factors

First, cultural and social proximity matters. Regarding the capital market, investors also prefer to work with or invest in people who share similar backgrounds, such as ethnicity (Cohen et al., 2008; Hegde and Tumlinson, 2014; Gompers et al., 2016). Correlated to educational backgrounds, the alumni network will also benefit venture capital financing (Garfinkel et al., 2021). It has been documented that individual investors strictly prefer domestic equity over foreign invest-

ment (French and Poterba, 1991). The geographic bias is also seen in venture capital investments, particularly for lead VCs and single investors (Cumming and Dai, 2010).

Second, culture and other psychological biases could also impact entrepreneurship participation. Risk attitudes influence career choice (Bonin et al., 2007). Regarding gender differences, males show more confidence when facing investors and promoting themselves than females (Exley and Kessler, 2022). In addition, motherhood and child-care costs increase the rate of leaving employment and decrease entry into the labor market (D. M. Blau and Robins, 1988). Particularly for female entrepreneurs, better access to reproductive healthcare is positively correlated with the propensity to start their own businesses (Zandberg, 2021). One dimension of Hofstede's cultural dimensions theory (2011) is *Individualism*: people from a collective culture take care of their extended family (e.g. aunts, uncles, cousins) more than those from an individualistic culture, who focus on immediate family. Therefore, one hypothesis is that females who are more likely to be exposed to the collective culture would likely receive childcare from the extended family, leading to a higher propensity to start their own business.

3 Analysis of Angel- and VC-backed Entrepreneurs

3.1 Methdology

Crunchbase is a database that includes firms that have financed through external sources, such as angel investors, venture capital (VC), private equity (PE), and even IPO. I keep firms that are/were in the United States and omit universities. After dropping the missing data record, I identify entrepreneurs whose title is "Owner", "Founder", or "Co-founder", and identify investors

as those who are listed as an investor or who work at a company whose primary role is as an investor. Since the educational degree is not standardized in the original data file, I refer to the degree listed U.S. Department of Education website to identify the student who has bachelor, master, and doctoral degrees. I marked those who list a degree as "degree" as missing data and do not include it in education analysis. Then, I apply the package *predictrace* in R, an algorithm developed to predict ethnicity based on first and last names. After testing on an individual level, I collapsed data by counting the number of Asians, White, and females in each firm, and analyzed the status controlling size of firms. The goal of this section is to verify Gompers and Wang's findings after the COVID-19 pandemic, as it has led to volatile trends in new and failed startups, with the number of new startups initially decreasing and then increasing (Storr et al., 2022).

3.2 Results

Table 1 shows the percentage of female founders for Asian and White females. Similar to results before the pandemic, the percentage of Asian female entrepreneurs over Asian is significantly different from the percentage of White female entrepreneurs over White, in particularly 0.92% higher. Specifically, for both Asians and Whites, only less than 20% are females: 18.40% of 15,355 Asians are females and 17.48% of 37,946 White are females. Formally speaking, we can reject Hypothesis 1.

Hypothesis 1

Among Entrepreneurs, The percentage of females among Asians is the same among Whites.

Table 2 shows the percentage of entrepreneurs who receives bachelor's degree (or higher) across race and gender. The race gap still exists. That is, among entrepreneurs, the percentage of people

Table 1: **Percentage of Female Entrepreneurs and VC Investors**

	Asian	White	Diff % (Asian - White)	t- stats (p-value)
# Entre	15,355	37,946	–	–
# famle Entre	2825	6,633	–	–
female Entre %	18.40%	17.48%	0.92%	2.5177 ** (0.0118)

Significance: *p<0.10, **p<0.05, ***p<0.01.

who receive a bachelor's degree (or higher) among Asians is significantly different from it among Whites, in particular 1.21% for males and 2.66% for females. Formally speaking, I can reject the hypothesis 2 (a) (b). However, there is no longer a gender gap in the education of Asian founders. However, for Whites, the percentage of White male founders who received higher education is significantly different from the percentage of White female founders, specifically 1.05% higher. Formally speaking, I can reject the Hypothesis 2 (c) (d).

Hypothesis 2 *Among startup founders,*

(a) The proportion of people who received a bachelor's degree (or higher) among Asian males is the same as the proportion among Whites males.

(b) The proportion of people who received a bachelor's degree (or higher) among Asian females is the same as the proportion among Whites females.

(c) The proportion of people who received a bachelor's degree (or higher) among Asian males is the same as the proportion among Asian females.

(d) The proportion of people who received a bachelor's degree (or higher) among White males is the same as the proportion among White females.

Table 2: **Percentage of Entrepreneurs Who Received Higher Education**

	Men			Women			Men-Women
Race	# Entre	# Educ	Educ%	# Entre	# Educ	Educ%	Educ% Diff (t-stat)
Total	57,942	53,010	91.49%	12,817	11,669	91.04%	0.44%*** (-7.71)
Asian	12,530	11,580	92.42%	2,825	2,622	92.81%	-0.40% (-0.71)
White	31,313	28,559	91.20%	6,633	5,980	90.16%	1.05%*** (2.69)
Asian-White	–	–	1.21%***	–	–	2.66%***	–
(t-stat)	–	–	(4.15)	–	–	(4.11)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

4 Analysis of Entrepreneurs in the Population

4.1 Methodology

The Current Population Survey (CPS) is a dataset of the labor force for the United States population conducted by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics (BLS) (Flood et al., 2022). This dataset extends to people who start all types of firms, including grocery stores and restaurants, not limited to industries like technology or health care. To focus on entrepreneurship, I include individuals over 18 who are eligible to start a firm. I define self-employed and incorporated individuals who work more than fifteen hours per week for their primary job as entrepreneurs, excluding those who are not incorporated, such as Uber drivers. I primarily focused on two general aspects in addition to race and gender: education and culture. I define people who have earned bachelor's degree(s), master's degree(s), or professorial degree(s) as "received high education". In terms of cultures, are implied by immigration status as well as parents' birthplace

and correlated with family structure. Regarding immigration status, I define people whose birthplace is not in the United States would be immigrants. In terms of culture, I apply Hofstede's culture dimension model to classify individuals as belonging to an individualistic culture (Hofstede, 2011). By the median value of 32, countries with score $\geq$32 are defined as individualistic culture and $<$32 as a collective culture. Individuals with at least one parent born in a country dominated by collective culture are also identified. As the literature suggests that childcare impacts employment choices (D. M. Blau and Robins, 1988), and the strength of relationships between immediate and extended family varies among cultures, I investigate the impact of collectivism and individualism from family on entrepreneurship. Since Hofstede's model does not include all countries, the number of observations varies slightly when analyzing the impact of culture (see Appendix A).

4.2 Basic Results of Entrepreneurs

Table 3 presents the proportion of entrepreneurs across gender and race in the overall population. I compare the proportion of female entrepreneurs among Asians to the same proportion among Whites and find that the proportion of female entrepreneurs is higher among Asians by 0.41% percentage points. However, compared to males, female entrepreneurs are underrepresented not only in the overall population but also among Asians and Whites, with a 1.04% gap for Asians and a 2.23% gap for Whites. The proportion of male entrepreneurs among Asians is lower than that among Whites at a significance level of 0.05. The details of the test are shown in Table 3. Formally, at the 5% level of significance, I cannot reject Hypothesis 3 (a), but can reject 3 (b) and (c).

Hypothesis 3 *In the overall population,*

(a) The proportion of entrepreneurs among Asians is the same as the proportion among Whites.

(b) The proportion of entrepreneurs among Asian males is the same as the proportion among White males.

(c) The proportion of entrepreneurs among Asian females is the same as the proportion among White females.

Meanwhile, the same findings of startups apply to all entrepreneurs: the percentage of Asian female entrepreneurs of Asian entrepreneurs is significantly higher than it of White females. 77 out of 187 (41.18%) Asian entrepreneurs are females, while 622 out of 2155 (28.86%) White entrances are females. In contrast to males, 58.82% of Asian entrepreneurs are male compared to 71.14% of Whites. Table 4 shows the details. Formally, I can reject 4 (a) and (b).

Hypothesis 4 *Control for entrepreneurs,*

(a) The proportion of females among Asians is the same as the proportion of White females.

(b) The proportion of males among Asians is the same as the proportion of White males.

4.3 Education

Table 10 in Appendix B presents the percentage of people who received a bachelor's or higher degree(s) across gender and race. I find significant differences between the percentage of Asians and Whites who received higher education, with Asians being 17.52% higher, 20.31% higher for males, and 14.94% higher for females. The gender gap in education exists for Asians,

Table 3: **Percentage of Entrepreneurs in the Overall Population**

	Men			Women			Men−Women
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	53,658	1,782	3.32%	58,016	779	1.34%	1.98%*** (0.0000)
Asian	3,868	110	2.84%	4,275	77	1.80%	1.04%*** (0.0000)
White	42,339	1,533	3.62%	44,645	622	1.39%	2.23%*** (0.0000)
Asian−White	–	–	-0.78%**	–	–	0.41%***	
(t-stat)	–	–	(−2.5079)	–	–	(2.1601)	

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 4: **Entrepreneurs Distribution across Race and Gender**

			Male		Female	
	Obs	Total %	# Entre	Entre%	# Entre	Entre%
Total	2,561	100%	1,782	69.58%	779	30.42%
Asian	187	100%	110	58.82%	77	41.18%
White	2,155	100%	1,533	71.14%	622	28.86%
Asian− Whites	–	–	–	−12.31%***	–	12.31%***
(t-stat)	–	–	–	(-14.0356)	–	(3.5017)

Significance: *p<0.10, **p<0.05, ***p<0.01.

with the percentage of Asian males with higher education being 2.59% higher than that of Asian females. In contrast, a reverse gender gap exists for Whites, with the percentage of males with higher education being 2.78% lower than that of White females. In addition, the gender gap in education exists for Asians while the reverse gender gap exists for Whites. Specifically, the percentage of Asian males with higher education Asians is 2.59% higher than it of Asian females, while for Whites, the percentage of males with higher education is 2.78% lower than it of White females. Also, control for gender, the proportion of Asian males who receives higher education is significantly higher than White males, same race gap exists between Asian and White females. Table 10 shows the details. Formally speaking, I can reject hypothesis 5 (a)(b)(c)(d).

Hypothesis 5 *In the overall population,*

(a) The proportion of people with higher education among Asian males is the same as the proportion of White males.

(b) The proportion of people with higher education among Asian females is the same as the proportion of White females.

(c) The proportion of people with higher education among Asian males is the same as the proportion of Asian females.

(d) The proportion of people with higher education among White males is the same as the proportion of White females.

Table 11 in Appendix B presents the percentage of people who received higher education, conditional on being entrepreneurs. Across races, the proportion of Asian male entrepreneurs

who received higher education is significantly different from the percentage of White male entrepreneurs, specifically 15.63% higher. However, this race gap disappears between Asian and White female entrepreneurs. Controlling for race, I find no gender gap in education among Asian entrepreneurs, while the proportion of White males with higher education is 9.76% lower than that of White females, which is a significant difference. Table 11 shows the details. Formally speaking, I can reject Hypothesis 6(a), (b), and (e), but I cannot reject Hypothesis 6(c) and (d).

Hypothesis 6 *Control for entrepreneurs,*

(a) The proportion of people with higher education among Asians is the same among Whites.

(b) The proportion of people with higher education among Asian males is the same as the proportion of Whites.

(c) The proportion of people with higher education among Asian females is the same as the proportion of White females.

(d) The proportion of people with higher education among Asian males is the same as the proportion of Asian females.

(e) The proportion of people with higher education among White males is the same as the proportion of White females.

4.4 Culture

In this section, I investigate the impact of cultural exposure on entrepreneurship participation. I start with testing the impact of being an immigrant. The main goal is to verify if immigration impacts entrepreneurship in the overall population and across gender and ethnicity since cultural

exposure is correlated with immigration status. Specifically, if people are from a collective culture or people whose parent(s) are from a collective culture, it is likely they or their parent(s) are immigrants as the United States belongs to individualism according to Hofstede model (see Appendix A).

Then, I investigate the factor of culture. According to our definition of collective culture exposure and Hofstede's model, the United States belongs to individualism (see Appendix A). Therefore, I refer to birthplace as exposure to different cultures. I cannot rule out the possibility that a person who was born in collective culture but adopted by a couple who are both from an individualistic culture while starting a firm. However, I would argue the proportion of this group of people would be small in the whole population. I first explore entrepreneurship participation among people who were born in a collective culture. Then, I investigate the impact of family members.

4.4.1 Immigration

Table 12 in Appendix C shows the percentage of entrepreneurs among immigrants across races and gender. The race and gender gap is consistent in the percentage of entrepreneurs in the overall population (see Table 3 in Appendix C), except for the race gap between Asian and White males which is not significantly different. That is, I cannot reject the Hypothesis 7.

Hypothesis 7 *Among immigrants, the percentage of entrepreneurs among Asian males is the same among White males.*

Table 13 in Appendix C shows the percentage of immigrants and non-immigrants across gender and race. In the overall population, the percentage of entrepreneurs is among immigrants

significantly different from non-immigrants, specifically 0.58% higher. Similar to Asian females, the percentage of entrepreneurs among immigrants is 0.78% higher than it of non-immigrants. A caveat with findings of immigrants is that one type of immigration is through investment and entrepreneurship (Citizenship and Services, Accessed on 2023-03-21). Even though there is literature that finds immigrants are a selective group of people and correlated with entrepreneurship (Vandor, 2021), there is no significant difference between Asian males, White males, and White females. Formally, I can reject hypothesis 8 (a) (b) and cannot reject hypothesis 8 (c) (d) (e).

Hypothesis 8

(a) The proportion of entrepreneurs of immigrants is the same among non-immigrants.

(b) The proportion of entrepreneurs of Asian female immigrants is the same among Asian female non-immigrants.

(c) The proportion of entrepreneurs of Asian male immigrants is the same among Asian male non-immigrants.

(d) The proportion of entrepreneurs of White female immigrants is the same among White female non-immigrants.

(e) The proportion of entrepreneurs of White male immigrants is the same among White male non-immigrants.

4.4.2 Individual's Birthplace

Table 14 in Appendix D shows the detailed observation and percentage of entrepreneurs who were born in countries that are defined as collective culture based on Hofstede's model (Hofstede,

2011). Given people were born in a collective-culture country, the gender gap in entrepreneurship still exists in the overall population, Asians and Whites. The percentage of male entrepreneurs among people who are born in a collective culture is 1.58% higher than it of females, 1.44% difference in Asians, and 1.70% difference in Whites. Across Races, the percentage of Asian female entrepreneurs among Asian females who were from a collective culture is significantly different from White females, specifically 0.82% higher, while this race gap does not exist between Asian and White males. Formally speaking, I can reject the hypothesis 9 (a)(b)(c)(e), but cannot reject hypothesis 9 (d).

Hypothesis 9 *Control for people who were born in a collective culture*

(a) The percentage of entrepreneurs of males is the same among females.

(b) The percentage of entrepreneurs of Asian males is the same among Asian females.

(c) The percentage of entrepreneurs of White males is the same among White females.

(d) The percentage of entrepreneurs of Asian males is the same among White males.

(e) The percentage of entrepreneurs of Asian females is the same among White females.

Similarly, Table 15 in Appendix D shows the detailed observation and percentage of entrepreneurs who were born in countries that are defined as individualistic cultures based on Hofstede's model (Hofstede, 2011). Given people were born in an individualistic country, the gender gap in entrepreneurship still exists in the overall population, Asians and Whites. The percentage of male entrepreneurs among people who are born in an individualistic culture is 2.03% higher than it of females, 1.01% difference in Asians, and 2.27% difference in Whites. Across Races,

the percentage of Asian male entrepreneurs among Asian males who were from an individualistic culture is significantly different from White males, specifically 0.97% lower, while this race gap does not exist between Asian and White females. Formally speaking, I can reject the hypothesis 10 (a)(b)(c)(e), but cannot reject hypothesis 10 (d).

Hypothesis 10 *Control for people who were born in an individualistic culture*

(a) The percentage of entrepreneurs of males is the same among females.

(b) The percentage of entrepreneurs of Asian males is the same among Asian females.

(c) The percentage of entrepreneurs of White males is the same among White females.

(d) The percentage of entrepreneurs of Asian males is the same among White males.

(e) The percentage of entrepreneurs of Asian females is the same among White females.

Table 16 in Appendix D compares the percentage of entrepreneurs between individualistic culture and collective culture. There is a cultural gap in entrepreneurship for the overall population and males. People who were born in a collective culture are 0.29% higher than individualistic cultures in the general population, and 0.53% higher among males. Formally speaking, I can reject hypothesis 11(a) (b) (c). For Asian, Asian males, and Asian females, there is no significant difference in the percentage of entrepreneurs between collective culture and individualistic culture. Formally speaking, I cannot reject hypothesis 12(a) (b) (c). The culture gap exists for Whites and within each gender. The percentage of entrepreneurs among people who were born in collective culture is 0.57% higher than those who are from an individualistic culture, 0.87% higher for White males, and 0.3% higher for White females. Formally speaking, I can reject hypothesis 13 (a) (b) (c).

Hypothesis 11 *In the overall population,*

(a) The percentage of entrepreneurs among people who were born in individualistic countries is the same as it is in collectivism countries.

(b) The percentage of male entrepreneurs among people who were born in individualistic countries is the same as it is in collectivism countries.

(c) The percentage of female entrepreneurs among people who were born in individualistic countries is the same as it is in collectivism countries.

Hypothesis 12 *Among Asian,*

(a) The percentage of entrepreneurs among people who were born in individualistic countries is the same as it is in collectivism countries.

(b) The percentage of male entrepreneurs among people who were born in individualistic countries is the same as it is in collectivism countries.

(c) The percentage of female entrepreneurs among people who were born in individualistic countries is the same as it is in collectivism countries.

Hypothesis 13 *Among Whites,*

(a) The percentage of entrepreneurs who were born in individualistic countries is the same as it is in collectivism countries.

(b) The percentage of male entrepreneurs who were born in individualistic countries is the same as it is in collectivism countries.

(c) The percentage of female entrepreneurs who were born in individualistic countries is the same as it is in collectivism countries.

4.4.3 Parent's birthplace

Table 17 in Appendix E compares the percentage of entrepreneurs between race and gender among people who have at least one parent from collectivism. That is, it can be their father, mother, or both parents. Conditional at least one parent is from a collective culture, the gender gap in entrepreneurs still exists: the percentage of entrepreneurs among males is 1.28% higher than females in the overall population, 1.10% in Asians, and 1.38% in Whites. Formally, I can reject hypothesis 14 (a) (b) (c). Across races, the percentage of entrepreneurs among Asian females who have at least one parent from a collective culture is significantly different from it of White females, 0.73% higher. Additionally, there is no difference between Asian males and White males, in contrast to females. Formally, I cannot reject hypothesis 14 (d) but can reject hypothesis 14 (d).

Hypothesis 14 *Control for people who have at least one parent from collective culture*

(a) The percentage of entrepreneurs of males is the same among females.

(b) The percentage of entrepreneurs of Asian males is the same among Asian females.

(c) The percentage of entrepreneurs of White males is the same among White females.

(d) The percentage of entrepreneurs of Asian males is the same among White males.

(e) The percentage of entrepreneurs of Asian females is the same among White females.

Table 18 in Appendix E compares the percentage of entrepreneurs between race and gender among people who have at least one parent from individualism. Conditional at least one parent is

from an individualistic culture, the gender gap in entrepreneurs still exists: the percentage of entrepreneurs among males is 2.03% higher than females in the overall population, 1.01% in Asians, and 2.07% in Whites. Formally, I can reject hypothesis 15 (a) (b) (c). Across races, the percentage of entrepreneurs among Asian males who have at least one parent from a collective culture is significantly different from it of White males, 0.97% lower. Additionally, there is no difference between Asian and White females, in contrast to females. Formally, I can reject hypothesis 15 (d), but cannot reject the hypothesis (e).

Hypothesis 15 *Control for people who have at least one parent from an individualistic culture*

(a) The percentage of entrepreneurs of males is the same among females.

(b) The percentage of entrepreneurs of Asian males is the same among Asian females.

(c) The percentage of entrepreneurs of White males is the same among White females.

(d) The percentage of entrepreneurs of Asian males is the same among White males.

(e) The percentage of entrepreneurs of Asian females is the same among White females.

Father's and Mother's Birthplace Table 20 and Table 21 in the Appendix F show the percentage of entrepreneurs among people whose father or mother is from collective culture across ethnicity and gender. For both father and mother, there is still a significant gender gap within each race, but there is no significant difference between Asian and White males, in contrast to Asian and White females. Formally speaking, I cannot reject the hypothesis 17 (a) (b) (c) and 16 (a) (b) (c) but can reject 16 (d) and 16 (d). In addition, Table 22 compares the percentage of entrepreneurs whose father and mother is from collective culture. Across race and gender, there is no significant difference in impact between father and mother.

Hypothesis 16 *Control on people's mother born in collective culture*

(a) The percentage of entrepreneurs among Asian males is the same as it is in Asian females.

(b) The percentage of entrepreneurs among White males is the same as it is in White females.

(c) The percentage of entrepreneurs among Asian males is the same as it is in White males.

(d) The percentage of entrepreneurs among Asian females is the same as it is in White females.

Hypothesis 17 *Control on people's farther born in collective culture*

(a) The percentage of entrepreneurs among Asian males is the same as it is in Asian females.

(b) The percentage of entrepreneurs among White males is the same as it is among White females.

(c) The percentage of entrepreneurs among Asian males is the same as it is among White males.

(d) The percentage of entrepreneurs among Asian females is the same as it is among White females.

4.5 Regression Analysis

4.5.1 Summary Statistics

For the rest of the analysis, the sample is Asians and Whites. Table 5 shows the summary statistics of the sample. Among 4,275 Asian females, the average age is 47.69 (conditional on people over 18 years old), and 49.43% of Asian females received a bachelor's or higher degree. On average, each Asian female has 0.8065 children, and 62.92% are married, 44.87% of them are exposed to collective culture, and 43.79% of them whose parent(s) are from collective culture.

Table 5: **Summary Statistics Across Gender and Race**

	Asian				White			
	Female		Male		Female		Male	
	obs	Mean	obs	Mean	obs	Mean	obs	Mean
Age	4,275	47.69	3,868	45.96	44,645	49.06	42,339	47.89
educ%	4,275	49.43%	3,868	52.02%	44,645	34.49%	42,339	31.71%
#child	4,275	0.8065	3,868	0.7060	44,645	0.8447	42,339	0.7534
Married%	4,275	62.92%	3,868	62.13%	44,645	57.36%	42,339	60.31%
coll	4,275	44.87%	3,868	43.46%	44,645	16.46%	42,339	16.97%
coll entre	1,918	1.82%	1,681	3.03%	7,347	1.14%	7,186	2.52%
pcoll	4,275	43.79%	3,868	42.71%	44,645	16.32%	42,339	16.88%
pcoll entre	1,872	1.87%	1,652	2.97%	7,287	1.14%	7,146	2.52%

4.5.2 Overall Population

Table 6 shows details of the regression analysis among overall population. I first run a basic regression (equation 1), including *Age, Educ, #Child*, and *Married*. *Age* is a numeric variable with only integers bigger or equal to 18. *Educ* is an indicator variable, equal to one if people hold a bachelor's degree or higher. *#Child* is a numeric variable with only integer values, referring to the number of children. *Married* is an indicator variable, equal to one if people are currently married. In particular, if a person was married and is divorced, *Married* would be zero. All of these variables are positively correlated with entrepreneurship participation. People who received a bachelor's or higher education are 1.6690 times higher than people who did not to be an entrepreneur, 1.1427 times higher if people have one more child, 2.2671 times higher if people are currently married, and 1 time higher if people are one year older.

$$\text{Entre} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Female} + \varepsilon \quad (1)$$

Then, I add the ethnicity variable. *Asian* is an indicator variable, equal to one if the ethnicity is Asian, and zero if White. *AsianFemale*is an indicator variable, equal to one if the observation is an Asian female. *WhiteFemale*is an indicator variable, equal to one if the observation is a White female. The variables in equation 2 are all significant. Though being an Asian is 0.6942 times less likely to become an entrepreneur than Whites, it would important to acknowledge the race distribution in the overall population. Also, Asian females and White females are less likely to become entrepreneurs, given the gender gap. However, the coefficient on Asian females is greater than the coefficient on White females. In particular, an F-test that the two coefficients are the same is rejected at the 5% level (p-value=0.11%).

$$\begin{aligned} \text{Entre} &= \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Asian} \\ &\quad + \beta_6 \text{AsianFemale} + \beta_7 \text{WhiteFemale} + \varepsilon \end{aligned} \tag{2}$$

Then, I add the variables to explore the impact of culture exposure.*coll* is an indicator variable, equal to one if one of the following criteria is satisfied: (i) people were born in a collective culture,(ii) people whose father was born in a collective culture, (iii) people whose mother was born in a collective culture. In particular, those exposed to collective culture is 0.8314 times less likely to become an entrepreneur than people who are purely exposed to individualistic culture.

$$\begin{aligned} \text{Entre} &= \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Asian} \\ &\quad + \beta_6 \text{AsianFemale} + \beta_7 \text{WhiteFemale} + \beta_8 \text{Coll} + \varepsilon \end{aligned} \tag{3}$$

pcoll is an indicator variable, equal to one if one of the two following criteria is satisfied: (i)

people whose father was born in a collective culture, (ii) people whose mother was born in a collective culture. After adding *pcoll* to the regression (4), the coefficient of *Coll* is no longer significant anymore. Thus, after controlling for some basic demographic variables and being exposed to collective culture, the impact of cultural origin in the family is not significant anymore. Therefore, compared to family impact, the birthplace of individuals is more influential on entrepreneurship participation.

$$\begin{aligned} \text{Entre} &= \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Asian} \\ &\quad + \beta_6 \text{AsianFemale} + \beta_7 \text{WhiteFemale} + \beta_8 \text{Coll} + \beta_9 \text{pColl} + \varepsilon \end{aligned} \tag{4}$$

4.5.3 Females

Table 7 shows details of regression analysis of Asian and White females. I first run the Logit regression of the base case (equation 5 and 6), including *Age, Educ, #child*, and *Married*. With a sample size of 48,920, *Age* is not significant, so I omit it for the rest of the regression analysis. Among significant variables, *Educ, #child*, and *Married*, the odds ratio is more than 1, aligning with the result for Asian and Whites, while age is not a significant factor. After controlling for education, the number of children, and marital status, the ethnicity gap is no longer significant for Asians and Whites as the *Asian* in equation 7 is not significant. In addition, the culture gap also disappears for Asian and White females, as *Coll* in equation 8 and *pColl* in equation 9 are not

Table 6: **Summary of Logit Regressions on Entrepreneurship among Asians and Whites**

Odds ratio (Std. Err.)	(1)	(2)	(3)	(4)
Constant	0.08570***	0.0133***	0.0140***	0.0140***
	(0.0071)	(0.0011)	(0.0012)	(0.0012)
Age	1.0033**	1.0029**	1.0026***	1.0026***
	(0.0139)	(0.0014)	(0.0014)	(0.0014)
Educ	1.6690***	1.7360***	1.6957***	1.6955***
	(0.0709)	(0.0744)	(0.0738)	(0.0738)
#child	1.1427***	1.1549***	1.1580***	1.1581***
	(0.0203)	(0.0205)	(0.0206)	(0.0206)
Married	2.2671***	2.1595***	2.1583***	2.1583***
	(0.1269)	(0.1233)	(0.1232)	(0.1232)
Asian		0.6942***	0.7317***	0.7315***
		(0.0701)	(0.0749)	(0.0749)
AsianFemale		0.6263***	0.6266***	0.6266***
		(0.0944)	(0.0945)	(0.0945)
WhiteFemale		0.3730***	0.3731***	0.3731***
		(0.0180)	(0.0180)	(0.0180)
Coll			0.8314***	0.8638
			(0.0508)	(0.4405)
pColl				0.9621
				(0.4926)
Obs	95,127	95,127	95,127	95,127
Pseudo R2	0.0306	0.0524	0.0528	0.0528
Log likelihood	-10651.506	-10412.897	-10408.171	-10408.168

Significance: *p<0.10, **p<0.05, ***p<0.01.

significant.

$$\text{Entre} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \varepsilon \quad (5)$$

$$\text{Entre} = \beta_0 + \beta_1 \text{Educ} + \beta_2 \#\text{Child} + \beta_3 \text{Married} + \varepsilon \quad (6)$$

Among Asian and White females, after controlling for education, the number of children, and marital status, the race gap in entrepreneurship between Asian and White females is not significant anymore (equation 7). Similar to culture exposure, after controlling for education, the number of children, and marital status, the exposure to collective culture versus individualistic culture is not significant anymore for Asian and White females (equation 8). Meanwhile, the impact of cultural origin from family also disappears (equation 9). Table 7 shows the odds ratio and standard errors.

$$\text{Entre} = \beta_0 + \beta_1 \text{Educ} + \beta_2 \#\text{Child} + \beta_3 \text{Married} + \beta_4 \text{Asian} + \varepsilon \quad (7)$$

$$\text{Entre} = \beta_0 + \beta_1 \text{Educ} + \beta_2 \#\text{Child} + \beta_3 \text{Married} + \beta_4 \text{Coll} + \varepsilon \quad (8)$$

$$\text{Entre} = \beta_0 + \beta_1 \text{Educ} + \beta_2 \#\text{Child} + \beta_3 \text{Married} + \beta_4 \text{pColl} + \varepsilon \quad (9)$$

However, conditional on people who were exposed to collective culture, among 1,918 Asian females only 1.82%, i.e. 35, of them are entrepreneurs, and among 7,347 White females, only 1.14%, i.e. 84, of them are entrepreneurs. Meanwhile, conditional on people whose parents are from a collective culture, among 1,872 Asian females, only 1.87%, i.e. 35, of them are entrepreneurs, and among 7,287 White females, only 1.14%, i.e. 83, of them are entrepreneurs. The sample size is limited compared to the overall Asian and White female sample size. Thus, for fu-

Table 7: **Summary of Logit Regressions on Entrepreneurship among Asians and Whites Females**

Odds ratio (Std. Err.)	(5)	(6)	(7)	(8)	(9)
Constant	0.0058***	0.0054***	0.0054***	0.0054***	0.0054***
	(0.0009)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Age	0.9987	–	–	–	–
	(0.0025)	–	–	–	–
Educ	2.1069***	2.1100***	2.0968***	2.1048***	2.1063***
	(0.1643)	(0.1644)	(0.1640)	(0.1657)	(0.1659)
#child	1.0984***	1.1045***	1.1056***	1.1050***	1.1048***
	(0.0359)	(0.0340)	(0.0340)	(0.0340)	(0.0340)
Married	2.2289***	2.2134***	2.2084***	2.2129***	2.2131***
	(0.2179)	(0.2140)	(0.2136)	(0.2139)	(0.2140)
Asian			1.1250	–	–
			(0.1382)	–	–
Coll				0.9781	–
				(0.1006)	–
pColl					0.9846
					(0.1017)
Obs	48,920	48,920	48,920	48,920	48,920
Pseudo R2	0.0327	0.0327	0.0328	0.0327	0.0327
Log likelihood	-3543.6427	-3543.7696	-3543.3224	-3543.7464	-3543.7583

Significance: *p<0.10, **p<0.05, ***p<0.01.

ture studies, it would be important to access data sets that include sufficient observations of people who are entrepreneurs and are exposed to collective culture.

4.5.4 Males

Table 8 shows details of regression analysis of Asian and White females. I first run the Logit regression of the base case (equation10), including *Age, Educ, #child*, and *Married*. With a sample size of 46,207, *Age, Educ, #child*, and *Married*, the odds ratio is more than 1, aligning with the result for Asian and Whites. After controlling for age, education, number of children, and marital status, the ethnicity gap is still significant for Asian and White males as the *Asian* in equation 11 is not significant. In addition, the culture gap also exists for Asian and White males, as *Coll* in equation 12 is significant. In particular, those exposed to collective culture is 0.7810 times less likely to become an entrepreneur than people purely exposed to individualistic culture. Similar to the overall population, after adding *pColl*, the *Coll* and *pColl* are not significant anymore.

$$\text{Entre} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \varepsilon \quad (10)$$

$$\text{Entre} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Asian} + \varepsilon \quad (11)$$

$$\text{Entre} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Asian} + \beta_6 \text{Coll} + \varepsilon \quad (12)$$

$$\begin{aligned} \text{Entre} = {} & \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Educ} + \beta_3 \#\text{Child} + \beta_4 \text{Married} + \beta_5 \text{Asian} \\ & + \beta_6 \text{Coll} + \beta_7 \text{pColl} + \varepsilon \end{aligned} \quad (13)$$

In summary, after controlling for several demographic variables, the ethnicity gap between Asian and White females in entrepreneurship participation cannot be attributed to exposure to collective culture by Hofestede's model: additional childcare from extended family. However, this

Table 8: **Summary of Logit Regressions on Entrepreneurship among Asians and Whites Males**

Odds ratio (Std. Err.)	(10)	(11)	(12)	(13)
Constant	0.0121***	0.0124***	0.0133***	0.0133***
	(0.0011)	(0.0012)	(0.0013)	(0.0013)
Age	1.0053***	1.0051***	1.0047***	1.0047***
	(0.0017)	(0.0017)	(0.0017)	(0.0017)
Educ	1.5605***	1.5926***	1.5436***	1.5426***
	(0.0800)	(0.0821)	(0.0807)	(0.0807)
#child	1.1843***	1.1814***	1.1857***	1.1857***
	(0.0252)	(0.0251)	(0.0252)	(0.0252)
Married	2.0808***	2.0874***	2.0863***	2.0861***
	(0.1473)	(0.1476)	(0.1475)	(0.1475)
Asian		0.7097***	0.7606***	0.7595***
		(0.0718)	(0.0784)	(0.0783)
Coll			0.7810***	1.0517
			(0.0583)	(0.6251)
pColl				0.7401
				(0.4420)
Obs	46,207	46,207	46,207	46,207
Pseudo R2	0.032	0.0328	0.0336	0.0337
Log likelihood	-6868.7749	-6862.4861	-6856.7467	-6856.6302

Significance: *p<0.10, **p<0.05, ***p<0.01.

difference can be attributed to the impact of individualistic culture on males among Asians and Whites. White males from individualistic cultures are more likely to become entrepreneurs, after controlling for basic demographic factors, dominating the significant difference among females given culture exposure (see Appendix D and E). The culture gap between Asian and White females is not significant after controlling those factors.

5 Conclusion

This paper studies the differences in entrepreneurship between Asians and Whites in the US. Gompers and Wang (2017) show that, in VC-backed firms, the proportion of female entrepreneurs among Asians is higher than among Whites. I first show that this finding can be replicated in the Crunchbase data. I then examine these proportions among all entrepreneurs in the population (including non-VC backed ones) and show that the gap continues to hold. However, after taking into account non-race demographic variables, I find that: (i) there is no significant difference between Asian females and White females in terms of their likelihood of being entrepreneurs, (ii) instead, White males are significantly more likely to be entrepreneurs than Asian males, and (iii) all else equal, exposure to an individualistic culture has a positive effect on whether males are entrepreneurs but has no effect on females. In other words, controlling for basic non-race demographic variables, there is no difference in entrepreneurship participation between Asian and White females. In fact, the difference is due to White males being more likely to be an entrepreneur than Asian males and White females.

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Appendices

Appendix A Individualism Scores and Country Code

Table 9: **Country Code and Individualism Score**

Country Region	Country Code (CPS)	Individualism Score (Hofstede model)
Afghanistan	52000	.
Africa, n.s./n.e.c.	60099	.
Albania	45675	20
Algeria	60016	35
American Samoa	10000	.
Americas, n.s.	31000	.
Antigua and Barbuda	26065	.
Angola	NA	.
Argentina	30005	46
Armenia	55100	22
Asia, n.e.c./n.s.	59900	.
Australia	70010	90
Austria	45000	.
Azerbaijan	55200	22
Azores	43610	.
Bahamas	26043	.
Bangladesh	52110	20
Barbados	26044	.
Belarus	46535	25
Belgium	42000	75
Belize/British Honduras	21010	.
Bermuda	16010	.
Bhutan	52120	52
Bolivia	30010	10
Bosnia and Herzegovina	45720	22
Brazil	30015	38
Bulgaria	45650	30
Burkina Faso	NA	15
Burma	52130	.
Cambodia	51100	.
Cameroon	60032	.
Canada	15000	80

Cape Verde	60033	20
Caribbean, n.s.	26091	.
Central America, n.s.	21090	.
Chile	30020	23
China	50000	20
Colombia	30025	13
Congo	60096	.
Costa Rica	21020	15
Croatia	45730	33
Cuba	25000	.
Cyprus	54300	.
Czech Republic	45213	58
Czechoslavakia	45200	.
Denmark	40000	74
Dominica	26054	.
Dominican Republic	26010	30
Ecuador	30030	8
Egypt/United Arab Rep.	60012	37
El Salvador	21030	19
England	41000	89
Eritrea	60040	.
Estonia	46100	60
Ethiopia	60044	20
Europe, n.s.	49900	.
Fiji	71021	14
Finland	40100	63
France	42100	71
Georgia	55300	41
Germany	45300	67
Ghana	60023	15
Greece	43300	35
Grenada	26055	.
Guam	10500	.
Guatemala	21040	6
Guinea	60037	.
Guyana/British Guiana	30040	.
Haiti	26020	.
Honduras	21050	20
Hong Kong	50010	25
Hungary	45400	80
Iceland	40200	60
India	52100	48
Indonesia	51200	14
Iran	53000	41
Iraq	53200	31

Ireland	41400	70
Israel	53400	54
Italy	43400	76
Ivory Coast	60038	.
Jamaica	26030	39
Japan	50100	46
Jordan	53500	30
Kazakhstan	55500	20
Kenya	60045	25
Korea	50200	.
Kosovo	45760	.
Kuwait	54350	25
Laos	51300	
Latvia	46200	70
Lebanon	53700	43
Liberia	60034	.
Libya	60019	35
Lithuania	46300	60
Luembourg	NA	60
Malawi	NA	36
Macedonia	45740	.
Malaysia	51400	26
Marshall Islands	71024	.
Malta	NA	59
Mexico	20000	30
Micronesia	72000	.
Middle East, n.s.	54700	.
Moldova	46540	27
Mongolia	50300	.
Montenego	45770	24
Morocco	60014	46
Mozambique	NA	15
Namibia	NA	30
Nepal	52200	30
Netherlands	42500	80
New Zealand	70020	79
Nicaragua	21060	.
Nigeria	60031	30
NIU	99999	.
North America, n.s.	19900	.
Northern Africa	60010	.
Northern Ireland	41410	89
Northern Mariana Islands	10750	22
Norway	40400	69
Other USSR/Russia	46500	39

Other, n.e.c. and unknown	96000	.
Pacific Islands	71000	.
Pakistan	52140	14
Palestine	53420	
Panama	21070	11
Paraguay	30070	12
Peru	30050	16
Philippines	51500	32
Poland	45500	60
Portugal	43600	27
Puerto Rico	11000	27
Qatar	NA	25
Romania	45600	30
Samoa	71023	.
San Tome and Principe	NA	37
Saudi Arabia	54000	48
Scotland	41100	89
Senegal	60035	25
Serbia	45750	25
Sierra Leone	60036	20
Singapore	51600	20
Slovakia	45212	52
Somalia	60050	.
South Africa (Union of)	60094	65
South America, n.s.	30090	.
South Korea	50220	18
Spain	43800	51
Sri Lanka	52150	35
St. Kitts–Nevis	26070	.
St. Lucia	26075	.
St. Vincent and the Grenadi	26080	.
Sudan	60018	.
Suriname	NA	47
Sweden	40500	71
Switzerland	42600	68
Syria	54100	35
Taiwan	50040	17
Tanzania	60060	25
Thailand	51700	20
Togo	60039	.
Tonga	71022	.
Trinidad and Tobago	26060	16
Tunisia	NA	40
Turkey	54200	37
U.S. outlying areas, n.s.	12090	.

U.S. Virgin Islands	11500	.
Uganda	60065	.
Ukraine	46530	25
United States	9900	90
United Arab Emirates	54500	36
United Kingdom, n.s.	41300	89
Uruguay	30060	36
USSR, n.s.	46590	.
Uzbekistan	55400	.
Venezuela	30065	12
Vietnam	51800	20
Wales	41200	89
Yemen	54400	.
Yugoslavia	45700	.
Zaire	60095	.
Zambia	60097	35
Zimbabwe	60070	.

Appendix B Education and Entrepreneurship

Table 10: **Percentage of People with Higher Education in the Overall Population**

	Men			Women			Men-Women
Race	Obs	# Educ	Educ%	Obs	# Educ	Educ%	Educ % diff (t-stat)
Total	53,658	16,966	31.62%	58,016	19751	34.04%	$-2.43\%^{***}$ (-8.601)
Asian	3,868	2012	52.02%	4,275	2113	49.43%	$2.59\%^{**}$ (2.3345)
White	42,339	13,424	31.71%	44,645	15396	34.49%	$-2.78\%^{***}$ (-8.7063)
Asian-White	–	–	$20.31\%^{***}$	–	–	$14.94\%^{***}$	
(t-stat)	–	–	(25.6346)	–	–	(19.4655)	

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 11: **Percentage of People with Higher Education among Entrepreneurs**

	Men			Women			Men-Women
Race	# Entre	# Educ	Educ%	# Entre	# Educ	Educ%	Educ % diff (t-stat)
Total	1,782	830	46.58%	779	444	57.00%	$-10.42\%^{***}$ (-4.852)
Asian	110	68	61.82%	77	50	64.94%	-3.12% (-0.4352)
White	1,533	708	46.18%	622	348	55.95%	$-9.76\%^{***}$ (-4.1111)
Asian-White	–	–	$15.63\%^{**}$	–	–	8.99%	–
(t-stat)	–	–	(3.1738)	–	–	(1.5029)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Appendix C Immigration and Entrepreneurship

Table 12: **Percentage of Entrepreneurs among immigration**

	Men			Women			Men-Women
Race	# Immi	# Entre	Entre%	# Immi	# Entre	Entre%	Entre % diff (t-stat)
Total	9,847	341	3.46%	11,206	163	1.45%	2.01%*** (9.5271)
Asian	2,578	81	3.14%	3,068	62	2.02%	1.12%** (2.6687)
White	6,415	238	3.71%	6,829	88	1.29%	2.42%*** (8.9812)
Asian-White	–	–	−0.57%	–	–	0.73%**	–
(t-stat)	–	–	(-1.3216)	–	–	(0.0060)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 13: **Comparison of Entrepreneur Participation between Immigrants and Non-immigrants**

Immigrant		Obs	# Entre	Entre %	Non-Immigrants		Obs	# Entre	Entre %	immi% - nonimmigrant% (t-stat)
Total		21,484	594	2.76%	Total		90,190	1,967	2.18%	0.58%*** (5.1057)
	Male	9,847	341	3.46%		Male	43,811	1,441	3.29%	0.17% (0.8507)
	Female	11,206	163	1.45%		Female	46,810	616	1.32%	0.14% (1.0731)
Asian		5,503	143	2.60%	Asian		2640	44	1.67%	0.93%** (2.6213)
	Male	2,578	81	3.14%		Male	1,290	29	2.25%	0.89% (1.5702)
	Female	3,068	62	2.02%		Female	1,207	15	1.24%	0.78%* (1.7268)
White		13,244	326	2.46%	White		73,740	1,829	2.48%	-0.02% (-0.1364)
	Male	6,415	238	3.71%		Male	35,924	1,295	3.60%	0.11% (0.4347)
	Female	6,829	88	1.29%		Female	37,816	534	1.41%	-0.12% (-0.7791)

Significance: *p<0.10, **p<0.05, ***p<0.01.

Appendix D Individual's Birthplace

Table 14: **Percentage of Entrepreneurs among People Born in Collective Culture**

	Men			Women			Diff (Men-Women)
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	6,546	187	2.86%	7,023	90	1.28%	1.58%*** (6.5022)
Asian	1,207	41	3.40%	1,484	29	1.95%	1.44%*** (2.3506)
White	4,776	135	2.83%	4,955	56	1.13%	1.70%*** (6.0412)
Asian-White	–	–	0.57%	–	–	0.82%**	–
(t-stat)	–	–	(1.0465)	–	–	(2.4289)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 15: **Percentage of Entrepreneurs among People Born in Individualistic Culture**

	Men			Women			Diff (Men-Women)
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	45,965	1,555	3.38%	49,676	673	1.35%	2.03%*** (20.8114)
Asian	2,425	66	2.72%	2,510	43	1.71%	1.01%** (2.4148)
White	37,083	1,370	3.69%	39,133	558	1.43%	2.27%*** (11.5595)
Asian-White	–	–	−0.97%**	–	–	0.29%	–
(t-stat)	–	–	(-2.4741)	–	–	(2.4289)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 16: **Comparison of Entrepreneur Participation between Individualism and Collectivism**

Individualism		Obs	# Entre	Entre %	Collectivism		Obs	# Entre	Entre %	indi% - coll% (t-stat)
Total		95,641	13,292	2.33%	Total		13,569	277	2.04%	0.29%** (2.1116)
	Male	45,965	1,555	3.38%		Male	6,546	187	2.86%	0.53%*** (2.1986)
	Female	49,676	673	1.35%		Female	7,023	90	1.28%	0.07% (0.4773)
Asian		4,935	109	2.21%	Asian		2,691	70	2.60%	−0.39% (-1.0749)
	Male	2,425	66	2.72%		Male	1,207	41	3.40%	−0.68% (-1.1416)
	Female	2,510	43	1.71%		Female	1,484	29	1.95%	−0.24% (-0.5514)
White		76,216	1,928	2.53%	White		9,731	191	1.96%	0.57%*** (3.4145)
	Male	37,083	1,370	3.69%		Male	4,776	135	2.83%	0.87%** (3.0061)
	Female	39,133	558	1.43%		Female	4,955	56	1.13%	0.30%* (1.6956)

Significance: *p<0.10, **p<0.05, ***p<0.01.

Appendix E Parent(s)'s Birthplace

Table 17: **Percentage of Entrepreneurs among People Whose Parent(s) Born in Collective Culture**

	Men			Women			Diff (Men-Women)
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	9,550	242	2.53%	9,972	125	1.25%	1.28%*** (6.5890)
Asian	1,652	49	2.97%	1,872	35	1.87%	1.10%** (2.1354)
White	7,146	180	2.52%	7,287	83	1.14%	1.38%*** (6.1955)
Asian-White	–	–	0.45%	–	–	0.73%**	–
(t-stat)	–	–	(1.035)	–	–	(2.4974)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 18: **Percentage of Entrepreneurs among People Whose Parents Both Born in Individualism Culture**

	Men			Women			Diff (Men-Women)
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	42,532	1,490	3.50%	46,238	632	1.37%	2.14%*** (20.7544)
Asian	1,904	54	2.84%	2,034	37	1.82%	1.02%** (2.1279)
White	34,489	1,320	3.83%	36,562	528	1.44%	2.38%*** (20.0074)
Asian-White	–	–	−0.99%**	–	–	0.37%	–
(t-stat)	–	–	(2.2462)	–	–	(1.3906)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 19: **Comparison of Entrepreneur Participation among People exposed to Collectivism from Parent(s)**

Non-exposure		Obs	# Entre	Entre %	Exposure		Obs	# Entre	Entre %	non-exp% - exp% (t-stat)
Total		88,770	2,122	2.39%	Total		19,522	367	1.88%	0.51%*** (4.3056)
	Male	42,532	1,490	3.50%		Male	9,550	242	2.53%	0.97%*** (4.7799)
	Female	46,238	632	1.37%		Female	9,972	125	1.25%	0.11% (0.9422)
Asian		3,938	91	2.31%	Asian		3,524	84	2.38%	−0.07% (-0.1996)
	Male	1,904	54	2.84%		Male	1,652	49	2.97%	−0.13% (-0.2304)
	Female	2,034	37	1.82%		Female	1,872	35	1.87%	−0.05% (-0.1160)
White		71,051	1,848	2.60%	White		14,433	263	1.82%	0.78%*** (5.5061)
	Male	34,489	1,320	3.83%		Male	7,146	180	2.52%	1.31%*** (5.4066)
	Female	36,562	528	1.44%		Female	7,287	83	1.14%	0.31%** (1.9973)

Significance: *p<0.10, **p<0.05, ***p<0.01.

Appendix F Father's and Mother's Birthplace

Table 20: **Percentage of Entrepreneurs among People Whose Mother Born in Collective Culture**

	Men			Women			Diff (Men-Women)
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	8,984	229	2.55%	9,427	120	1.27%	1.28%*** (6.3678)
Asian	1,600	47	2.94%	1,829	35	1.91%	1.02%** (1.9698)
White	6,691	170	2.54%	6,839	78	1.14%	1.40%*** (6.0706)
Asian-White	–	–	0.40%	–	–	0.77%**	–
(t-stat)	–	–	(0.9003)	–	–	(2.5799)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 21: **Percentage of Entrepreneurs among People Whose Farther Born in Collective Culture**

	Men			Women			Diff (Men-Women)
Race	Obs	# Entre	Entre%	Obs	# Entre	Entre%	Entre % diff (t-stat)
Total	9,048	227	2.51%	9,457	118	1.25%	1.26%*** (6.3315)
Asian	1,599	48	3.00%	1,817	34	1.87%	1.13%** (2.1537)
White	6,746	166	2.46%	6,867	78	1.14%	1.32%*** (5.8011)
Asian-White	–	–	0.54%	–	–	0.74%**	–
(t-stat)	–	–	(1.2284)	–	–	(2.4496)	–

Significance: *p<0.10, **p<0.05, ***p<0.01.

Table 22: **Difference in impact of Collective Culture on Entrepreneur Participation between Farther and Mother**

Father from coll	Obs	# Entre	Entre %	Mother from coll	Obs	# Entre	Entre %	Entre(F)% - Entre(M)% (t-stat)
Total	18,505	345	1.86%	Total	18,411	349	1.90%	−0.03% (-0.2829)
Male	9,048	227	2.51%	Male	8,984	229	2.55%	−0.04% (-0.1710)
Female	9,457	118	1.25%	Female	9,427	120	1.27%	−0.03% (-0.1232)
Asian	43,416	82	2.40%	Asian	3,429	82	2.39%	0.01% (0.0271)
Male	1,599	48	3.00%	Male	1,600	47	2.94	0.06% (0.1000)
Female	1,817	34	1.87%	Female	1,829	35	1.91%	−0.04% (-0.0887)
White	13,613	244	1.79%	White	13,530	248	1.83%	−0.04% (-0.2472)
Male	6,746	166	2.46%	Male	6,691	170	2.54%	−0.08% (-0.2970)
Female	6,867	78	1.14%	Female	6,839	78	1.14%	0.00% (1.0000)

Significance: *p<0.10, **p<0.05, ***p<0.01.