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# THE EXPLANATORY POWER OF INDIVIDUAL-LEVEL MOTIVATORS FOR ENTREPRENEURSHIP IN PREDICTING ENTREPRENEURIAL ACTIVITY: A CROSS-COUNTRY INVESTIGATION

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## Abstract

Entrepreneurial activity is a key indicator of economic growth and development across countries. Governments, education institutions, and the non-for-profit sector all attempt to channel resources into communities to enhance entrepreneurial endeavors. This analysis examines the predictors of entrepreneurial activity using representative samples of 50 countries from 2019 provided by the Global Entrepreneurship Monitor project. Further, the investigation assesses the relevance of cultural features in moderating relationships linking attitudes, self-efficacy, and exposure to entrepreneurial behaviors. The logistic regression results indicate the attitudes, exposure, and self-efficacy are all predictors of Entrepreneurship activity. Cultural influence or fear of failure do not moderate the associations linking attitudes or self-efficacy with entrepreneurial activity. Implications for this research include the development of robust education Entrepreneurship programs that increase learners' exposure to real-world entrepreneurial successes.

## Keywords

Entrepreneur, Growth, Attitudes, Features, Cross Country

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## Introduction

Entrepreneurship is an important reality for any economy. The role of entrepreneurs in promoting international trade is important for economies in this era of globalization (Light, 2021; Audretsch, 2018). This will also improve the quality, durability, and value of economic interaction between domestic actors leading to economic stability and strength of the countries (Kurpayanidi, 2021). Entrepreneurs drive the economic growth curve where they add value to the economy (Crudu, 2019). Further, entrepreneurs try to come up with solutions to many problems facing people. In sum, entrepreneurship is an active driver for economic development across nations (Sergi, Popkova, Bogoviz, and Ragulina, 2019).

Entrepreneurial activity refers to individuals' endeavors exerted to find, establish, or manage a new or established venture (Faludi, 2020; Hossain et al., 2021). Entrepreneurial activity is a key indicator of economic well-being across countries (Jafari-Sadeghi et al., 2021; Rakauskienė et al., 2019). Healthier entrepreneurial activity is associated with the creation of jobs for many people in society (Stam & Van de Ven, 2021). Entrepreneurial activity increases levels of technological innovation, enhances efficiency in services delivery, and provides effective solutions to social problems (Ratten, 2020). Interest in strengthening entrepreneurial activity is essential to any country pursuing economic growth and stability (Sergi et al., 2019).

Past research on entrepreneurial activity suffers from many limitations that are addressed by this study (Alves et al., 2019; Breznitz & Zhang, 2020; Zotov et al., 2019). First, much of the research is based on students' samples. While students provide a rich opportunity to test empirical models, they do not represent the actual working age population characteristics (Eckhardt et al., 2022; Iwu et al., 2021; Mapundu & Musara, 2019;). Second, a large proportion of empirical research have tried to explain the formation of entrepreneurial attitudes, passion, or intentions rather than actual activity (Neneh, 2022; Newman et al., 2021; Onder, 2022; Obschonka et al., 2019). Third, a significant number of studies targeting entrepreneurial activity failed to include samples from more than a single population despite researchers' affirmations that cultural differences and country effects matter in explaining entrepreneurial activity (Bhansing et al., 2018; Guercini & Ceccarelli, 2020; Lee & Herrmann, 2021).

Fourth, many studies fail to account for the different cultural effects that could have a bearing on entrepreneurial activity (Karimi, 2020; Ratten & Miragaia, 2020).

The purpose of this research is to investigate the associations between entrepreneurial desirable attitudes, entrepreneurial self-efficacy, exposure to entrepreneurship, and entrepreneurial activity across countries using the latest individual level data provided by the Global Entrepreneurship Monitor (GEM) project. Further, the analysis examines the moderating effects of cultural values: individualism, indulgence, and uncertainty avoidance on the relationships between entrepreneurial attitudes, self-efficacy, and activity. The fundamental question driving this project is: to what extent do entrepreneurial desirable attitudes, self-efficacy, and exposure explain individuals' entrepreneurial activity across countries?

One of the main findings in this research is that prior exposure to entrepreneurship adds value to entrepreneurial activity. A consequence from this finding is that making earners interact with entrepreneurs enhance their potential. Cultural variables have little to no explanatory power on entrepreneurial activity. Such observations lead to conclude that attitudes, self-efficacy, and exposure are three important variables explaining variation in responses.

This study shows that entrepreneurial activity can be measured in terms of three variables. The first variable, i.e., desirable attitudes, indicates aspects, such as passion, integrity, flexibility, determination, and work ethic of entrepreneurship. Further, the second variable, self-efficacy, indicates having the necessary skills to realize the goals set by the individuals to create a successful business as well as a strong belief in being entrepreneur as a career of choice. It is important to note that desirable attitudes and self-efficacy complete one another because notions, such as belief and determination, are some of the common denominators of these variables. Last but not least, the third variable, i.e., exposure, highlights the importance of earlier experiences and personal history in founding successful businesses. In this regard, the familial bonds, parents, and social networks can be considered important aspects in understanding entrepreneurial exposure.

## Literature Review

### Theoretical Development

#### *Attitudes and Entrepreneurial Activity: The Moderating Effects of Culture and Values*

Many studies have established the significant positive association linking desirable attitudes toward entrepreneurship with more frequent entrepreneurial action. Using longitudinal data from the Entrepreneurial Dynamics Study, Trevelyan (2009) concluded that a positive outlook towards entrepreneurship aid individuals in navigating the uncertainties of entrepreneurial endeavors by providing them with organizing logics, sound search skills, and persistent motivation. In a similar study, Kautonen, Van Gelderen and Tornikoski (2013) found that favorable views for entrepreneurship increases entrepreneurial intentions that make individuals more likely to enact entrepreneurial behaviors using a large sample of working-age people from Finland. Fenech, Bagueant and Ivanov (2019) indicated that attitudes are the strongest predictors of intentions, which constitute the best explanatory variable for entrepreneurial activity among a sample of female students engaged in entrepreneurship projects in the United Arab Emirates.

**H1a:** Desirable attitudes toward entrepreneurship are associated with higher entrepreneurial activity.

Other researchers have stipulated the existence of specific conditions for positive entrepreneurial attitudes to transform into actual entrepreneurial action. Bogatyreva, Edelman, Manolova, Osiyevskyy and Shirokova (2019) reported that national cultures moderate the relationship between attitudes and actions in the entrepreneurship realm. The authors argued that supportive cultures valuing entrepreneurial activity are more likely to feature intentions/attitudes translated into new ventures (Bogatyreva et al., 2019). In a similar research project comparing cultural effects on entrepreneurial attitudes and behaviors, Moriano, Gorgievski, Laguna, Stephan and Zarafshani (2012) concluded that culture moderates the attitude-activity link in entrepreneurship. They compared cultural attitudes toward entrepreneurship in Iran, Poland, India, The Netherlands, Spain, and Germany, and found that individualistic cultures or collectivist societies that emphasize personal success foster more entrepreneurial activity compared to others.

**H1b:** Individualistic cultures feature stronger associations between entrepreneurial attitudes and entrepreneurship activity.

In their quest of explaining the motivation-action entrepreneurial link, Estay, Durrieu, and Akhter (2013) found that the need for personal independence and the achievement of financial and material satisfaction strengthen the association between positive attitudes toward entrepreneurship and entrepreneurial action using questionnaire-based data from a sample of nascent entrepreneurs. In their development of the Entrepreneurship Attitude Orientation Scale, Robinson, Stimpson, Huefner and Hunt (1991) argued that achievement, personal control, invention, and self-esteem moderate the association between entrepreneurial attitudes and behaviors.

**H1c:** Personal values (indulgence) moderate the association between entrepreneurship attitude and activity.

## ***Entrepreneurial Self-Efficacy and Entrepreneurial Behavior: The Moderating Effects of Risk-Taking and Cultural Norms***

Prior empirical research on the predictors of entrepreneurial activity has identified perceived capability or entrepreneurial self-efficacy as a main determinant of new venture activity. In a study of a convenient sample of 155 working adults in Jordan, Shaheen and AL-Haddad (2018) concluded that regardless of demographic differences in the sample, self-efficacy represented in having the perception that one would succeed in establishing and managing a business constitutes the best predictor of entrepreneurial behaviors. Similarly, Neto, Rodrigues, Stewart, Xiao and Snyder (2018) found occupational self-efficacy to be a sound determinant for teachers' entrepreneurial behaviors among a sample of 401 American K-12 teachers. Such findings confirm earlier results reported by Boyd and Vozikis (1994) who argued that individuals who perceive themselves capable in founding, operating, and growing a venture are more likely to establish ventures compared to individuals with low levels of self-efficacy. Wilson, Kickul, Marlino, Barbosa and Griffiths (2009) reported that females with higher levels of entrepreneurial self-efficacy are more likely to pursue entrepreneurship as career choices compared to females with low entrepreneurial self-efficacy levels in a sample of more than 5,000 students from the United States.

H2a: Higher levels of entrepreneurial self-efficacy are associated with higher levels of entrepreneurial activity.

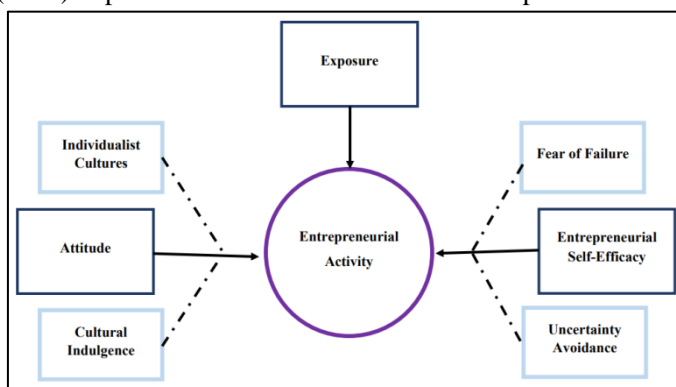
Prior investigations linking self-efficacy and entrepreneurial activity highlighted the importance of specific moderators strengthening the association between the two variables. Chen, Greene and Crick (1998) concluded that business founders were distinguished with high levels of self-efficacy, and the presence of high risk-taking proclivities facilitated the translation of entrepreneurial self-efficacy to new ventures. In a similar study, Barbosa, Gerhardt and Kickul (2007) concluded that individuals who reported high entrepreneurial self-efficacy featured higher levels of risk, which were both related to entrepreneurial intentions, as well as opportunity identification behaviors in a sample of 528 international students. Tyszka, Cieřlik, Domurat and Macko (2011) suggested that entrepreneurs engage in risky financial and non-financial behaviors more than wage earners and possess higher levels of self-efficacy compared to non-entrepreneurial groups in a demographically variegated sample.

H2b: Fear of failure moderate the association between entrepreneurial self-efficacy and entrepreneurial activity.

Another line of research investigating the observed association between self-efficacy and entrepreneurial activity noted the significance of culture. Wennberg, Pathak and Autio (2013) reported that self-efficacy and entrepreneurial activity are observed on a more frequent basis in countries featuring institutional collectivistic organizations and attitudes. Further, the authors argued that the relationship between self-efficacy and entrepreneurship is stronger in countries with cultures that emphasize uncertainty avoidance. On the contrary, Assmann and Ehrl (2021) argued that individualistic cultures tend to foster higher levels of entrepreneurial rates given the increased levels of self-efficacy brought by the varying economic exposures individuals are faced with compared to countries with collectivist cultures. Contributing to the same research agenda, Hopp and Stephan (2012) suggested that performance-based cultures or those supportive of social innovation elevates levels of entrepreneurial self-efficacy that is translated in higher rates of entrepreneurial activity.

H3b: Cultural norms (uncertainty avoidance) moderate the relationship between entrepreneurial self-efficacy and entrepreneurship activity.

Increased exposure to entrepreneurship is associated with higher likelihoods of enacting entrepreneurial endeavors (Schenkel et al., 2015). Botha (2020) concluded that prior exposure to entrepreneurs like parental success stories, community level growing start-ups, or media celebrations of influential personalities increase females' entrepreneurial activity in South Africa. In a recent study of science commercialization, Marx and Hsu (2022) reported that scientists with no entrepreneurial experience who collaborated with peers with previous



**Figure 1: Conceptual Model.**

commercialization profile were more likely to behave in entrepreneurial ways. Scientists are more likely to commercialize their findings if they were exposed to entrepreneurial behaviors exhibited by their colleagues. Similarly, Xie and Wang, (2014) concluded that social pressure exposing individuals to entrepreneur successes and activity creates an environment where people value and pursue entrepreneurial behaviors to achieve perceived high social status or success.

H1c: Prior exposure to entrepreneurship increases individuals' likelihoods of pursuing entrepreneurial activity.

## Methodology

### Type of Study and Research Design

The present research is an explanatory study using correlational research methods. Explanatory studies concern testing prespecified hypotheses using quantitative information with the aid of statistical techniques (Seeram, 2019). This investigation tests the direct impact of entrepreneurial self-efficacy, entrepreneurial attitudes, and exposure on entrepreneurial activity. Further, the research evaluates the empirical fit of several moderator variables like culture in weakening or strengthening expected associations. Correlational research is appropriate for this study because it offers the researcher the ability to evaluate the direction and magnitude of hypothesized relationships.

This is a cross-sectional research study that uses all samples in the Global Entrepreneurship Monitor 2019 Adult Population Survey wave. Cross-sectional studies utilize data from a single time point and one measurement reading of all variables for all subjects involved in the research (Lau, 2017). All participants completed the same questions on the survey at the same time period of the data collection. Cross-sectional designs are appropriate for testing hypothesized associations between quantitative variables (Omair, 2015). This analysis utilized the correlational cross-sectional study type because data on the same individuals and countries is unavailable ruling out the potential of utilizing panel or longitudinal analysis.

Additionally, this research is based on the secondary data design to perform the analysis. Available data through GEM in 2019 serves as the secondary data sources for this investigation. The secondary research design methodology is appropriate when quality data on variables of interest are freely available to be used. Further, the GEM data was collected to assess numerous entrepreneurship characteristics and outcomes that feature similarities with the variables of interest to this research. The GEM data is based on surveys collected from representative samples from all participating countries. The data was cleaned and made ready for analysis to stakeholders by experts in the domains of data processing, tabulation, and screening.

### Sample

Representative samples of at least 2000 adults for all participating nations in the GEM 2019 report constitute the participants in this research. All individuals were interviewed by trained staff part of a contracted agency working with the GEM experts in all participating countries. All samples are weighted to address underrepresentation or overrepresentation of certain groups like urban, rural, young, or old groups of the population. Sample units represent all groups in the adult working population. Table 1 shows each participating country and the number of individuals sampled in 2019 for this research.

	Country	Frequency	Percent	Valid Percent	Cumulative Percent
	United States	3012	1.9	1.9	1.9
	Russia	2002	1.2	1.2	3.1
	Egypt	2540	1.6	1.6	4.7
	Greece	2000	1.2	1.2	5.9
	Netherlands	2258	1.4	1.4	7.3
	France	2002	1.2	1.2	8.5
	Spain	23100	14.3	14.3	22.8
	Italy	2003	1.2	1.2	24
	Switzerland	2448	1.5	1.5	25.5
	Austria	4540	2.8	2.8	28.3
	United Kingdom	9002	5.6	5.6	33.9
	Sweden	5078	3.1	3.1	37
	Poland	8000	4.9	4.9	41.9
	Germany	4250	2.6	2.6	44.6
Valid	Peru	2080	1.3	1.3	45.9
	Argentina	2003	1.2	1.2	47.1
	Brazil	2084	1.3	1.3	48.4
	Chile	8948	5.5	5.5	53.9
	Colombia	2044	1.3	1.3	55.2
	Indonesia	3090	1.9	1.9	57.1
	Thailand	2060	1.3	1.3	58.3
	Japan	2041	1.3	1.3	59.6
	South Korea	2000	1.2	1.2	60.8
	China	3828	2.4	2.4	63.2
	Turkey	2424	1.5	1.5	64.7
	India	4165	2.6	2.6	67.3
	Iran	3193	2	2	69.2
	Canada	2184	1.3	1.3	70.6
	Morocco	3500	2.2	2.2	72.7
	Angola	2023	1.2	1.2	74

	Country	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sudan	2002	1.2	1.2	75.2
	Madagascar	2396	1.5	1.5	76.7
	Luxembourg	2008	1.2	1.2	77.9
	Ireland	2001	1.2	1.2	79.2
	Cyprus	2000	1.2	1.2	80.4
	Bulgaria	2000	1.2	1.2	81.6
	Croatia	2000	1.2	1.2	82.9
	Slovenia	2000	1.2	1.2	84.1
	Slovakia	2000	1.2	1.2	85.3
	Guatemala	2970	1.8	1.8	87.2
	Panama	2003	1.2	1.2	88.4
	Uruguay	2009	1.2	1.2	89.6
	Puerto Rico	2000	1.2	1.2	90.9
	Taiwan	2200	1.4	1.4	92.2
	Lebanon	2000	1.2	1.2	93.5
	Saudi Arabia	4002	2.5	2.5	95.9
	United Arab Emirates	2011	1.2	1.2	97.2
	Israel	2000	1.2	1.2	98.4
	Qatar	2573	1.6	1.6	100
		Total	162077	100	100

Table 1: Participating Country and Number of Individuals.

Source: GEM Reports

### Data Collection

Data for this research comes from the Adult Population Survey conducted to understand entrepreneurial activity around the world as a main objective of the Global Entrepreneurship Monitor program. All interviews are performed between April and June every year for a sample of selected countries. Interviewees are part of a third-party vendor that is approved by the national teach of experts performing the GEM study. All vendors must submit a request to participate in the data collection endeavors of GEM. The experts team approves applications based on rigorous statistical and data quality criteria. Once the vendor completes data collection, information is shared with the GEM experts to be verified, and once standards are met, the data is processed and released for the public to be used.

### Measurement

Variable Type	GEM Question	Labels	Definition
Dependent Variable (Entrepreneurial Activity)	Q2A. Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others?	0 = No 1 = Yes	The proportion of individuals who are either considered nascent entrepreneurs or have been engaging in venture creation activities during the past six months prior to the survey period. (GEM, 2021).
Independent Variable (Desirable Attitudes toward Entrepreneurship)	Qi2. In the next six months, will there be good opportunities for starting a business in the area where you live?	0 = No 1 = Yes	Individuals' perceptions toward entrepreneurship as a favorable career choice (GEM, 2021).
Moderator Variable (Individualism)	Hofstede Individualism Score	0-100 with higher scores corresponding to more individualism	The emphasis on individual self-expression values versus communal needs recognition placing the self before any other social institution (Ingelhart, 1997)
Moderator Variable (Indulgence)	Hofstede Indulgence Score	0-100 with higher scores corresponding to more indulgence	The immersion in the fulfillment and gratification of ones' needs (Ingelhart, 2005).
Independent Variable (Entrepreneurial Self-Efficacy)	Qi3. Do you have the knowledge, skill and experience required to start a new business?	0 = No 1 = Yes	Perceived capability of achieving entrepreneurship outcomes like venture creation and operation (GEM, 2021).

Moderator Variable (Fear of Failure)	Q14. Would fear of failure would prevent you from starting a business?	0 = No 1 = Yes	Perceived inability to succeed if one engages in venture creation and operation as a career choice (GEM, 2021)
Moderator Variable (Uncertainty Avoidance)	Hofstede Uncertainty Avoidance Score	0-100 with higher scores corresponding to more uncertainty avoidance	The proclivity to emphasize stability and the tendency to make safe decisions without taking oneself out of the comfort zone (Ingelhart, 1997).
Independent Variable (Entrepreneurship Exposure)	Q11. Do you know someone personally who started a business in the past 2 years?	0 = No 1 = Yes	Knowing someone who owns or operates a self-created venture (GEM, 2021).

Table 2: Measurements and Definitions.

Source: GEM Reports

**Data Analysis**

Binomial Logistic Regression Analysis is used to predict the probability of an individual failing into either having an entrepreneurial activity record or not. Logistic Regression is appropriate when the dependent variable is dichotomous featuring having a characteristic or not, which is entrepreneurial activity in this research. Using a number of independent variables, the model generates coefficients denoting the effect of each included variable. For this research, there are three main independent variables: desirable attitudes, self-efficacy, and exposure. All these variables are provided at the individual level from the GEM data. While the GEM data does not provide individual level information on the moderator variables: individualism, indulgence, and uncertainty avoidance, each country’s value will be assigned to every individual from that country in the dataset. Fear of failure moderator data is provided by the GEM individual level dataset. SPSS latest version is used to perform the Logistic Regression Analysis.

**Results**

Figure 2 displays the total early-stage entrepreneurial activity for participating countries. Note that there is a significant level of variability across countries. Latin America and Central America, as well as The Caribbean regions lead the highest rates of nascent entrepreneurship. Japan has one of the lowest rates. Most countries have nascent entrepreneurship rates at 20% or lower. Such an observation leads to the conclusion that the majority of the population do not engage in entrepreneurial activity.

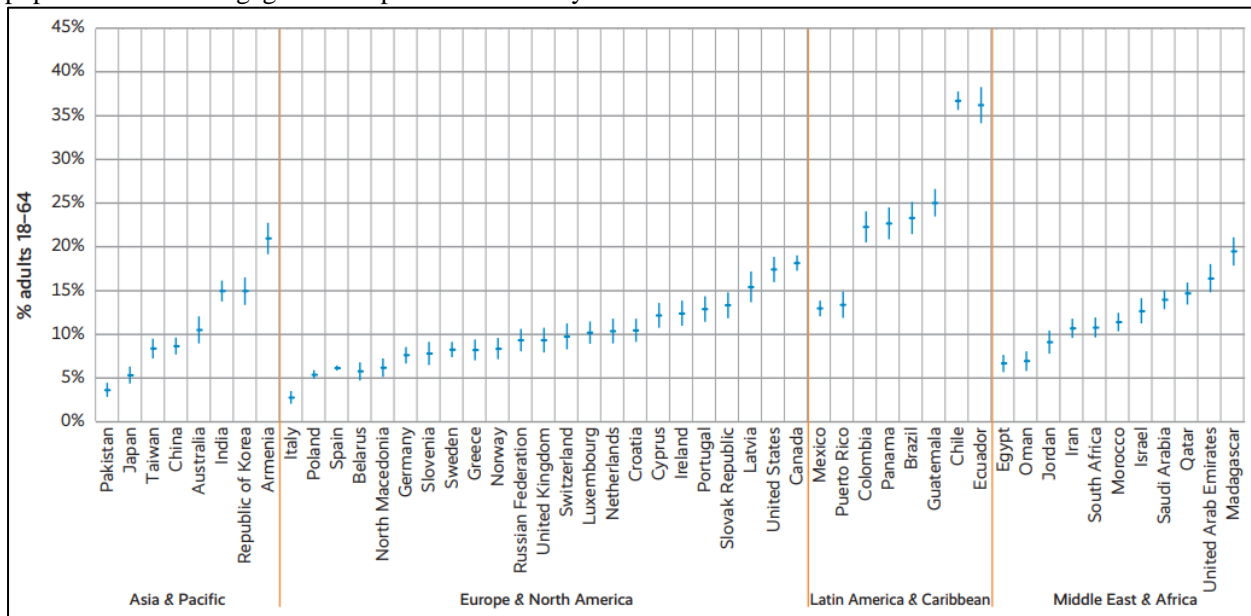


Figure 2: The Total Early-Stage Entrepreneurial Activity for Participating Countries.

Source: GEM Reports

Figure 3 demonstrates the percentage of individuals who knows someone that owns a business in participating countries in GEM. One notes the high variability across countries. On the one hand, Japan, South Africa, and Greece have low exposure rates. On the other hand, China, Chile, and Saudi Arabia have high rates on the same indicator. Nevertheless, the rate of participants who knows someone with a business surpass the rate of actual entrepreneurial activity.

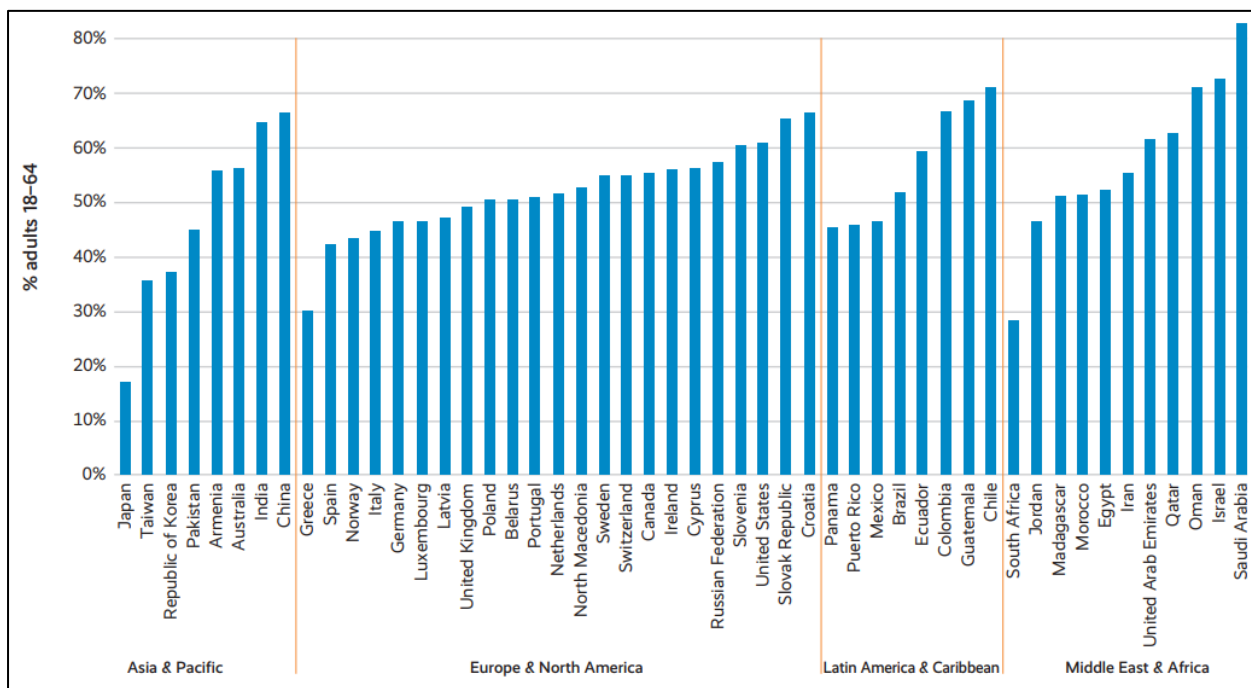


Figure 3: The Percentage of Individuals Who Knows Someone That Owns a Business in Participating Countries in GEM. Source: GEM Reports

Figure 4 shows the percentage if 18-64 adults who agree that it is easy to open a business in their countries (attitudes). With few exceptions like Japan, many populations deem opening a business as a good idea. Such an observation is noticeable regardless of economic development or cultural associations.

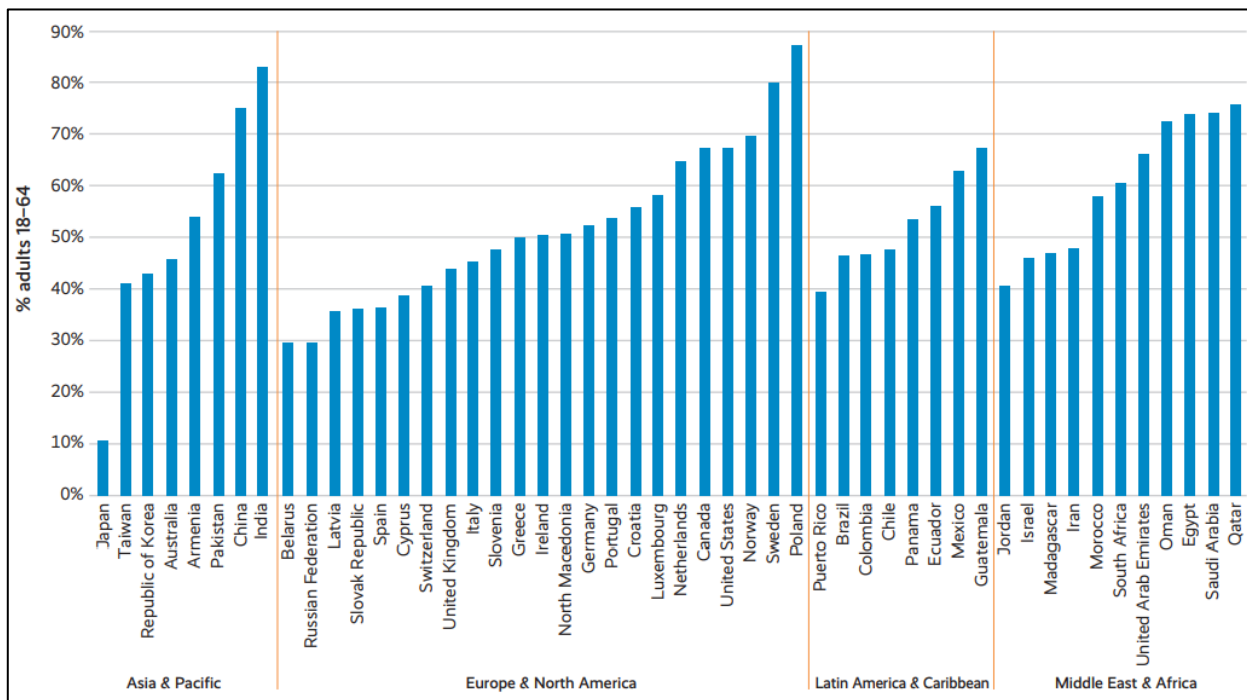


Figure 4: The Percentage If 18-64 Adults Who Agree That It is Easy to Open a Business in Their Countries (Attitudes) Source: GEM Reports

Figure 5 indicates the percentage of 18-64 adults who perceive themselves as capable of becoming entrepreneurs. Note that many countries featured in GEM surveys have 50% or more people who believe that they have the necessary skills and knowledge to open a new business. Few countries like Japan exhibited low rates on the perceived capability indicator. Such observations have been consistent across GEM various survey waves in the past decade (citation on GEM perceived capability).

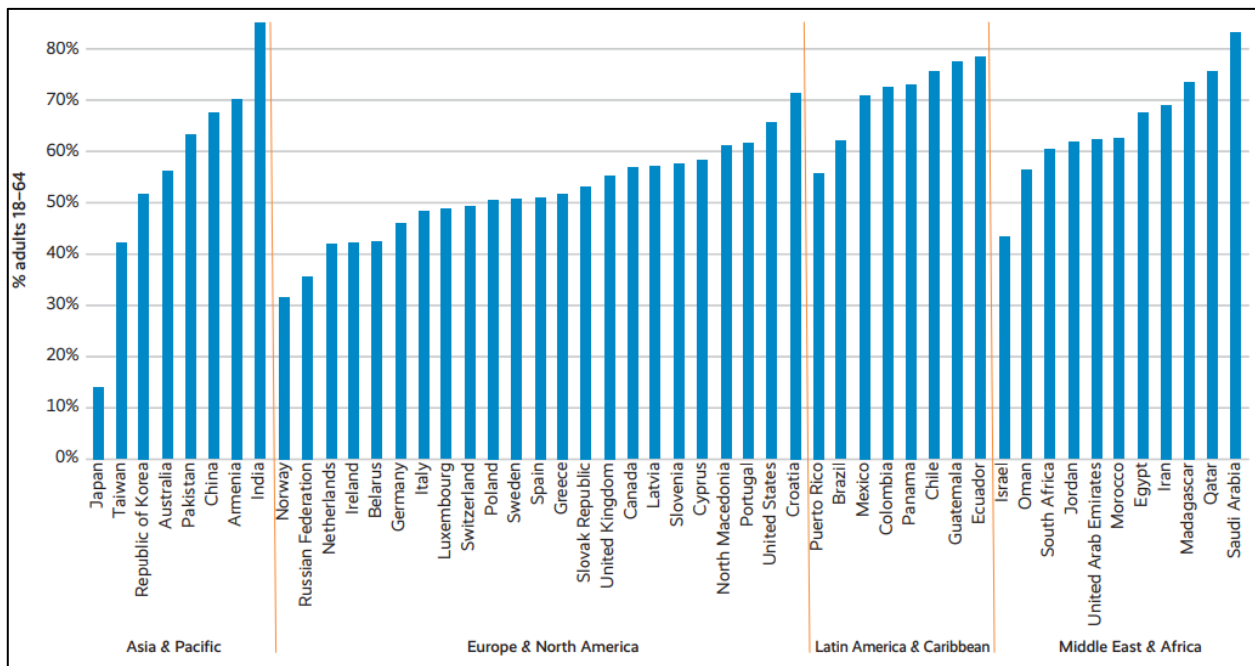


Figure 5: The Percentage Of 18-64 Adults Who Perceive Themselves as Capable of Becoming Entrepreneurs.

Source: GEM Reports

Figure 6 shows the proportion of each country's 18-64 adults who possess a fear of failure concerning opening new businesses. Note that in few countries, the rate exceeds 50%. To a large extent, most countries have relatively sizable proportions, over 35%. Therefore, entrepreneurial activity in many participants' eyes is a risky endeavor that could potentially lead to failure.

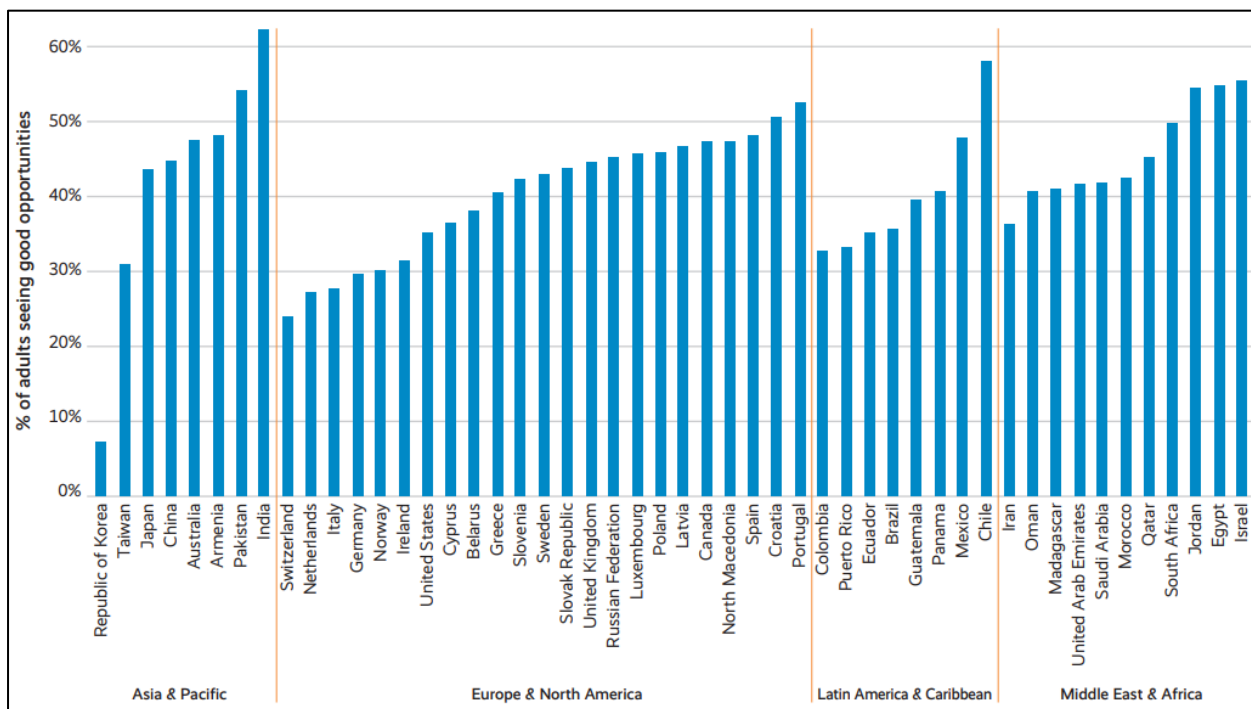


Figure 6: The Proportion of Each Country's 18-64 Adults Who Possess a Fear of Failure Concerning Opening New Businesses.

Source: GEM Reports

Table 3 demonstrates the bivariate associations between all variables in the analysis. Note that attitudes toward entrepreneurship, measured by perceived opportunity, has a positive correlation with entrepreneurial activity. By the same token, exposure to entrepreneurship and self-efficacy, measured by perceived capabilities, have positive associations with entrepreneurial activity rate. Moreover, the interaction terms between cultural variables, fear of failure and the main independence variables (attitudes and self-efficacy) have positive associations with entrepreneurial activity.



	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Entrepreneurial Activity (1)	1.00							
Attitude (2)	0.37	1.00						
(Attitude * Individualist Cultures) (3)	0.41	0.76	1.00					
(Attitude * Cultural Indulgence) (4)	0.38	0.72	0.73	1.00				
Entrepreneurial Self-Efficacy (5)	0.48	0.56	0.52	0.52	1.00			
(Entrepreneurial Self-Efficacy * Fear of Failure) (6)	0.56	0.51	0.54	0.53	0.81	1.00		
(Entrepreneurial Self-Efficacy * Uncertainty Avoidance) (7)	0.39	0.57	0.55	0.56	0.77	0.74	1.00	
Exposure (8)	0.43	0.61	0.47	0.46	0.51	0.43	0.46	1.00

**Table 3: The Bivariate Associations Between All Variables in The Analysis.**

Source: GEM Reports

Attitudes, self-efficacy, and prior exposure to entrepreneurship all possess positive correlations with each other. More positive attitudes toward entrepreneurship are associated with better perceptions about one's ability to open and operate a new venture. Similarly, prior exposure to entrepreneurship makes individuals more likely to have positive views about entrepreneurship. Additionally, exposure makes people more likely to believe in themselves and found new businesses.

Table 4 presents the logistic regression results with entrepreneurial activity as the dependent variable. Since logged odds are difficult to be interpreted, the odds ratio per independent variable is calculated. If the odds ratio is 1, then the independent variable has no effect on the outcome. If the odds ratio exceeds 1, then the one unit change on the independent variable increases the likelihood on the outcome. If the odds ratio is lower than 1, then the independent variable has an inverse relationship with the outcome, decreased values are associated with more values on the outcome (Menard, 2002).

	Odds Ratios	Standard Errors	P-values
Attitude	1.63	0.03	p < 0.01*
(Attitude * Individualist Cultures)	1.05	0.21	p > 0.01
(Attitude * Cultural Indulgence)	.03	0.42	p > 0.01
Entrepreneurial Self-Efficacy	1.74	0.04	p < 0.01*
(Entrepreneurial Self-Efficacy * Fear of Failure)	1.09	0.52	p > 0.01
(Entrepreneurial Self-Efficacy * Uncertainty Avoidance)	1.10	0.62	p > 0.01
Exposure	1.58	0.28	p < 0.01*

**Table 4: The Logistic Regression Results.**

Source: GEM Reports

Attitudes, self-efficacy, and exposure all have positive effects on entrepreneurship activity. Individuals who perceive entrepreneurship as a positive endeavor/think that it is a good idea to start a business are 0.6 times more likely to engage in entrepreneurial activity more than those who believe that entrepreneurship is not a good deed to engage in.

Concerning the effect of self-efficacy, perceived capability, individuals who reported that they have the necessary knowledge to start a business are 0.75 times more likely to engage in entrepreneurial activity. Similarly, individuals who personally know an entrepreneur are 0.6 more likely to engage in entrepreneurial activity. Both variables seem to be important in explaining variability within entrepreneurial activity.

The moderating effects of cultural values, indulgence, or individualism, on the association between attitudes and entrepreneurial activity are not statistically significant. Both odd ratios are close to 1 indicating no difference on the outcome given changes in the interaction terms. The same result appeared to the moderating effects of fear of failure and uncertainty avoidance. Results indicated that none of the moderators were relevant in predicting the relationship between the independent variables and the outcome.

## Discussion

Despite the emphasis on attitudes and self-efficacy in predicting entrepreneurial activity (Kautonen et al., 2015; Lortie & Castogiovanni, 2015; Shook & Bratianu, 2010), this research extends the literature to examine potential moderators to the well-established attitude, self-efficacy links to entrepreneurship. This research established that cultural values have little to no effect on the association between attitudes, self-efficacy, and entrepreneurship. Additionally, the analysis demonstrates how exposure to entrepreneurship adds to the explanatory power of attitudes and perceived capability in predicting entrepreneurial activity. In sum, individuals who are exposed to entrepreneurs, believe that entrepreneurship offers good opportunity, and perceive themselves as capable of operating new businesses are more likely to engage in entrepreneurship. Such results are consistent with past research that demonstrates the relevance of Planned Behavior theory in explaining entrepreneurship (Engle et al., 2010; Nishimura & Tristán, 2011; Obschonka et al., 2015; Yang, 2013).

Relying on a thorough literature review predicting individuals' behaviors in relation to entrepreneurship (Minniti & Lévesque, 2008; Shirokova et al., 2016; Welter & Smallbone, 2011), this study constructed and tested a model with several hypotheses. On the one hand, three direct hypotheses linking self-efficacy, attitudes, and exposure to entrepreneurial activity were supported. Additionally, cultural orientations like indulgence, individualism, and uncertainty avoidance were hypothesized to moderate relationships between attitudes, self-efficacy and entrepreneurial activity. None of the moderator hypotheses was supported. The results confirm earlier GEM findings that socio-cultural values have little explanatory power on entrepreneurship (Fernández et al., 2009; Liñán et al., 2011; Onder, 2021a; Noguera et al., 2013). In addition, the results in this research corroborate findings linking entrepreneurial activity with proper entrepreneurship education and capabilities (Illés et al., 2015; Grivokostopoulou et al., 2019; Onder, 2021b; Zotov et al., 2021).

Descriptive results indicate that entrepreneurial activity is less than 25% for all included countries. While there is significant variation across economies, less developed countries tend to possess higher rates of entrepreneurial activity (Onder, 2019). Similarly, in most countries, large proportions have both exposure to entrepreneurs and high levels of perceived capability. Such results confirm earlier research that generated similar statistics on entrepreneurship characteristics (Lepoutre et al., 2013; Stel et al., 2005; Wong et al., 2005).

One of the most important findings in this relationship is the lack of support for moderating effects of cultural features on the association between planned behavior theory and entrepreneurship activity. Such a result, however, does not rule out the direct effect of either individual or country cultural values on human behavior like engaging in entrepreneurship. Nevertheless, individuals across the globe seem to have similar profiles concerning their decision to open new businesses. Participants who exhibit high levels of exposure to entrepreneurs, have a high sense of self efficacy and positive attitudes toward business tend to engage in entrepreneurship regardless of their culture.

### **Implications**

One of the implications for this research is the revamping of education entrepreneurship programs. Educators need to incorporate exposure to entrepreneurship components in their courses. Further, separate modules need to emphasize self-efficacy and attitudes toward entrepreneurship. In addition, active based learning tasks need to be part of entrepreneurship training to increase individual's exposure, as well as perceived opportunity regarding entrepreneurship.

Another important implication is the exploration of the moderating and mediating roles of cited variables in the literature. The present research extended the planned behavior theory framework in entrepreneurship to cultural orientations. While the research found no support for cultural moderating effects, future research could test other relevant hypotheses. Refined models help in better predicting entrepreneurial activity. Roles of individual and country characteristics like economic or social factors could influence the strength of associations among the variables included in this research.

#### **Limitations**

One of the limitations of this study stems from the measurement of variables. Most variables were measured at the binary level. Such a strategy does not capture the full variation within the outcome. For instance, someone maybe involved in some type of an entrepreneurial activity, but he or she deems it insufficient to be counted as a yes. If a scale was used, more people who said no would have said yes indicating by a non 0 value.

Another limitation is data availability. Large scale surveys on entrepreneurial activity are limited with respect to all the variables cited to influence activity. For instance, the GEM data does not include passion, achievement, or overconfidence. Such attributes have been cited to influence activity. Therefore, the models constructed to predict activity will be likely considered as lacking. Such omission of important variables will likely affect the accuracy of coefficients estimated by statistical packages.

### **Future Research**

Researchers have not paid adequate attention to the moderating roles of social, cultural, and economic characteristics altering associations between planned behavior constructs and entrepreneurial activity. More research needs to be conducted to determine the most important conditions under which attitudes and self-efficacy improve entrepreneurial activity. Such knowledge would improve the entrepreneurship education infrastructure. Entrepreneurship is like any other human behavior. It is learned overtime.

### Works Citation

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