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The American University in Cairo  
School of Global Affairs and Public Policy

GENDER, PERCEPTUAL FACTORS, AND ENTREPRENEURIAL INTENTION:  
EVIDENCE FROM EGYPT

A Thesis Submitted to the  
Public Policy and Administration Department  
in partial fulfillment of the requirements for  
the degree of Master of Public Policy

by Eman Tawfik El-Hadary

under the supervision of Dr. Ghada Barsoum

SPRING18

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Ambassador Nabil Fahmy

Dean of GAPP

Date \_\_\_\_\_

DEDICATION

TO MY DAD,  
TO 25<sup>TH</sup> JANUARY 2011.

## ACKNOWLEDGMENTS

To my Mother: You are the reason of my mere existence. Thank you for your kindness, love and patience, I wouldn't have gone so far without you. To my sister Gigi: I consider myself lucky to have you as my sister, my mother and my friend; you are Dad's voice when I need it. My brother Omar, my oldest friend and the person who is always there for me no matter what. My beautiful family, thank you.

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The American University in Cairo  
School of Global Affairs and Public Policy  
Department of Public Policy and Administration

HOW PERCEPTUAL FACTORS INFLUENCE THE RELATIONSHIP BETWEEN GENDER  
AND ENTREPRENEURIAL INTENTION IN EGYPT

by Eman El-Hadary

under the supervision of Dr. Ghada Barsoum

ABSTRACT

In Egypt, women's total early-stage entrepreneurial activity is 3.7% out of female adult population coupled with one of the world's lowest women's economic participation rate. As the government is no longer the haven for women's jobs and the private sector is not filling the void, promoting entrepreneurship amongst women can prove effective in creating employment opportunities as well as empowering women with financial and social autonomy to allow them to become equal decision maker within the family and or household. In this research, the relationship between gender and entrepreneurial intention among non-entrepreneurs was investigated. The research shed light on the possible reasons of why women are less likely to start their own business compared to men. There is a body of literature that argues that the perceptual factors, namely *self-efficacy*, *fear of failure*, *ability to recognize opportunities*, and *knowing an entrepreneur*, might be the answer. Therefore, this thesis established a mediation analysis using a nationally representative sample data of the Global Entrepreneurship Monitor in Egypt from 2008 to 2015 to investigate if perceptual factors mediate the relationship between gender and entrepreneurial intention. This study validated the hypotheses among the non-entrepreneurs showing that the relationship between entrepreneurial intention and gender is mediated by the perceptual factors investigated in this thesis.

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## I. Introduction

Despite notable improvement for women's access to education, health and economic advancement opportunities, yet job scarcity remains prevalent with respect to positions in both the private and public sectors for women as identified by Hendy (2013). In 2016, the World Economic Forum's Global Gender Gap Report indicated worrisome statistics for Egypt, ranking it 112 out of 144 countries surveyed in educational attainment, it also ranked 95 in health and survival, 115 in political empowerment, whereas ranked 132 in economic participation and opportunity (2016). Employed women play an integral role in the overall economic growth (Klasen and Lamanna, 2009) and social well-being of society as a whole, thus investing in creating economic opportunities for women will in turn result in a many positive impacts on the communities. It has even been demonstrated in a study covering countries of the South Mediterranean region including Egypt, that an *"increase of 5% in female labor force participation rates leads to... a cumulative 1.3% increase in GDP above the reference scenario"* using forecasted data for 2015 to 2030 (Tsani, et al., 2012, p. 13), a gain that could potentially improve the status of the current Egyptian economy.

Female labor force participation is 23% in 2016 compared to 69.6% for males (World Development Indicators, 2017). There are multiple reasons for lack of women's participation in the economy; some are related to the supply side i.e. women's themselves and other are due to the demand side and structure of the economy (Hendy, 2013). Cultural norms, public policy affairs and market driven forces are among the issues that are further discussed in subsequent sections. Women in Egypt still face a lot of difficulty in finding non-domestic paid labor and more profoundly in the private sector (Assaad & Krafft, 2013). A similar contrast is seen in entrepreneurship, whereas women's total early-stage entrepreneurial activity (TEA) in Egypt was substantially lower for women, totaling only 3.7% compared to 11.1% for men in 2015 (Ismail, et al., 2016). In addition to the problems women face to get employed, women entrepreneurs face hurdles in starting their businesses ranging from access to finance, access to business development support services, to access to market. Women also tend to have low representation in the policy circles, business associations and in the media (International Labour Organization, 2016).

While the TEA status remains relatively low, promoting entrepreneurship amongst women can prove effective in creating employment opportunities as well as empowering women with financial and social autonomy to allow them to become a more equal decision maker within the family and or household (International Labour Organization, 2016). In this chapter, the author tries to explore the Egyptian economic context; followed by introducing information about women's status in Egypt; existing gender inequities; women's economic participation; and the paradox relationship between women's marriage and work. Thereafter, the entrepreneurship scene in Egypt is examined with a special focus on the status of women's entrepreneurship.

#### *A. The Egyptian Economic Context*

The Egyptian economy has undergone few major events in the last few years. The 2008 global financial crisis (GFC) that resulted in a crash and substantial slowdown in the global economic market; Egypt's reverberating 25<sup>th</sup> January 2011 revolution that toppled down a president who was in power for 30 years and started a short-lived political instability; and lastly the 2014 economic reform program adopted by the Government of Egypt (GoE) (following the ones implemented in the 1990s and early 2000s) powered by International Monetary Fund (IMF) and the World Bank reform programs which resulted in substantial changes to the government subsidies structure which subsequently led to the country facing many negative effects such as hyperinflation and currency devaluation.

Prior to the GFC, Egypt's Gross domestic product (GDP) peaked in 2008 reaching 7.2 % growth, however, this shortly followed by a drop in 2009 and 2010 after a global slowdown (The World Bank, 2017). During 2011 – 2013 and due to political turmoil, Egypt's GDP had a deep dive growing at only 1.8 – 2.2 % annually. The GDP started picking up once again in the last few years reaching 4.3% growth in 2016. Egypt's budget deficit reached 12% of the GDP in 2016 compared to only 6.8% in 2008 (Table 1.1). In 2013, the country faced a major crisis as the net international monetary reserves reached a low 14.9 billion US dollars compared to 35 billion US dollars in 2010, dropping below the '*critical level*' decided by the Country's Central Bank (Economic Center for Economic Studies, 2008 – 2017). The critical level was reached due to the major sources of foreign currency income that Egypt relied upon was negatively affected, and subsequently dropped

dramatically after the 2011 revolution. The revolution and subsequent political unrest led to a sharp decline in tourism, coupled with significant drop in foreign direct investments. These developments lead to the Egyptian pound being devalued against the US Dollar.

The impact of the poor performance of the Egyptian economy was felt by all levels of the society, though the already poor population who are considered living below the poverty standards, were now forced to endure even harsher circumstances. According to the Central Agency for Public Mobilization and Statistics (CAPMAS), the percentage of Egyptian households living under the absolute poverty line reached over one-quarter (25.2 %) in 2010–11, which shows an increase by over 5 per cent compared to approximately 20 per cent in the fiscal year 2008–09. Statistics also show that 4.8 % of households lived under the food poverty line (Barsoum, 2014).

In 2014, the Egyptian Government reached an agreement with the IMF on a 12 billion US Dollar loan, forcing the government to carry out economic reforms where the major ones included four main features:

- a. Implementation of tax reform by widening the taxable base in the Egyptian economy and ensuring better tax collection procedures,
- b. Apply additional energy subsidies' cuts
- c. Develop and implement better policies of targeting the poor, in particular cash-transfer programs,
- d. Enhance the business enabling environment particularly policies that projects the rights of the investors (Economic Commission for Africa, 2016).

All these reforms have started to demonstrate positive signs for the economy in 2015, since the budget deficit decreased to 10.8% of the GDP. Notwithstanding the progress, the Egyptian Economy still faces major challenges, some of the more pressing issues. In 2015, the accelerated population growth rate reached 2.1% which will be translated to a population bulge by 2030 exceeding the 120 million marks if the growth rates are not controlled for. The unemployment rate remains quite stagnant, floating around the 12 – 13% (reaching 24.8% for women) and did not ease over the past 10 years. Moreover, poverty in Egypt remains characterized with high disparities between urban and rural areas reflecting flaws in designing and implementing distribution gains

form growth and development. Almost half of Egypt's population living in Upper Egypt and in rural areas are poor (Barsoum, 2014). Rural Upper Egypt has higher rates of illiteracy and infant mortality a high prevalence of underweight children, with limited access to public services and basic amenities. This shows that the development indicators in rural areas compared to the urban areas, are rather alarming (Economic Commission for Africa, 2016).

## *B. Women Status in Egypt*

The MENA Development Report of 2013 points out, the persistence of a 'gender inequality paradox', where investments in education have not directly manifested in greater participation for women in the job market (World Bank, 2012). On one hand, this reality exists due to strong cultural customs and norms ingrained in the Egyptian society, making it challenging to change family structures and expected roles such as women being the primary home caretakers and men as the main breadwinners (UNDP, 2006). Having said that, on the other hand, one should also consider macroeconomic factors and social policies impact on women's employment. Assaad and Arntz (2004) argue that labor force participation in the 1970s and 1980s was more determined by 'demand-side factors': The female-dominated jobs, mainly in the government, became 'defeminized', and the employment growth occurred substantially more in male-dominated jobs, which have not been feminized. Although the government could close the gender gap in Education in Egypt however it has little to do to its inferior quality especially among the since women especially from lower socioeconomic background cannot compete with the market standards (Barsoum, 2017). Moreover, it was argued that adding the burden of social security policies on the shoulder of the employer has systematically discouraged the employers from contracting women (Assaad, n.d.), especially. young women, leaving them without job security.

### *1. Gender Inequities*

In reviewing the literature on gender inequity, there appears to be a '*feminization of poverty*' that shows an inequality of both opportunities and outcomes, such as unequal access to education or the lower level of income that is earned from less professional jobs. A focus on unequal opportunities has been the focus in more recent research.

**Table 1.1: Macroeconomic Indicators of the Egyptian Economy (2008 – 2016)**

Indicator	Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>GDP (constant 2010 US\$)</b>	US\$ million	198,882	208,177	218,888	222,784	227,720	232,696	239,482	249,952	260,694
<b>GDP per capita (constant 2010 US\$)</b>	US\$	2,457	2,524	2,602	2,594	2,593	2,591	2,608	2,665	2,724
<b>Real GDP growth rate</b>	Per cent	7.2	4.7	5.2	1.8	2.2	2.2	2.9	4.4	4.3
<b>Net international reserves</b>	US\$ million	34,572	31,310	35,221	26,564	15,534	14,936	16,678	20,082	17,547
<b>Annual real growth rate of private consumption</b>	Per cent	5.7	5.7	5.1	5.5	6.5	3.3	4.4	3.1	4.6
<b>Overall budget deficit</b>	EGP million	61,122	71,826	98,038	134,460	166,705	239,719	255,439	279,430	339,495
<b>Foreign direct investment inflows</b>	US\$ million	17,802	12,835	11,008	9,574	11,768	10,274	10,856	12,546	12,434

*Source: Compiled by the author. Data is based on: World development indicators. Washington, D.C.: The World Bank and Egypt economic profile and statistics. Years 2008 – 2017. Cairo: The Egyptian Center for Economic Studies.*

In 1971, John Rawls was one of the first researchers to shed light on the importance of understanding the unequal distribution of understanding the unequal distribution of '*primary goods*' (as cited in De Barros et. al, 2009) and in a later research in 1989, he turned attention to the '*opportunity*' for attaining higher levels of welfare, instead of tackling the welfare itself.

Furthermore, women face discriminatory laws and do not have equal access to participate in the political arena (Abdellatif, 2017). Given the universality of this global concern for women's standing, gender equality was identified as one of the United Nation's Sustainable Development Goals (SDGs). According to Fultz and Francis (2013), women are at a much higher risk to fall into poverty than men, given that they usually work a fewer number of years, earn lower wages, and have longer life spans. Globally, the United Nation Development Programme (UNDP) Human Development Report of 2014 illustrates a lower participation of women in the labor force than men, reinforcing the fact that gender roles and culture play a major part in many countries, despite their development level, in determining the rate of women's employment (Abdellatif, 2017).

Looking in to the future of achieving the UN's SDG related to gender equality, it is recommended that the global community should focus on '*leveling the playing field*' to afford women with an '*equal opportunity*' at full participation in all facets of life, particularly the job market (Barros et al., 2009). This can be achieved through the implementation of non-discriminatory laws, programs and practices that afford women with '*basic opportunities*' to equal access to education, healthcare, and housing (Molina et. al, 2010).

## 2. *Women Agency*

Ideologies surrounding the purpose of women working is important to explore in countries where social institutions and traditional gender roles still prevail. When women are seen as mere participants in the labor market, mainly based on an economic need to do so, women's agency and autonomy is comprised. A paradigm shift would see women as equal contributors to society, independent partners, with equal right and intellect to lead successful careers for their own personal development and sense of achievement. Building women's agency in society would require women themselves taking charge to afford themselves with the opportunity to develop themselves as professionals in the labor market with equal value given to career success as is associated with



family life. Until now, a large number of men and women believe that the option of work for women is not a priority next to her main responsibilities in taking care of the home, the children and the family (Abdellatif, 2017).

Considering work as a secondary priority or only an option, rather than an expectation, for women often results in society considering part-time, short term, or periodic job opportunities as a more suitable or befitting option for women (Abdellatif, 2017). When women provide themselves with the opportunity to work to develop their intellectual skills, their ability to become decision makers inside and outside the home will increase, allowing to make more decisions about the allocation of income and resources (Moghadam, 2004). Promoting women's agency goes hand in hand with shifting ideologies of both men and women to consider the non-economic benefits that a successful career has on an individual (Landes and Landes, 2001). Furthermore, promoting women's agency would equalize the power relations within households, there is a big gap that needs to be addressed. Furthermore, in a time of economic crisis, priority is given to men when applying for jobs since they are seen as the main breadwinner who must be able to earn money to support his family, while women's main responsibility, duty and purpose in life lies in providing care and handling domestic tasks (World Bank, 2012).

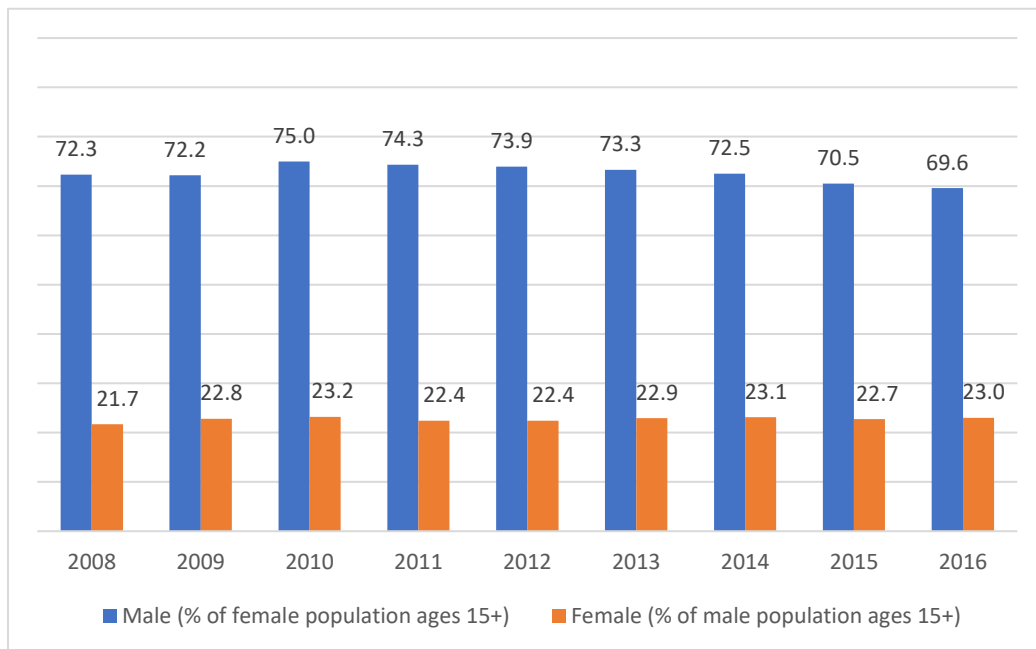
### *3. Female labor force participation*

Assaad and Krafft (2015) demonstrated that the labor force participation rate per gender is 23.1% for females, compared to 80.2% for males in 2012. Half of employed women have government or public-sector occupations. With a decrease in the number of government jobs over the last decade, women have turned to the informal employment sector, including self-owned enterprises and self-employment options. These types of jobs allow women the flexibility they need to successfully manage their time to also focus on taking care of household duties and raise their children. Women are not inclined to continue private sector jobs after marriage. Assessing labor force participation trends, Egyptian women's labor force participation is stagnantly low over time (Figure 1.1).

After marriage, the burden on women rises dramatically since she is expected to attend to children and household tasks, while also participating in the financial sustenance of her family. Research

shows that women prefer ‘not working’ rather than taking on private sector jobs after marriage, especially for educated women (Hendy, 2015). On one hand, women are expected to take care of the household and men are expected to be the primary bread winners of the family (Barsoum et al., 2009). However, Assaad (2005) argues that labor force participation was more determined by ‘demand-side factors’ in the 1970s and 1980s: The female-dominated jobs, mainly in the government, became ‘defeminized’, and the growth in employment occurred substantially more in male-dominated jobs, which have not been feminized. Using the Egypt labor market panel surveys (ELMPS) data, it was shown that the composition of employment stayed fairly stable for women between 1998 and 2012 as shown in Figure 1. In 2006 ELMPS data, there was a hike due to the increase in subsistence work in the agricultural sector and hence it is better to compare 1998 to 2012 (Assaad & Krafft, 2015).

**Figure 1.1: Labor Force Participation Rate by Gender, 2008 – 2016**

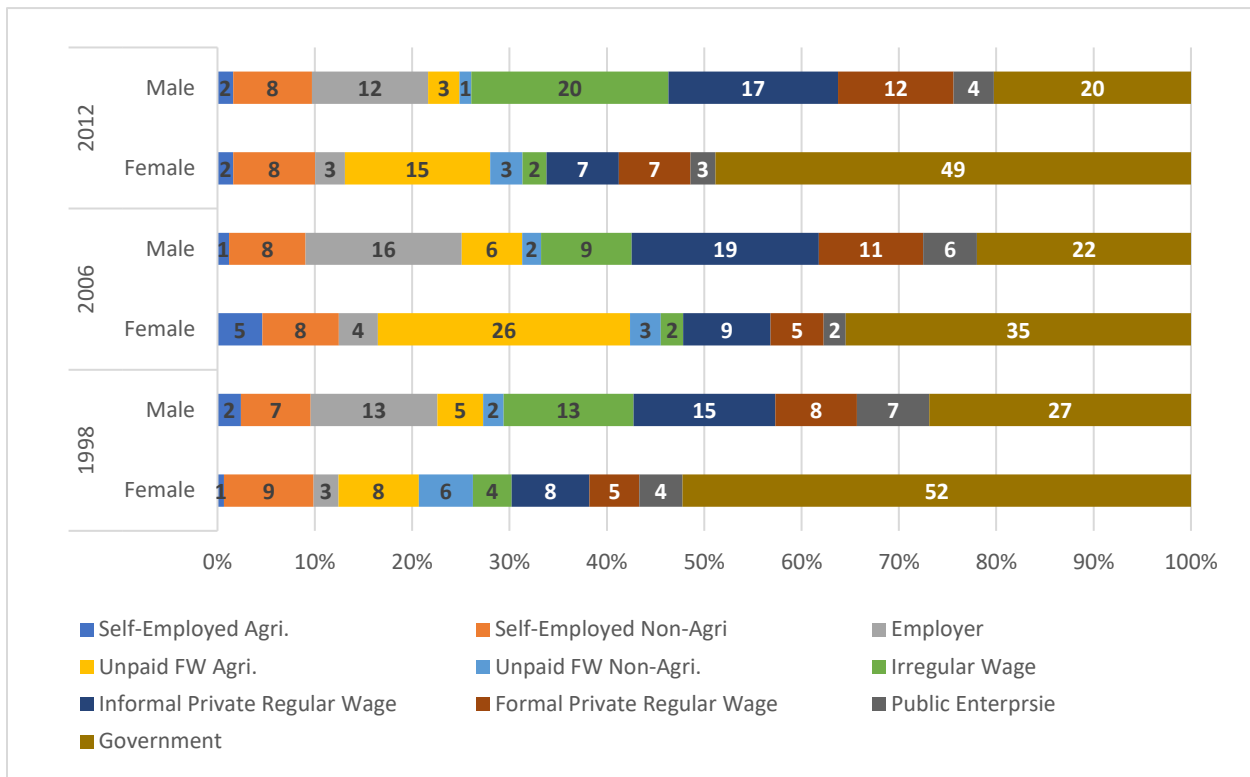


Source: The graph was constructed by the author based on data of World Development Indicator 2017

Assaad and El-Hamidi (2009) noted that the decline in women’s participation in the labor force occurred when state-sector jobs were no longer guaranteed for high school and university degree level graduates in the 1990s following the Nasser era. Consequently, many women became ‘discouraged’ and fell out of the workforce. While the number of private sector jobs generally

increased, the growth rate was not enough to account for the rate of decline in the public sector. Married women continued to seek public sector jobs, partly due to the offered benefits such as health insurance and retirement benefits, accordingly, they usually quit private sector occupations after marriage to make the shift (Assaad and El-Hamidi, 2009). The share of self-employed women in non-agricultural activities remained fairly stable around 8% (Figure 1.2).

**Figure 1.2: Currently Employed Females and Males Distributed by Institutional Sector, Ages 15-64, 1998-2012**



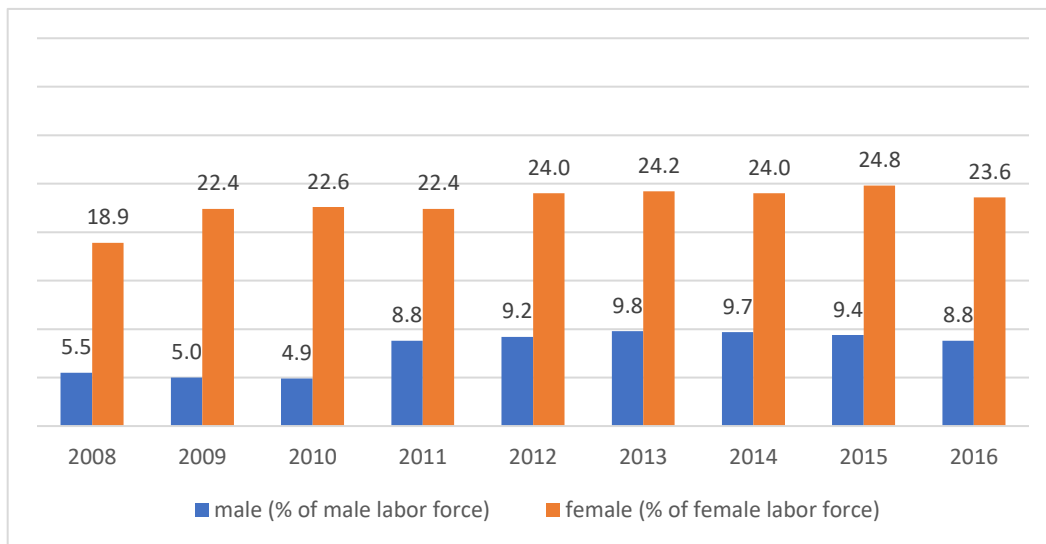
Source: Graph constructed by the author based on data from Assaad & Krafft 2015

In line with traditional expectations for women’s employment, Asaad and Krafft (2015) found that in 1998 and 2012, women occupied half of the workforce in health, social work, education, and public administration sectors, with women amounting to 39% in 2012 in health, social work, education; in public administration, women filled 12% of the labor force and in wholesale and retail in 2012, they filled 13% of those sectors. The same rise in women’s participation was observed in the agriculture sector, with women accounting for 20% of the work force in 2012, compared to 13% in 1998. Men became more attracted to construction jobs, with a rise in the

number from 9% in 1998 to 14% in 2012. In agriculture, the number of men decreased from 18% in 2012 compared with 22% in 1998. While the numbers are rising for women moving into different sectors, the overall workforce remains dominated by men.

Traditionally, women are expected to take care of the household and men are expected to be the main bread winners of the family, this being fundamentally based to deep rooted societal and religious believes (Barsoum et al., 2009). However, given current market conditions, this paradigm is only practiced in families whose economic status permits them to do so. For the majority of women, not working is not an option, given the high unemployment rate of men and their lack of willingness to work in jobs they feel are below what they deserve (Assaad, 2005). Women are more willing to work to provide for the family and to cover expenses of their children. In these cases, the roles are reversed, with women becoming the main breadwinners of their families and the men staying at home unemployed or working sporadically (Assaad, 2005).

**Figure 1.3: Unemployment Rate in Egypt by Gender, 2008 – 2016**



Source: The graph was constructed by the author based on data of World Development Indicator 2017

#### 4. The paradox relationship between women’s marriage and work

Egypt is moving from universal and early marriage plateau to later marriage and celibacy yet with persistent universality. Female labor participation rates are among the lowest in the world. Research has indicated that most of the married women quit their job upon marriage (Assaad &

Hendy, 2013). Reasons are generally associated to role of women in the domestic life, worsened working and employment conditions as well as constrained geographical mobility.

Up until 1995, Egypt was still characterized with universality of marriage as well as early marriage of women. Egypt witnessed a decline in age at marriage among women starting from the mid-20<sup>th</sup> century (Rashad & Osman, 2000). At that time, a woman would generally do the following: marry at an early age; move into her spouse's house; marry to a relative who is significantly older and with higher educational background; if at all and she would be either working in agricultural or domestic activities. This declining trend in age at marriage is slower in Egypt compared to other neighboring countries and still significant where 21% of women aged between 18 – 29 are reported getting married before the age 18 (SYPE, 2014). In the later years growing trends of late marriage and celibacy in Egypt were observed yet at a slower rate compared to the region (Rashad & Osman, 2000), whereas 3.9% of women aged 30-39 were never-married in 1995, rising to 5.3% in 2008 (calculation made using EDHS 2008). In their inference about the impact of marriage on female labor force participation, Assad and Hendy (2013) concluded that women working for wage in the private sector are significantly more likely to move into inactivity compared to those working in the public sector (40.9% to 5.4% respectively).

#### *Marriage as a motivation to work*

Before discussing women's motivations and barriers to paid work, it is important to factor in rise of the cost of marriage in Egypt in terms of material acquisitions coupled with declining men employment opportunities and added responsibilities on the girls to participate in this cost which results in an increase of age at marriage (Singerman & Ibrahim, 2002). Subsequently, preparation for marriage becomes one of the major motivator for women to work and save for her trousseau. It was also mentioned that girls' families tend to believe that working women has better chance of getting married due to exposure to men (Amin & Al-Bassusi, 2003).

Alternatively, it was argued that job quality issues and access to decent work are among the main barriers to female labor participation (Barsoum, et al., 2009). Further literature suggested that the constrained geographical mobility of women and long working hours were pushing women away from participating in the labor market (Assaad & Arntz, 2004; El-Kogali & Al-Bassusi, 2001).

There is current evidence (not necessarily quantified), that there is favorable impact of female labor force participation on marriageability and the characteristics of marriage. Studies shows that working women are less likely to be married to a 'kin' (Amin & Al-Bassusi, 2003), and job characteristics seems to have influence on women fertility choices (El-Shinity, n.d.). Rashad and Osman (2000) stated however that there is little rigorous evidence on the impact of female labor participation on marriage and it is rather qualitative and/or scattered.

### *C. Entrepreneurship Scene in Egypt*

Egypt's total population has officially exceeded 100 million marks with a median age of 23.8 years. It shows how young the population is in Egypt compared to other nations like in the United States and in Germany where the median ages are 37.9 and 46.8 respectively. The Global Entrepreneurship Index (2017) ranked Egypt 81<sup>st</sup> out of 137 countries in terms of entrepreneurship level. It came in the 13<sup>th</sup> position out of 15 countries in the Middle East and North Africa (MENA) region compared to "Algeria which comes in the 73<sup>rd</sup> place, Morocco in 70<sup>th</sup>, Lebanon in 63<sup>rd</sup>, Jordan in 56<sup>th</sup>, Tunisia in 42<sup>nd</sup>, Kuwait in 39<sup>th</sup>, Oman in 37<sup>th</sup>, Bahrain in 34<sup>th</sup>, Saudi Arabia in 30<sup>th</sup>, Qatar in 21<sup>st</sup>, UAE in 19<sup>th</sup>" (Global Entrepreneurship Index, 2017). In terms of size of investment, Forbes proclaimed that the top 20 startups in Egypt received a total of \$24.2 million worth of investment compared to \$41.6 Million in UAE (2017).

By looking at the societal values of entrepreneurship of Egypt over the years, Egypt has an advantage: People is considered as a good career choice topping the global average and also successful entrepreneurs have a high status in the society. However, in the aftermath of the 25<sup>th</sup> January revolution, the political discussion took a great margin of people's life and hence the media. Media attention given to entrepreneurship has fallen through the years from 70.5% in 2008 to 58.5% in 2015 (Table 1.2).

**Table 1.2: Societal Values of Entrepreneurship in Egypt (2010-2015)**

Year	2015			2012			2010		
	Rank / 60	%	Global Average	Rank / 67	%	Global Average	Rank / 60	%	Global Average
<b>Entrepreneurship as a good career choice</b>	10	73.6	60.3	7	83.0	65.8	15	77.7	68.4
<b>High status to successful entrepreneurs</b>	11	79.6	67.4	4	87.0	71.3	4	89.5	72.5
<b>Media attention to entrepreneurship</b>	34	58.5	60.8	23	63.7	60.0	15	70.5	60.4

Source: GEM Egypt National Report 2016

In Egypt entrepreneurs face many challenges ranging from administrative difficulties, absence of a comprehensive business support services, lack of exposure, untrusting environment around entrepreneurship in general and entrepreneurs, and lack of the conduct of cooperation. In their paper “*Enabling Entrepreneurship in Egypt: Toward a Sustainable Dynamic Model*”, El-Dahshan et al. (2012) summarized the challenges faced by entrepreneurs in Egypt as follows:

- a. To a great extent, the term “Entrepreneurship” is not commonly used by the public until recently, and even now, it is predominantly used among those who are actively involved in entrepreneurship.
- b. Many big scale scandals had happened in Egypt regarding surrounding *nonperforming loans* that resulted in a negative reputation of business people in general,
- c. Despite entrepreneurship hype nowadays, the amount of support provided is still insufficient,
- d. Although they are now government-led initiatives supporting entrepreneurship in Egypt, they are not scalable and insufficient,
- e. Egypt is characterized with weak contract enforcement and small business are generally vulnerable to late payments and deliverables. This, might sometimes push entrepreneurs to seek alternative enforcement mechanisms like ‘*voluntary binding arbitration*’ or might discourage them from starting a business in the first place,
- f. Lack of collaborative behavior is identified as one of the challenges. Since the average company size 2.21 and most of them are individual ventures, there are so little room to team work or build joint ventures.

#### D. Women Entrepreneurship status

In Egypt, women's total early-stage entrepreneurial activity (TEA) reached 3.7% out of female adult population according to Global Entrepreneurship Monitor National Report for Egypt in 2015/16. Egyptian women have fallen to the lowest rank in terms of women's entrepreneurship rates in the MENA and Sub-Saharan African countries in the last few years. Compared to regional averages in 2012, the Women's involved TEA activities was 27% in Sub-Saharan Africa, 4% in MENA and only 2% in Egypt (GEM Egypt report 2015/16; Hattab, 2012). Across the stages of entrepreneurship process, women in Egypt tend to be less entrepreneurial than men.

According to the ILO (2016), entrepreneurial activities are much more prominent in rural area. In Egypt, 62% of male business owners are located in rural areas compared to 38% in urban areas. Similarly, 82% of female business owners are concentrated in rural areas compared to 18% in urban areas. In 2014, women accounted for only 9% of the total number of self-employed and business owners in Egypt, amounting to 613,100, compared to 6 million men.

**Table 1.3: Total Early-Stage Entrepreneurial Activity through 2008 – 2015**

Year	2015			2012			2010			2008
Indicator	Rank / 60	%	Global Average	Rank / 67	%	Global Average	Rank / 60	%	Global Average	
<b>Total early-stage entrepreneurial activity (TEA)</b>		<b>7.4</b>			<b>7.8</b>			<b>7.0</b>		<b>13.1</b>
<b>Men</b>	40	11.1	15.4	33	13.0	10.2	38	9.6	13.7	
<b>Women</b>	52	3.7	11.0	66	2.4	10.8	35	4.5	9.6	
<b>Established business</b>		<b>2.9</b>			<b>4.2</b>			<b>4.5</b>		<b>8.0</b>
<b>Men</b>	52	4.8	10.5	44	7.6	10.3	45	7.9	10.7	
<b>Women</b>	58	1.0	6.3	67	0.6	5.9	58	1.1	6.0	

*Source: Global Entrepreneurship Egypt National Report 2015/16*

#### 1. Legal and regulatory system

Despite the presence of a legal framework that aims to support women's employment in Egypt, the rate of participation of women in the labor force remains low. In effort to turn those numbers around, the Small and Medium Enterprises (SMEs) strategy focuses on women's



employment and SMEs development, as part of Egypt's Vision 2030, the Social and Economic Plan of 2015.

To compliment national regulations, Egypt has always participated in international efforts to promote women's empowerment since the early days of the United Nations. In 1951, Egypt signed the ILO's 'Promotion of Equal Remuneration Convention' and in 1958, the 'Discrimination (Employment and Occupation) Convention, which promoted equal opportunities and nondiscrimination in the labor market with regards to race, color, sex, religion, political opinion, national extraction and social origin. Egypt also ratified the 'Night Work (Women) Convention' of 1960 (No. 141) and the 'Night Work (Women) Convention' of 1960 (No. 41), [replacing the earlier 'Night Work (Women) Convention' of 1948 (No. 89)] and the 'Night Work Convention' of 1990 (No. 171), which Egypt has not ratified. In 1981, Egypt signed the 'Convention of Elimination of All kinds of Discrimination against Women' (CEDAW) (ILO, 2016).

When women have previous employment experience, they are generally more successful once they open their own business. Across the board, entrepreneurs face many obstacles, such as a high cost of social security, registration and taxes, causing many to be reluctant to hire employees. Consequentially, 80% of MSEs in Egypt are operating informally. More so, 70% of employees hired in the private sector work on temporary contracts or on an informal basis, without social security (CAPMAS, 2015). Thus, women entrepreneurs employ informal employees. While informal work causes a lack of security for some, it is the complete opposite for others, who do not wish to be registered so they are able to retain another government job and pension, while avoiding paying taxes (ILO, 2016).

Women living in rural and remote areas have some difficult reaching distant registration offices. However, the main barrier impeding entrepreneurs from registering their businesses is time, followed by awareness of the business registration process, the amount of government reporting required to the government, and cost of registration as claimed by WES (ILO, 2016).

Egypt's Personal Status Law affords women the same rights as men to own land, be sole-proprietors, and have full control of the asset. From the age of 21, a man or woman has the full

right to deal with his/ her property. However, estimates of female land ownership are extremely low. According to Egyptian government estimates, 96% of landowners were male in 2000 (USAID, n.d.). Later on, in 2006, the Organization for Economic Co-operation and Development (OECD) reported 8.2% female ownership of agricultural land. The lack of land ownership disadvantages women when applying for credit or loans, since they cannot use their land as collateral.

The lack of land ownership amongst women is largely due to inheritance laws that grants female heirs, of any religion, only half the amount that is given to their male counterparts (in the case of siblings) as part of the Islamic Shari'a based Personal Status Law No. 77/1943 and No. 71/ 1946. The laws are derived based on a concept of relative equality rather than absolute equality, given the belief that men are responsible for women from a financial standpoint (UNDP, 2006). Often times, women are denied their land inheritance rights all together because there is a fear of losing a family's assets to the family of the wife. Thus, there is little incentive for women in agricultural communities to have business aspirations, knowing that they can never become land owners (USAID, n.d.).

## *2. Access to financial services*

While some financing options are available and there are government, non-profit organizations and international organizations that provide business development services, women entrepreneurs face challenges accessing these services which are mainly centralized in major cities, paying cost of transportation, or being aware of the programs (only 14% of women in the survey were aware of such programs according to WES).

The following are some insightful results form WES survey conducted by ILO (2016):

- a. More critically, 99% women entrepreneurs complained of high interest rates on loans and reported restrictive lending options (Middle East and North Africa Business Women Network).
- b. As mentioned earlier on lack of land ownership, women have difficulty presenting collateral to a financial institution to obtain loans (40% of women in the WES survey reported this problem).

- c. Other women in the survey reported that the loan amount was not sufficient to start the business (42%), and finally there is an issue of women not being taken seriously by loan officers (18%).
- d. Financial service providers do not maintain sex-disaggregated data because they apply the same financial credit assessment criteria to men and women clients. Estimates show that approximately 10-25% of bank clients are women and that most women turn to micro-financing institutions for loans.
- e. Women reported that not only do they face difficulty accessing financing to start their businesses (70% of women respondents), but also during the growth period (73% of women respondents).
- f. In 2016, about half of the women who applied for loans were successful (46.7%) with only 7% obtaining their business launch loans from banks, government loan funds, Social Fund for Development (SFD) and donor-funded projects. In a survey where 35 out of 200 women applied for loans, 42.9% went to banks, 31.4% resorted to Microfinance Institutions, and 2.9% to SFD.

SFD succeeded in providing more women with micro and small loans (Assaad & Rouchdy, 1999) reaching 1,065,717 projects between 1992-2015, which comprises more than half of the projects financed by SFD. When the Global Entrepreneurship Index investigated women's opportunities in scaling-up in 30 countries, Egypt came at third to last (rank 28) followed by Bangladesh and Pakistan. Statistics show that females are accounting for only 11% of entrepreneurs in Egypt, compared to just 3% eight years ago (GEM, 2012).

In addition to SFD, there are other prominent business development service providers that assist women entrepreneurs including the International Modernization Center (IMC) and El-Mobadara.

#### *E. Research Questions and Hypotheses*

This section aims at illustrating the research question and the hypotheses that tested later in this study.

### 1. *Research question*

The research question of this thesis is to explore whether female population's perceptual opinion of themselves and of their skills could explain their low entrepreneurial appetite.

### 2. *Research hypothesis*

This research investigates a number of hypotheses as follows;

- Hypothesis 1: *Ability to recognize opportunities* among non-entrepreneurs mediates the relationship between *Gender* and *Entrepreneurial Intention*.
- Hypothesis 2: *Entrepreneurial self-efficacy* among non-entrepreneurs mediates the relationship between *Gender* and *Entrepreneurial Intention*.
- Hypothesis 3: *Fear of failure* among non-entrepreneurs mediates the relationship between *Gender* and *Entrepreneurial Intention*.
- Hypothesis 4: *Know an entrepreneur* among non-entrepreneurs mediates the relationship between *Gender* and *Entrepreneurial Intention*.

## II. REVIEW OF LITERATURE

In this chapter, theories are reviewed to understand how entrepreneurship is tackled by the different schools of thought, followed by a deep dive into the Social Feminist Theory trying to find answers to lower level of entrepreneurship among women compared to men. Afterwards, the researcher illustrated the Global Entrepreneurship Monitor (GEM) data team's definition of the notion of entrepreneurship, their conceptual framework and its implications on its measurement. Afterwards, the conceptual framework was presented, and the choice of the perceptual variables was explained and backed up with previous literature.

### *A. Entrepreneurship as viewed through different theoretical lenses*

In order to formulate a comprehensive understanding of 'Entrepreneurship', it is required to widen our scope and investigate the multidisciplinary theories of entrepreneurship. Entrepreneurship has roots in many disciplines such as economics, psychology, sociology, anthropology, and management. This section endeavors to examine Entrepreneurship through six entrepreneurship theories as follows

#### *1. The Economic entrepreneurship theory*

According to the theory of economic entrepreneurship (Simpeh, 2011) it focuses on exploring the factors in the economy that enhance the entrepreneurial behavior which is compromised of the classical theory and the neo-classical theory that the author will walk the reader through in the following paragraph.

The classical theory: Such theory resulted from the industrial revolution in Britain and explored the leadership part played by an entrepreneur in the process of manufacturing and sharing of goods in the marketplace. It divided production into three modes which are land, capital and labor (Simpeh, 2011). This theory is criticized (Murphy et al., 2006) for its failure to explain the dynamics behind the entrepreneur's behaviors in such era. The neo-classical model was devised to counter the failures of the classical model to explain the dynamics of entrepreneur behavior where it suggests that the economic situation can be related to occasions of simple interchange and

would reflect a favorable ration and occurs clearly in closed systems in the economy (Murphy et al., 2006). As its classical counterpart (the classical model) the neo-classical model is also criticized for ignoring the individual impact and uniqueness the individual on the entrepreneurial activity, also the exchange value does not reflect the future value of innovation outcomes. Also, the situation of efficient practice does not absorb the random outputs. In addition, the perfect competition does not provide room for innovation in entrepreneurial activity (Murphy et al., 2006).

Austrian Market Process (AMP): The shortage or failures in the neo-classical movement has paved the way to the brand activity which later became known as the Austrian Market Process (AMP) and that focuses on the activities of humans within a context of an economy of knowledge. Scientists proposed that this theory stress on the access of knowledge to entrepreneurs which enables them to create and offer the market with innovative goods and services. The feeling of mastering knowledge is essential when it's perceived to create individual gains (Chell & Baines, 2000).

The former classical theories had not offered that explanation; rather it proposed the prevalence of best model of competition and argued that the same output or observations could be repeated. However, AMP rejected the assumptions of the repetition of conditions, but it proposed that entrepreneurs are accustomed to "*episodic knowledge*" which is divided into phases that are not seen before or after. Therefore, the AMP was built on three main concepts (Kirzner, 1973; Simpeh, 2011)., the basic was the market balancing where opportunities are generated for a given market factors whereas other opportunities are neglected. The second was the attention to profitable opportunities, which is seen as advantageous to entrepreneurs. The third conceptualization was the differentiation between ownership and entrepreneurship as the later does not necessitate ownership of resources, rather each opportunity is different and so the activities that precede such opportunity cannot be used to expect the efficacy of the outcomes.

The AMP model was also criticized, first it was criticized that its systems are not competitive but rather involve collaboration between resources. Second, the monopoly of resources can act as an obstacle to the competition and entrepreneurship. Third, the deceiving taxation system can also affect the activity of the market as a system. Fourth, the private and public firm's despite of their

differences, at the end can be relevant to entrepreneurs. Owing to the fact of such AMP criticism other recent explanations were explored from different disciplines namely, psychology, sociology, anthropology, and management (Acs & Audretsch, 1988).

## 2. *Psychological Entrepreneurship Theories*

The psychological theories individual traits that define entrepreneurship where it reviews the need for accomplishment and internal control in the personality traits. Empirical evidence found out three other new characteristics that are associated with the orientation of entrepreneurs who are innovators and take risks and tolerate uncertainty.

### *The theory of Personality Traits*

Coon (2004) defines personality traits as “stable qualities that a person shows in most situations”. Such qualities are granted by the trait theorists as the inborn capabilities of the individual that inherently inclines one to be an entrepreneur. In this thesis, the author seeks to investigate about the criteria relevant to the entrepreneur and that would provide some insight about such innate traits. Explaining personality traits would entail inferring from behavior and some of these behaviors are relevant to entrepreneurs and are led by opportunities, show high creativity levels and transformation denotes high managerial abilities and the business know-how. In addition to being hopeful, stable emotionally and possessing logical abilities also they are productive, committed and have high levels of perseverance, and are determinant to win. Entrepreneurs are also lifelong learners and learn from their mistakes, they have a vision and believe that they can have an impact and cherish individual’s integrity.

### *Locus of Control*

Julian rotter denotes the introduction of the concept of “Locus of Control” in personality back in the 1950s where he refers to it as the primary reason behind the events in one’s life (Rotter, 1966). That is to say that a locus of control orientation measures how the stability of our actions on our behavior or the success of the entrepreneur comes from his/her own abilities and the support that comes from the outside. “*Internal locus of control was found to be positively associated with the desire to become an entrepreneur*” (Simpeh, 2011, p.3; Bonnett & Furnham, 1991). Researchers

have found that entrepreneurs have a higher internal locus of control than other ordinary people. Moreover, a higher level of creativity, ambitious autonomy and aggressiveness were also reported.

### 3. *Sociological and Anthropological Entrepreneurship Theory*

Thirdly comes the sociological theory which tackled entrepreneurship in a way that stresses on the social context or the society which relates to entrepreneurial opportunity (Landstrom, 1998). The social network comes in the first place which stresses on strengthening social ties that promote trust versus creation of opportunities (Reynolds, 1992). That's to say that an entrepreneur should not misuse people in order to succeed rather success results from believing in people. The later called '*the life course stage context*' which analyzes the situations in life and their traits of individual who have took the decision to become business men. People's practical application of influence their ideas and actions and motivates them to accomplish goals in live. The third context is the identification of ethnicity. In other words, the social context from which the person descends suggests how the range of actions and decision he/she will take. The fourth social context is called the ecology of the population in which the factors in the environment play an important role in sustaining the businesses (Reynolds, 1992). Examples of such factors are the politics, legislative governmental rules, clients, employees and contests.

Similarly, the anthropological theory studies the culture of the people in the society in terms of the rituals, habits, and belief system. The model says that one's culture and individual ethnicity influence the new venture and the rituals within culture lead to attitudes such as innovation that lead to the formulation of other conduct (Murphy el al., 2006).

### 4. *Opportunity-Based Entrepreneurship Theory*

Peter Drucker and Howard Stevenson are considered founders of the opportunity-based theory which provides a wide range of entrepreneurial concepts and argues that entrepreneurs do not induce change but make use of opportunities, they are in continuous quest for change and scrutinize opportunities (Murphy el al., 2006).



## 5. *Resource- Based Entrepreneurship Theories*

*“The Resource-based theory of entrepreneurship that access to resources by founders is an important predictor of opportunity-based entrepreneurship and new venture growth”* (Alvarez & Busenitz, 2001). The different resources in finance, society, and individuals are emphasized by this theory therefore acquire resources that improves the individual’s propensity to pinpoint opportunities. There are three types of theories as a sub of the resource-based entrepreneurship theories which tap into the different resources like the financial, social and human.

*Financial Capital/Liquidity Theory:* Empirical studies argue that launching of new businesses is more occurring when people can tap into financial resources and suggests that resources are acquired by people with financial resources who are effectively capable of making use of opportunities found by entrepreneurs, and eventually orient their business accordingly. Other studies argue that this theory shows that most entrepreneurs launch their new businesses without much capital, but this does not negate the possibility of starting a firm without much resources. Therefore, the availability of the resources is a determining factor of the growth of the new business but not essentially the launching of a new business. This theory suggests that entrepreneurs have personalized resources that enables them to reap new opportunities and combining of new factors for the newly launched firm. Some individuals are able to recognize and make use of opportunities than others because they can better access information and available knowledge (Alvarez & Busenitz, 2001).

*Social Capital or Social Network Theory:* *“Entrepreneurs are embedded in a larger social network structure that constitutes a significant proportion of their opportunity structure”* (Clausen, 2006). An important distinction was made between an individual who are able to recognize that opportunities exist, however might not be able to change this opportunity into a business startup. Research shows that the powerful social connections to resource providers facilitate resource acquisition and improve making use of opportunities.

*Human Capital Entrepreneurship Theory:* The two elements that are fundamental to this theory are education and experience (Becker, 1975). Gaining information and practical application of education offer knowledge that represents a resource that is shared across people in a

heterogeneous manner and is important to the understanding of differences in the allocation of opportunities. *“Empirical studies show that human capital factors are positively related to becoming a nascent Entrepreneur, increase opportunity recognition and even entrepreneurial success”* (Simpeh, 2011, p.6)

### *B. Is entrepreneurship gender biased?*

Lately it has been noted that the number of female entrepreneurs is increasing with fastness recently in developing countries and on the same wavelength comes the developed countries, however the empirical evidence still shows that the number of businesses owned by women compared to men is significantly lower or the percentage of men to women as business owners is as twice as woman (Camelo-Ordaz et al., 2016).

Among those factors affecting the gender decision making process are the socio-demographic factors like (gender, age, educational level, employment status) in addition to individual conceptual factors like (self-efficacy, ability to seize opportunities, fear of failure, regretful thinking, patience) (Koellinger et al., 2007). As most studies have found a higher power of individuals' characteristics to influence the entrepreneurial venue in comparison to other variables, in this study the mediating effect will be explored in more depth studying perceptual factors on the entrepreneurial intention and explore the relationship between gender and entrepreneurial decision-making process (Arenius and Minniti, 2005).

Social Feminist Theory (SFT) proposed that there are a number of different socialization factors and experiences relevant to their '*gender*' that will lead them to show different rational in viewing the world, they might be different but equally important to the welfare of society (Fischeret al., 1993). The SFT posits that these prominent differences might stem from the earliest experiences in life, which explains that men and women differ not only in their entrepreneurship but also in general. From one perspective, women have a higher desire for balancing between their work and family life, and thus the desire for economic wealth diminishes a case that could explain the lower female entrepreneurial activities in comparison to men (Jennings and McDougald, 2007). Also, on the Psychological level, men are more autonomous, independent, self-confident and risk-takers

and therefore the SFT suggests that women are less likely to exhibit entrepreneurial intentions than their male peers. Other factors such as attitudes, subjective norms, and perceived behavioral control should be considered as empirical research showed that they mediated the impact of gender on entrepreneurial intention, in addition to the role of education, parents who are entrepreneurs and the proactive type of personality (Camelo-Ordaz et al., 2016). As a result of the different experiences women have they can perceive that they are less efficient relative to entrepreneurial activities and are less capable of seizing opportunities, and fear to fail than their male counterparts. The society as well is playing a big role in signaling messages that entrepreneurship is a masculine career.

### *C. GEM Definition of Entrepreneurship*

One of the distinguished features of GEM is to identify entrepreneurs from the phase of identifying opportunities phase to the owning and managing phase of an established business is one of the distinguishing features of GEM. The GEM team defines entrepreneurship as: *"Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business"* (GEM website). Thus, GEM's definition is not only limited newly registered businesses, but it applies a generic view of new business activity and adopts an occupational perspective of entrepreneurship that's different than official registered new businesses. For years, GEM has focused on combining two stages, one before launching a new firm and the stage that directly follows after the launching phase. This phase is defined as "early-stage entrepreneurial activity" (TEA) (GEM Global Repot, 2016).

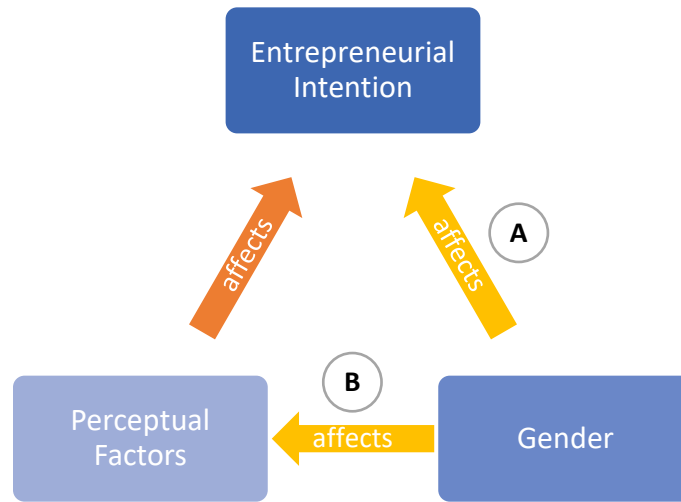
### III. Chapter 3 Conceptual Framework

It has been long-established that starting new ventures is a male-dominated business; women are less likely to start their own businesses. However, in an attempt to understand the underlying factors contributing to this phenomenon, some researchers explored the influence of perceptual factors on entrepreneurship. As examined in the literature review section, one of the most important factors that influence entrepreneurship and particularly women entrepreneurship are perceptual factors; how individuals do evaluate themselves and their capabilities and the influence of role models in their lives. Most of the research that has been carried out analyzed the attitudes of entrepreneurs. In this research the influence of such factors on the entrepreneurial intentions will be studied among non-entrepreneurs of both genders in Egypt. In this thesis; the perceptual factors examined are fear of failure, ability to recognize opportunities, self-efficacy and knowledge of other entrepreneurs. Although these perceptual factors are self-reported status; it is the self-awareness and recognition that count. What makes a difference in the individual intention to start a new venture is his/her ability to believe in him/herself. This thesis aims at providing empirical evidence on the influence of perceptual factors on the entrepreneurial intentions among women and men in Egypt.

#### A. *Entrepreneurial intentions*

*“Entrepreneurial intentions were studied in the past years, as a tool in the prediction of planned behavior”* Krueger et al. (2000) found different forces that can affect entrepreneurial intentions. The existence of role models was one of the main factors. They found that role models can affect inclination by altering someone's values and incentives. In addition, researchers found out that if someone's belief is changed by role models then he/she is able to venture into a new venue that would eventually transform one's intentions. According to Krueger et al., if the situations to start a new business are not favorable concerning a particular period in time intentions can be more powerful than personal characteristics. The researchers found that the role played by parents as role models and their experience can shape one's perception about the business ability coupled with the business information that can lead people to start a business.

**Figure 3.1: Conceptual Framework**



*Perceptual Factors are: Fear of failure, Self-efficacy, Ability to recognize opportunities and Knowledge of an entrepreneur. Control Variables are: Age, educational attainment, work status*

Among the forces that affect people’s decision to start a new business, are avoiding failure, confidence about the needed information of the social network of entrepreneurs and there demographic, and educational levels. In addition, there is the effect of the societal factors, which is the conviction of the individual that most people in his geographic area consider entrepreneurship as good career choice. That’s to say, testing whether a favorable public opinion about entrepreneurship as a career option, can positively affect one’s intentions to become an entrepreneur

*B. Ability to recognize opportunities*

Recognizing opportunities is a crucial factor in the entrepreneurial process (Ozgen and Baron, 2007). Research shows that the ability to recognize opportunities increases the probability of becoming entrepreneurs. To reap the opportunities is a cognitive process, that is possessed by certain people who are more are strongly determined to create new experiences. Therefore, many researchers like Langowitz and Minniti (2007) found evidence that the ability to recognize opportunities is positively related to the entrepreneurial intention of men and women, with the effect being stronger in the case of men.

Researches show that when men and women go through different social processes during their lives it cause them to develop human experience and education and consequently different abilities to recognize opportunities. Researchers such as Arenius and DeClercq (2005) argued that such different configurations of human capital result in men and women accessing different network contacts; consequently, their likelihood of perceiving opportunities is affected. There is a direct and a positive association between the human and social stock of both men and women and recognizing entrepreneurial opportunities, men possess higher stocks of social capital and therefore they discover more opportunities than women. Therefore, the differences in human capital and social capital that accrue due to different social experiences develop different abilities to recognize opportunities and motivations to become entrepreneurs. The acquired entrepreneurial experiences that women acquire upon becoming an entrepreneur leads to an evolution in their human capital and so women could be more motivated to improve their ability to recognize opportunities, and therefore equating themselves on the same level as men and so such acquisition of such entrepreneurial experiences creates a positive impact on women's entrepreneurial intention (Boden and Nucci, 2000)

### *C. Entrepreneurial self-efficacy*

This concept was derived from the Social Learning Theory (Kickul et al., 2008) which is based on the person's confidence and perception of their own skills that allow them to succeed in certain tasks. Similarly, in an entrepreneurial sense, self-efficacy can be defined as one's confidence in the capability to succeed in entrepreneurial tasks plays such efficacy affects the perseverance of entrepreneurs to establish or managed a new endeavor. Empirical evidence suggests that a higher percentage of women versus men are discouraged to venture into the entrepreneurial career or the involvement in entrepreneurial activities because they think they lack the necessary abilities. Building on this concept, women may perceive themselves as less efficient than men in their business abilities because they are less involved in the business roles and are not facing the expectations to start a business (Wilson et al., 2007). Prominent researches identified the importance of self-efficacy in the consideration of entrepreneurship as a professional career and emphasized that women would limit their choices in career selection because of their misconception that they lack abilities they consider necessary for such career. Such results were

seen among both female adolescents and MBA students who showed lower rates of entrepreneurial self-efficacy and entrepreneurial intention than their male counterparts. The ability to recognize opportunities was found by many researches to be positively related to the entrepreneurial intention of men and women and being in favor of men more than women. Some empirical studies have examined the impact of gender on fear of failure. Most of such studies have concluded that women are more against taking risks than men (Camelo-Ordaz, 2016).

Such increased fear of failure reported by women can be explained by SFT as men and women are originally different by nature and these differences will lead them to operate and make different choices or seek fewer risks for Moreover, the society views women as conservative and risk avoidant whereas men are considered more entrepreneurial and more risk tolerant. Such arguments lead us to conclude that owing to the fact that women report higher level of fear of failure than men this could explain a lower female inclination to venture into a business (Wilson et al., 2007).

#### *D. Fear of failure*

After doing literature review, many show that entrepreneurs must be capable of facing risky situations, and the fear of failure can affect entrepreneurial acquisitions (Arano et al., 2010). According to Minniti (2009, p.50) claimed that

*“most individuals are risk adverse and the perceived fear of failure is an important component of the risk attached to starting a new business, and thus a reduced perception of the likelihood of failure should increase the probability that an individual will start a new business.”*

Many research shows that the intention to venture into entrepreneurship is positively related to the toleration of risk, and the fear to risk reduces individuals' ability of becoming self-employed. Most studies have concluded that women, in general, are more risk averse than men. Research show that men and women are different by nature and such differences will drive women to seek fewer risks (Watson and Robinson,2003). Moreover, women are seen by society as conservative and risk averse, whereas men are considered more entrepreneurial and risk-taking (Powell and Ansic,1997). Both men and women consider men more risk tolerant than women, and women

believe that men have a lower fear of failure while men do not consider themselves are. Therefore, the above arguments could make us conclude that women report fear of failure more than men and this could explain a lower probability of female inclination to start a business. Nevertheless, some research report that women who have become entrepreneurs show the same level of fear of failure as their male counterparts. So, this paper holds that there are entrepreneurs share common characteristics, whether they are men or women. This leads to us to conclude that once men and women venture into business the gender differences toward entrepreneurship tend to disappear as they share the same motivations, beliefs and knowledge.

#### *E. Knowing other entrepreneurs-social networks*

This indicator is multifaceted and measured in different ways and in an attempt to arrive at the variable that best match the research questions and the data set used, the concepts of social capital, social network theory, homophily and role model were explored.

*“During formation, new ventures require many resources, ranging from information and capital to symbolic support such as legitimacy”* (Singh et al., 1986). Due to the shortage in resources, entrepreneurs often cooperate with outside parties to provide many of these needed resources. In addition to providing access to financial resources, social capital that is extracted from such network is important because it can provide the entrepreneur access to trusted sources of information which would lead to success.

Nahapiet and Ghoshal (1998) discussed how social resources and networks create good conditions for the aggregation and exchange of knowledge that lead to formulation of new knowledge. In addition, the social encounter between an individual and the contacts in the may be an important source of new ideas. Also, networks are associated with the number of new chances discovered by business people the network of the individual can provide access to knowledge that is not currently available and therefore leads to the recognition of opportunities.

In order to understand how social capital is induced, this paper highlights the way interpersonal relationships or what is known as the social network theory. The main idea of the social network



theory is its double focus on both individual actors and the interpersonal relationships connecting people. Literature argue that when individuals interact with others they gain access to information, which in turn are linked to others, and such connection influences the availability, timeliness of getting information the position of an entrepreneur in social networks may determine the outcome and the resources available in social networks in the entrepreneurial contexts. When there is the number of firms in a given area increases then the amount of knowledge needed for people to start business would be abundant. This spread of knowledge and enables more persons to start their own businesses.

Moreover, the position in social networks determines the different kind of factors affecting on entrepreneurs. The combination of such actors affects the diversity of information, where the more closely connected such factors the higher the degree of repetition of information. Homophily or love of the sameness is a sociological principle that suggests that individuals with similar characteristics will form interpersonal relationships higher than different individuals. Studies of homophily suggest that resources moving through a network tend to be centralized around a specific attribute such as age, gender, or education level. That's to say the more similar individuals are on a specific attribute, the more the resources will flow quickly among them. In the opposite case, individuals who are different on a specific attribute are also more "distant" in the network. (McPherson et al., 2001).

Works in various social sciences such as in psychology has highlighted the importance of role models due to their ability to enhance the different capabilities on the self. In economics, Minniti (2004) has discussed in the positive change in individuals' confidence generated by the presence of role models and their ability to reduce ambiguity. The role theory suggests that behavior is learned throughout different stages of the life cycle. Role models act as someone whom we shape our learning behavior upon. Researchers have argued that role models provide an observational learning experience for the individual (Lent, Brown, & Hackett, 1994). Researchers have found that the roles played by parents are important in shaping the individual's perception for venturing into business. Furthermore, the role model can vividly influence an individual by taking an active role in the learning experience. These activities may include advice and counsel and co-participation in unified learning experiences.

## IV. Methodology and Data

This thesis aims at providing empirical evidence on the influence of perceptual factors on the entrepreneurial intentions among women and men in Egypt, hence this research focused on examining the non-entrepreneurs in order to shed light on the differences between genders. Using a sample secondary data collected by the Global Entrepreneurship Monitor (GEM) team in Egypt for the years 2008, 2010, 2012, and 2015. A total of 8,690 Egyptian individuals were explored to assess the impact of the perceptual factors on the relationship between gender and entrepreneurship.

### *A. Study population*

The population of this study is the total population, male and female Egyptians, aged between 15 to 64 in Egypt for the years 2008, 2010, 2012, 2015. The study aims at conducting quantitative data analysis of individual-level secondary data sets. This research utilized a nationally representative survey data of independent samples collected in the years 2008, 2010, 2012, and 2015. The data was later pooled to assess the relationship between gender and entrepreneurship in Egypt. The study presents analyses describing what impact the perceptual factors have on male and female non-entrepreneurs in Egypt. The 15 - 64 age group represents the adult population and they constitute currently 61% of the total population and equally of the male and female sub-populations (The World Development Indicators, 2017).

### *B. Research design*

The study adopts a quantitative research design. The data used came from a secondary data sources collected by the GEM team in Egypt. The data was collected using a structured questionnaire in a face-to-face interview format with the respondents. The questionnaire has multiple modules covering different aspects of entrepreneurship.

### *C. Data*

On the way to answer the research questions, the data derived from the Adult Population Survey of the Global Entrepreneurship Monitor (GEM). The Adult Population Survey is a nationally representative survey studying the entrepreneurial behavior and attitudes of individuals and entrepreneurial activity; the survey covers variety of modules and topic including information about individual-level characteristics as well as basic demographics and enterprise-level features. The individual-level section of survey has questions about the characteristics, motivations and ambitions of individuals starting businesses, as well as social attitudes towards entrepreneurship. Among which, there are special attributes in the survey discussing self-stated perceptual factors. The Adult Population Survey is a cross-sectional survey monitoring entrepreneurship level across the years and across more than 100 economies interviewing more than 200,000 individuals every year (GEM Global Report, 2015/16).

The GEM questionnaire depicts different phases of entrepreneurship. After particular answers of recurring GEM questions, as show below the individuals that represent the Adult Population Survey among which part are termed as nascent entrepreneurs, other managers who own new firms and managers who own established firms. The processes individuals go through are depicted in the figure below and are concepts discussed by the GEM research framework. Additionally, the entrepreneurial activities are identified. Among the important aspects of entrepreneurship are ceasing activities in owning and managing a business. There are some repetitive GEM questions that cover the reasons why people terminate their business as well as the reasons behind positive decision-making process (GEM Consortium, n.d.).

GEM incorporated questions in the Adult Population Survey after the study of discontinuation which provided additional information on different proportions, one proportion of the discontinued activities that have been continued in other hands, another proportion which accrue by transforming the main activity and testing which proportion have, went out of the market. GEM's collects information on what motivates entrepreneurs by focusing on individuals as units to be studied along with their aspirations and other characteristics. The use of information enables researchers to make best use of units of analysis and adopt definitions of entrepreneurship. For

example, the GEM database explores individual or business characteristics, along with the causes and consequences of venturing into a new business. What is interesting is not only the number of people involved in entrepreneurship but also the differences found in types and phases of entrepreneurship. Therefore, a variety of initiatives on entrepreneurship has been found and led the GEM and so a variety of entrepreneurial initiatives GEM studies on high-impact entrepreneurship and gender (GEM Consortium, n.d.).

#### *Data Access*

In this research, the data were pooled from the four rounds (2008, 2010, 2012 and 2015). The sample is nationally representative of individuals aged between 18 – 64 in Egypt who are eligible to be included in the sample. The data files and questionnaires used in this study were accessed through the data portal of the Global Entrepreneurship Monitor (GEM) at [www.gemconsortium.org](http://www.gemconsortium.org) for the first three rounds 2008, 2010, and 2012. The 2015 data was accessed after getting the permission of the Egyptian national team responsible for collecting Egypt's data and issuing national reports.

#### *D. Sample size and Procedures*

The Adult Population Survey (APS) of the Global Entrepreneurship Monitor (ELMS 1998) was executed on a nationally representative survey where 10,418 individuals were randomly selected using random walk sampling method. All individuals were weighted in all the rounds using gender and age group. Since the data sets across the four years were nationally representative and independent samples; the data was pooled from all four and analyzed collectively.

First, the four data sets were pooled from 2008 – 2015 into one data set. Afterwards, all the variables except the perceptual factors were examined and those cases that had refused or 'don't know' answers were removed from the data. The sample size was down 8,619. Following this step, four sub-samples were created for each perceptual factor where cases were removed if the perceptual factor is coded as 'don't know' or refused. The data was then weighted using weights constructed by the GEM data team. The data was adjusted to census data to represent the

population aged between 18 to 64 years old using gender and age breakdowns at the total population level. Variables were later standardized before constructing the analysis.

The standardization formula used was

$$x_{new} = \frac{x - \mu}{\sigma}$$

**Where:**

$x$  = the value that is being standardized

$\mu$  = the mean of the distribution

$\sigma$  = standard deviation of the distribution

**Table 4.1: Sample Sizes Used in Analysis for Each Perceptual Factor**

<i>Perceptual Factor</i>	Sample Status	Sample Size
<i>Ability to recognize opportunities</i>	Unweighted	5,952
	Weighted	5,966
<i>Self-efficacy</i>	Unweighted	6,425
	Weighted	6,412
<i>Fear of failure</i>	Unweighted	6,432
	Weighted	6,432
<i>Knowing an entrepreneur</i>	Unweighted	6,592
	Weighted	6,575

*Source: Compiled by the author using GEM Data file 2008 – 2015*

#### *E. Analysis Variables*

The list of the variables used in the analysis is described below.

- a. *Entrepreneurial Intention*: Respondents were asked if they are expecting, alone or with others, to start a new business in the next 3 years or not including self-employment. The variable was coded [1] if the answer was ‘Yes’ or coded [0] if the answer was ‘No’.
- b. *Gender*: This variable identified the gender of the respondent. The variable was coded [1] if the respondent was ‘Male’ or coded [0] if the respondent was ‘Female’.
- c. *Age*: This variable identified the respondent age, and it is a continuous variable.

- d. *Educational attainment*: This variable defined the highest educational level of the respondent attained. Variable was coded as follows; [1] if the respondent had no education, some primary or some secondary, [2] if respondent has completed secondary degree, [3] if the respondent had post-secondary degree and [4] if the respondent had a graduate experience.
- e. *Work Status*: This variable defined the work status of the respondent. Variable was coded as follows; [1] if the respondent had full -time or part-time job, [2] if respondent was not working at the time of the survey, or [3] if the respondent was retired or student.
- f. *Perceptual Factors*
1. *Ability to recognize opportunities*: Respondents were asked whether they could identify good opportunities for starting a new business in the next 6 months. The variable was coded [1] if the answer was ‘Yes’ or coded [0] if the answer was ‘No’.
  2. *Entrepreneurial Self-efficacy*: Respondent were asked whether they have the knowledge, skill and experience required to start a new business. The variable was coded [1] if the answer was ‘Yes’ or coded [0] if the answer was ‘No’.
  3. *Fear of Failure*: Respondent were asked whether fear of failure would prevent them from starting a business. The variable is coded [1] if the answer was ‘Yes’ or coded [0] if the answer was ‘No’.
  4. *Know an Entrepreneur: Do you know someone personally who started a business in the past 2 years?* The variable is coded [1] if the answer was ‘Yes’ or coded [0] if the answer was ‘No’.

All variables were coded [8] if the respondent answered, ‘*I don’t know*’ or [9] if the respondent refused to answer the question. Data were analyzed using IBM SPSS Statistics for Windows, version 22.0 (2013).

#### F. *Data management and analysis*

The data analysis started with a sample of 10,418. It is important to note that those who stated, “don’t know” when questions entrepreneurial intention, gender and other control variables were excluded from the study, arriving at a sample of 8,619 for our analysis. Among the sample, 3,166

(36.7%) expressed their intention to start a new venture in the next three years whereas 5,454 (63.3%) said they would not. The sample is almost equally split among both genders, 4,244 females and 4,356 males corresponding to 49.5% and 50.5% respectively. Afterwards, a sub-sample was created while studying the effect of each perceptual factor excluding all those who answered “don’t know” for the relevant factor and hence arriving at four sub-samples for our investigation.

### 1. *Correlations*

Correlation coefficients between the variable were calculated to check for potential collinearity issues. This was accompanied with variance inflator factor (VIF) for collinearity diagnostics.

### 2. *Mediation Analysis*

Baron and Kenny’s (1986) three-step mediation analysis was adopted. The mediation model requires the fulfillment of three conditions in order to establish a mediation effect whether in partial or in full manner. First, there is a significant relationship between the independent variable and the dependent variable in absence of the mediator. Second, there is a significant relationship between the independent variable and the mediation variable. And third, there is a significant relationship between the mediator and the dependent variable. Afterwards, if the effect of the independent variable on the dependent variable diminishes after the mediator variable is introduced to the model, then it is informally concluded that there is a mediation effect. The mediation is said to be full if the dependent variable has no longer an effect on the dependent variable. Partial mediation when the effect of the independent variable on the dependent shrinks upon the inclusion of the mediator variable.

### 3. *Logistic Regression*

The relationship between entrepreneurial intention and gender is being investigated. The dependent variable, “*Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?*” is a binary variable; respondents answered with yes or no. Consequently, binomial (binary) logistic regressions were used to analyze

the effect of gender on entrepreneurial intention. The formula of logistic regression could be explained by the following formula (Burns & Burns, 2008):

$$\text{logit}(p(x)) = \log\left(\frac{p(x)}{1-p(x)}\right) = a + b_1x_1 + b_2x_2 + \dots$$

$$p = \frac{e^{a+b_1x_1+b_2x_2+\dots}}{1 + e^{a+b_1x_1+b_2x_2+\dots}}$$

Where:

p = the probability that a case is equal to a certain category,

e = the base of natural logarithms,

a = constant and,

b<sub>i</sub> = the coefficient of the predictor variables.

The table below illustrate the variables included in the model at each step of the mediation analysis.

**Table 4.2: The Construction of the Mediation Model**

	<b>Model A</b>	<b>Model B</b>	<b>Model C</b>	<b>Model D</b>
<b>Dependent</b>	<i>Entrepreneurial Intention</i>	<i>Entrepreneurial Intention</i>	<i>Perceptual Factor</i>	<i>Entrepreneurial Intention</i>
<b>Independent</b>		<i>Gender</i>	<i>Gender</i>	<i>Gender</i>
<b>Mediator</b>				<i>Mediator</i>
<b>Control</b>	<i>Age, Educational attainment, Work Status</i>			

#### 4. Sobel Test

The purpose of Sobel test is to assess whether the mediator carries the influence of an independent variable to a dependent variable. The equation of the three tests are as follow:



Sobel test equation

$$z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$$

Where:

a = unstandardized regression coefficient of path a;

b = unstandardized regression coefficient of path b;

Sa = standard error of a;

Sb = standard error of b.

## V. Data Analysis

In an attempt to answer the research questions and hypotheses mentioned in the first chapter, a special analysis was conducted to assess the mediating effect of perceptual factors on the relationship between gender and entrepreneurial intention. The study investigated the mediation model among the non-entrepreneurs' target group. This chapter discusses the research findings upon applying quantitative data-analysis techniques.

### *Research findings among the non-entrepreneurs*

In investigating the entrepreneurial intention and gender among the non-entrepreneurs, the individual impact of each perceptual factor on the relation between independent and dependent variable was examined. There are four sections discussing the research findings for each factor. The sections namely are: ability to recognize opportunities, self-efficacy, fear of failure, knowing an entrepreneur. In each subsection, four models were constructed as follows:

- a. The first model includes the entrepreneurial intention as the dependent variable and the control variables namely age, educational attainment and work status.
- b. At this step, gender, the independent variable, got introduced to the model
- c. In the third model, gender is regressed on the perceptual factor being studied.
- d. Finally, in the fourth model, gender is regressed on entrepreneurial intention while the perceptual factor is also a predictor of the dependent variable.

#### *1. Ability to recognize opportunities*

In investigating the *entrepreneurial intention* and *gender* among the non-entrepreneurs, the influence of the ability to recognize opportunities was first examined. The sample size used for this analysis was 5,966. Out of all the respondents, 35% expressed their intention to establish a new venture in the next 3 years while 65% stated that they will not establish any. As for the *gender* distribution, 47% were males and 53% were females and the average *age* is 34.70 years old (Table 5.1). As for the perceptual factor investigated, 43% of the non-entrepreneurs expressed their ability

to recognize ‘opportunities for starting a business in their area’ in the next six months as opposed to 57% who did not recognize any opportunities (Table 5.1).

The correlation matrix among the variables used in the model was constructed to examine potential multicollinearity. There were no worryingly high correlations. Furthermore, variance inflator factor (VIF) was calculated and it recorded way below 10 - which is the threshold that signals a ‘harmful collinearity’ (Kennedy, 1992). Therefore, it was confirmed that there are no issues of multicollinearity (Table 5.1).

**Table 5.1: Correlation Matrix for the Analysis Variables among Non-Entrepreneurs.**  
*Mediating factor: ability to recognize opportunities*

Variables	Entrepreneurial Intention	Gender	Age	Educational attainment	Work Status	Ability to recognize opportunities	VIF
<i>Mean (unstandardized)</i>	.35	.47	34.70	2.00	1.63	.43	-
<b>Entrepreneurial Intention</b>	1	.138**	-.135**	.095**	-.071**	.245**	-
<b>Gender</b>	.138**	1	-.004	.069**	-.407**	.074**	1.208
<b>Age</b>	-.135**	-.004	1	-.130**	-.146**	.001	1.052
<b>Educational attainment</b>	.095**	.069**	-.130**	1	-.141**	-.029*	1.047
<b>Work status</b>	-.071**	-.407**	-.146**	-.141**	1	-.057**	1.260
<b>Ability to recognize opportunities</b>	.245**	.074**	.001	-.029*	-.057**	1	1.008

Sample size: Unweighted = 5952 and Weighted = 5966

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

In table 5.2, Model 1 is constructed between the independent variable i.e. *entrepreneurial intention* and the three control variables; it worked as a baseline to show the model before entering the independent variable. Model 2, the independent variable, *gender*, was entered to the model. *Gender* had a significant and positive relationship with entrepreneurial intention. Model 2 is significant with 65.5% correct predictions; *gender* coefficient scored 0.255 ( $p < 0.001$ ). The first condition of the mediation model is confirmed.

In model 3, the *ability to recognize opportunities* becomes the dependent variable in order to validate its relationship with *gender*. *Gender* is positively associated with the dependent variable

and it is highly significant ( $p < 0.001$ ). Hence, the second condition of the mediation model is established.

Lastly in Model 4, the *entrepreneurial intention* was regressed on all selected variables: *Gender*, *ability to recognize opportunities*, *age*, *education*, and *work status*. First, Model 4 confirmed a significant and positive relationship between entrepreneurial intentions and *ability to recognize opportunities* where  $\beta$  equals to 0.527 ( $p < 0.001$ ). Therefore, the author confirmed the third condition necessary to establish mediation. Examining the effect of introducing the perceptual factor in model 4, we notice that *gender* coefficient went down to 0.240 and it is less significant (the p-value is less than 0.001 however its value is bigger than the p-value of coefficient of gender before introducing the perceptual variable). To confirm the mediation effect, Sobel test was conducted. Sobel test ( $Z = 4.14$ ,  $p < 0.001$ ) confirmed the mediating effect of *ability to recognize opportunities* on the relationship of entrepreneurial intention and gender.

Fulfilling the three conditions of mediation analysis and the significant Sobel test, we reject  $H_0$  and confirm the relationship between the *entrepreneurial intention* and *gender* is partially and positively mediated by the *ability to recognize opportunities*.

**Table 5.2: Results of the Binominal Logistic Regression among Non-Entrepreneurs. Mediating factor: Ability to recognize opportunities**

Variables	Model 1			Model 2			Model 3			Model 4		
	Entrepreneurial Intention			Entrepreneurial Intention			Ability to recognize opportunities			Entrepreneurial Intention		
	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )
Age	-.313***	111.777	.731	-.296***	100.133	.744	-.019	.508	.981	-.313***	104.335	.731
Educational attain.	.140***	25.346	1.151	.143***	26.150	1.154	-.082**	9.336	.921	.175***	36.212	1.191
Work status	-.184***	41.298	.832	-.076*	6.055	.927	-.079**	7.244	.924	-.060	3.570	.942
Gender				.255***	71.443	1.291	.123***	18.254	1.131	.240***	59.358	1.271
Ability to recognize opportunities										.527***	342.552	1.693
Model		191.412***			262.886***			47.229***			616.586***	
Df		3			4			4			5	
Block		191.412***			262.886***			47.229***			616.586***	
Df		3			4			4			5	
Cox & Snell R <sup>2</sup>		.032			.043			.008			.098	
Nagelkerke R <sup>2</sup>		.043			.059			.011			.135	
Percentage correct predictions		64.9%			65.5%			56.7%			67.4%	

Source: researcher calculations

Sample size: Unweighted = 5952 and Weighted = 5966

† Significance decreased. Sobel Z = 4.14\*\*\*

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

## 2. Self-efficacy

In investigating the *entrepreneurial intention* and *gender* among the non-entrepreneurs, the influence of the self-efficacy was examined. The sample size used for this analysis was 6,412. Out of all the non-entrepreneurs, 36% expressed their intention to establish a new venture in the next 3 years while 64% stated that they will not establish any. As for the *gender* distribution, 46% were males and 54% were females and the average *age* is 34.92 years old. As for entrepreneurial self-efficacy among the non-entrepreneurs population, perceptual factor investigated, 43% of the non-entrepreneurs stated that they have ‘*the knowledge, skill and experience required to start a new business*’ in the next six months compared to 57% who did not believe in their entrepreneurial skill set (Table 5.3).

To test for potential multicollinearity, the correlation matrix among the variables used in the model was calculated (Table 5.3). There were no worryingly high correlations. However, as shown in table 5.3, variance inflator factor (VIF) was computed and it recorded way below 10 - which is the threshold that signals a ‘*harmful collinearity*’ (Kennedy ,1992). Therefore, it was reassuring that there are not nay multicollinearity problems.

**Table 5.3: Correlation Matrix for the Analysis Variables among Non-Entrepreneurs.**  
*Mediating factor: self-efficacy*

Variables	Entrepreneurial Intention	Gender	Age	Educational attainment	Work Status	Self-efficacy	VIF
<i>Mean (unstandardized)</i>	.36	.46	34.92	2.00	1.63	.52	-
<b>Entrepreneurial Intention</b>	1	.130**	-.141**	.100**	-.074**	.219**	-
<b>Gender</b>	.130**	1	.005	.061**	-.403**	.240**	1.244
<b>Age</b>	-.141**	.005	1	-.143**	-.132**	-.039**	1.051
<b>Educational attainment</b>	.100**	.061**	-.143**	1	-.142**	.059**	1.050
<b>Work status</b>	-.074**	-.403**	-.132**	-.142**	1	-.153**	1.252
<b>Self-efficacy</b>	.219**	.240**	-.039**	.059**	-.153**	1	1.069

Sample size: Unweighted = 6425 and Weighted = 6412

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

In table 5.4, Model 5 is constructed between the independent variable i.e. *entrepreneurial intention* and the three control variables. All control variables have a significant relationship with the independent variable. Model 6, *gender*, was entered to the model. *Gender* had a significant and positive relationship with entrepreneurial intention. Model 6 is significant with 64.8% correct predictions, and *gender* coefficient scored 0.237 ( $p < 0.001$ ). The first condition of the mediation model is confirmed.

In model 7, we assigned *self-efficacy* to be the dependent variable in order to validate its relationship with *gender*. The results show that *gender* is positively associated with the dependent variable and it is highly significant ( $p < 0.001$ ). Hence, the second condition of the mediation model is established.

In Model 8, the *entrepreneurial intention* was regressed on all selected variables: *Gender*, *self-efficacy* and control variables (i.e. *age*, *education*, and *work status*). First, Model 8 confirmed a significant and positive relationship between *entrepreneurial intentions* and *self-efficacy* where  $\beta$  equals to 0.419 ( $p < 0.001$ ). Therefore, it is confirmed the third condition necessary to establish mediation. Examining the effect of introducing the perceptual factor in model 8, we notice that gender coefficient went down to 0.158 and it became less significant (the p-value is less than 0.001 however its value is bigger than the p-value of coefficient of gender before introducing the perceptual variable). Because it is not enough to conclude a mediation just by looking at the number, Sobel test was conducted. The Sobel Z score was 10.73 ( $p < 0.001$ ) confirming the mediating effect of *self-efficacy* on the relationship of entrepreneurial intention and gender.

From the established conditions and the confirmation of the Sobel test, we reject  $H_0$  and confirm the relationship between the *entrepreneurial intention* and *gender* is partially and positively mediated by the *entrepreneurial self-efficacy*.

**Table 5.4: Results of the Binominal Logistic Regression among Non-Entrepreneurs. Mediating factor: self-efficacy**

Variables Dependent variable	Model 5			Model 6			Model 7			Model 8		
	Entrepreneurial Intention			Entrepreneurial Intention			Self-efficacy			Entrepreneurial Intention		
	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )
Age	-.323***	127.372	.724	-.309***	117.852	.734	-.096***	13.122	.909	-.303***	108.874	.739
Educational attain.	.145***	28.918	1.156	.149***	30.400	1.161	.063*	5.708	1.065	.142***	26.463	1.152
Work status	-.187***	46.301	.829	-.087**	8.740	.916	-.147***	26.707	.863	-.060*	3.996	.942
Gender				.237***	66.530	1.267	.431***	237.299	1.539	.158***	28.090	1.172
Self-efficacy										.419***	220.904	1.521
Model		220.971***			287.445***			420.131***			514.210***	
df		3			4			4			5	
Block		220.971***			287.445***			420.131***			514.210***	
df		3			4			4			5	
Cox & Snell R <sup>2</sup>		.034			.044			.063			.077	
Nagelkerke R <sup>2</sup>		.046			.060			.085			.106	
Percentage correct predictions		64.8%			64.8%			61.7%			65.6%	

Source: researcher calculations

Sample size: Unweighted = 6425 and Weighted = 6412

† Significance decreased. Sobel Z = 10.73\*\*\*

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001



### 3. Fear of failure

In investigating the *entrepreneurial intention* and *gender* among the non-entrepreneurs, the influence of the fear of failure was examined as the third perceptual factor discussed in this thesis. Out of non-entrepreneurs, it was observed that 36% mentioned their intention to establish a new venture in the next 3 years while 64% stated that they will not establish any. As for the *gender* distribution, 46% were males and 54% were females and the average *age* is 34.81 years old. As for expressing fear of failure, 36% of the non-entrepreneurs expressed their fear of failure in a way that ‘*would prevent them from starting a business*’ as opposed to 64% who did not express such fear. Table 5.5 presents the correlation coefficients among the variables used in the model examining the fear of failure impact on the investigated relationship. There were no worryingly high correlations and hence there is no obvious multicollinearity. Yet, variance inflator factor (VIF) was calculated to ensure absence of potential multicollinearity and it the results were way below 10 - which is the threshold that signals a ‘*harmful collinearity*’ (Kennedy ,1992). Therefore, it was confirmed that there are no issues of multicollinearity.

**Table 5.5: Correlation Matrix for the Analysis Variables among Non-Entrepreneurs.**  
*Mediating factor: fear of failure*

Variables	Entrepreneurial Intention	Gender	Age	Educational attainment	Work Status	Fear of failure	VIF
<i>Mean (unstandardized)</i>	.36	.46	34.81	2.02	1.63	.36	-
<b>Entrepreneurial Intention</b>	1	.126**	-.142**	.099**	-.073**	-.072**	-
<b>Gender</b>	.126**	1	.008	.053**	-.392**	-.073**	1.189
<b>Age</b>	-.142**	.008	1	-.144**	-.133**	-.038**	1.051
<b>Educational attainment</b>	.099**	.053**	-.144**	1	-.140**	-.031*	1.050
<b>Work status</b>	-.073**	-.392**	-.133**	-.140**	1	.047**	1.235
<b>Fear of failure</b>	-.072**	-.073**	-.038**	-.031*	.047**	1	1.008

Sample size: Unweighted and Weighted = 6432

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Model 9 is constructed between the independent variable i.e. *entrepreneurial intention* and the three control variables; it worked as a baseline to show the model before entering the independent variable (Table 5.6). Model 10, the independent variable, *gender*, was entered to the model. *Gender* had a significant and positive relationship with entrepreneurial intention. Model 10 is significant with 64.5% correct predictions; *gender* coefficient scored 0.228 ( $p < 0.001$ ). The first condition of the mediation model is confirmed.

In model 11, the *fear of failure* becomes the dependent variable in order to validate its relationship with *gender*. *Gender* is negatively associated with the dependent variable and it is highly significant ( $p < 0.001$ ). Hence, the second condition of the mediation model is established.

Lastly, we regress in Model 12 the entrepreneurial intentions on all selected variables: *Gender*, *fear of failure*, and the control variables. First, Model 12 confirmed a significant and negative relationship between entrepreneurial intentions and *fear of failure* where  $\beta$  equals to -0.146 ( $p < 0.001$ ). In other words, when entrepreneurial intention increases the fear of failure in establishing a new business decreases among the non-entrepreneurs. Therefore, we confirmed the third condition necessary to establish mediation.

Examining the effect of introducing the perceptual factor in model 12, we notice that gender coefficient went down to 0.219 and it is less significant (the p-value is less than 0.001 however its value is bigger than the p-value of coefficient of gender before introducing the perceptual variable). To confirm the mediation effect, Sobel test was conducted. Sobel test ( $Z = 3.66$ ,  $p < 0.001$ ) confirmed the partial mediating effect of *fear of failure* on the relationship of entrepreneurial intention and gender. Hence, we reject  $H_0$  and confirm the relationship between the independent and dependent variables is negatively mediated by the *fear of failure*.

**Table 5.6: Results of the Binominal Logistic Regression among Non-Entrepreneurs. Mediating factor: Fear of failure**

Variables Dependent variable	Model 9			Model 10			Model 11			Model 12		
	Entrepreneurial Intention			Entrepreneurial Intention			Fear of failure			Entrepreneurial Intention		
	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )
Age	-.323***	128.714	.724	-.311***	119.867	.733	-.085**	9.916	.919	-.318***	124.464	.728
Educational attain.	.143***	28.380	1.154	.148***	30.300	1.160	-.068*	6.326	.935	.144***	28.634	1.155
Work status	-.186***	45.972	.830	-.092***	9.834	.912	.023	.653	1.024	-.091**	9.518	.913
Gender				.228***	62.502	1.256	-.139***	23.886	.870	.219***	57.545	1.245
Fear of failure										-.146***	28.945	.865
Model		221.318***			283.766***			50.737***			313.029***	
df		3			4			4			5	
Block		221.318***			283.766***			50.737***			313.029***	
df		3			4			4			5	
Cox & Snell R <sup>2</sup>		.034			.043			.008			.047	
Nagelkerke R <sup>2</sup>		.046			.059			.011			.065	
Percentage correct predictions		64.6%			64.5%			64.0%			64.4	

Source: researcher calculations

Sample size: Unweighted and Weighted = 6432

† Significance decreased. Sobel Z = 3.66\*\*\*

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

#### 4. *Knowing an entrepreneur*

Investigating the relationship *entrepreneurial intention* and *gender* among the non-entrepreneurs, one last factor yet important as stated in the literature, was studied that is the influence of the knowing an entrepreneur. Out of all the respondents, 36% expressed their intention to establish a new venture in the next 3 years while 64% stated that they will not establish any. As for the *gender* distribution, 46% were males and 54% were females and the average *age* is 34.88 years old. As far as knowing an entrepreneur, 32% of the non-entrepreneurs stated knowing ‘*someone personally who started a business in the past 2 years*’ compared to 68% who did not know any entrepreneurs.

In an attempt to investigate potential multicollinearity, correlation coefficients were calculated. Again, no troublingly high correlations. Variance inflator factor (VIF) was calculated and it recorded way below 10 (Table 5.7) - which is the threshold that signals a ‘*harmful collinearity*’ (Kennedy ,1992). Hence, potential multicollinearity problems were dismissed.

**Table 5.7: Correlation Matrix for the Analysis Variables among Non-Entrepreneurs.**  
*Mediating factor: knowing an entrepreneur*

Variables	Entrepreneurial Intention	Gender	Age	Educational attainment	Work Status	Knowing an entrepreneur	VIF
<i>Mean (unstandardized)</i>	.36	.46	34.88	2.00	1.64	.32	-
<b>Entrepreneurial Intention</b>	1	.129**	-.139**	.101**	-.076**	.119**	-
<b>Gender</b>	.129**	1	.006	.063**	-.397**	.163**	1.212
<b>Age</b>	-.139**	.006	1	-.147**	-.132**	-.029*	1.051
<b>Educational attainment</b>	.101**	.063**	-.147**	1	-.142**	.119**	1.061
<b>Work status</b>	-.076**	-.397**	-.132**	-.142**	1	-.105**	1.241
<b>Knowing an entrepreneur</b>	.119**	.163**	-.029*	.119**	-.105**	1	1.041

Sample size: Unweighted = 6592 and Weighted = 6575

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Model 13 is constructed between the *entrepreneurial intention* and the three control variables showing significant relationship with the three control variables. Model 14, the independent variable, *gender*, was introduced to the model. *Gender* had a significant and positive relationship with entrepreneurial intention. Model 14 is significant with 64.7% correct predictions; *gender* coefficient scored 0.232 ( $p < 0.001$ ). The first condition of the mediation model is confirmed. In model 15, *knowing an entrepreneur* becomes the dependent variable in order to validate its relationship with *gender*. *Gender* is positively associated with the dependent variable and it is highly significant ( $p < 0.001$ ). Hence, the second condition of the mediation model is established.

Finally, in Model 16 the *entrepreneurial intention* was regressed on all selected variables: *Gender*, *knowing an entrepreneur*, and the selected control variables. First, Model 16 confirmed a significant and positive relationship between entrepreneurial intentions and *knowing an entrepreneur* where  $\beta$  equals to 0.186 ( $p < 0.001$ ). Therefore, we confirmed the third condition necessary to establish mediation. Examining the effect of introducing the perceptual factor in model 16, the gender coefficient went down to 0.206 and it is less significant (the p-value is less than 0.001 however its value is bigger than the p-value of coefficient of gender before introducing the perceptual variable). To confirm the mediation effect, Sobel test was conducted. Sobel test ( $Z = 4.15$ ,  $p < 0.001$ ) confirmed the partial mediating effect of *knowing an entrepreneur* on the relationship of entrepreneurial intention and gender. We reject  $H_0$  and confirm the relationship between the independent and dependent variables is positively mediated by knowing an entrepreneur.

**Table 5.8: Results of the Binominal Logistic Regression among Non-Entrepreneurs. Mediating factor: Knowing an entrepreneur**

Variables Dependent variable	Model 13			Model 14			Model 15			Model 16		
	Entrepreneurial Intention			Entrepreneurial Intention			Knowing an entrepreneur			Entrepreneurial Intention		
	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )	Coefficient $\beta$	Wald	Exp.( $\beta$ )
Age	-.318***	126.776	.728	-.305***	117.744	.737	-.047	2.824	.954	-.304***	115.660	.738
Education attain.	.145***	29.977	1.157	.149***	31.193	1.161	.222***	66.724	1.249	.130***	23.521	1.139
Work status	-.190***	48.909	.827	-.094**	10.312	.911	-.079**	7.142	.924	-.088**	8.965	.916
Gender				.232***	65.756	1.261	.312***	113.670	1.366	.206***	50.553	1.228
Knowing an entrepreneur										.186***	50.010	1.204
Model	225.182***			290.857***			263.328***			340.533***		
Df	3			4			4			5		
Block	225.182***			290.857***			263.328***			340.533***		
Df	3			4			4			5		
Cox & Snell R <sup>2</sup>	.034			.043			.039			.050		
Nagelkerke R <sup>2</sup>	.046			.059			.055			.069		
Percentage correct predictions	65%			64.7%			68.5%			65.9%		

Source: researcher calculations

Sample size: Unweighted = 6592 and Weighted = 6575

† Significance decreased. Sobel Z = 5.96\*\*\*

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

## VI. Discussions and Conclusions

In this thesis, the researcher tried to explore the paradox relationship between gender and entrepreneurship. Pathways were explored to understand what obstruct women from pursuing entrepreneurship in Egypt. The research question of this thesis is to explore whether female population's perceptual opinion of themselves and of their skills could explain their low entrepreneurial appetite. The set of hypotheses were testing whether the perceptual factor among non-entrepreneurs mediates the relationship between *Gender* and *Entrepreneurial Intention*.

As for the non-entrepreneurs, the research managed to establish a mediation influence of the four factors tested in this study on the relationship between *Gender* and *Entrepreneurial Intention* in Egypt. It is concluded that a woman's trust in her own knowledge and skills has a partial effect on her willingness to start her own business. Her ability to recognize opportunities in her community is also have a partial effect on entrepreneurial intention, if a woman is capable of recognizing an opportunity in her are she more likely to start a business compared to those who cannot recognize one. In addition, if women are less fearful from failure starting a business, they are more likely to start a business. Lastly, this research tried to inspect the influence of role models on the women's entrepreneurial intention, this was tested through asking respondents if they know an entrepreneur who started a business in the past two years. It was evident that knowing an entrepreneur who started a business in the recent years has a mediated effect on women entrepreneurial intention. These conclusions were derived using Global Entrepreneurship Monitor data – a nationally representative sample of Egypt over the years 2008 – 2015.

In Egypt, the total early-stage entrepreneurial activity for women is 3.7% out of female adult population where Egypt ranked 52 out 60 countries compared to men TEA of 11.1% out of male adult population according to Global Entrepreneurship Monitor (GEM) Egypt National Report 2015/2016. In addition, the country is characterized with one of the lowest women's economic participation rate in the world where women labor force participation marks only 23% in 2016 and an unemployment rate of 23.6%.

Since 1960s, government jobs have been the haven for women's employment offering decent working conditions, reasonable working hours and paid maternity leaves representing almost half of women employment in 2012. However, the government has been trying to downsize and has almost stopped hiring particularly women. The formal private sector jobs could not replace the public-sector jobs in the Egyptian economy. Additionally, the substantial growth of the informal private sector in Egypt made no room for employment of women since it is quite hostile to women characterized with long working hours, culturally inappropriate working conditions, and non-paid maternal leaves. Women in Egypt find it difficult non-domestic paid labor and more profoundly in the private sector. As a consequence, many women are being discouraged to work and hence they fall out of the labor force by definition. A combination that led to stagnantly low female labor participation rate. From labor force to societal norms, women are not seen as an active member of the economy, they are looked upon their reproductive roles instead of their productive role. The societal roles dictate that women are preferred to stay home to take care of the household and to bring up children. This has led to the fact that women, given all the above, have less or none professional experience and hence less skills, they have less confidence in themselves to accomplish non-domestic tasks on their own, and finally less contact with outer world.

While the TEA status remains relatively low, promoting entrepreneurship amongst women can prove effective in creating employment opportunities as well as empowering women with financial and social autonomy to allow them to become a more equal decision maker within the family and or household (International Labour Organization, 2016).

Henceforth, women entrepreneurship could play a role in providing paid labor for women. With time and location flexibility, women could seek opportunities available in the market. However, there is something else that is stopping them – perceptual factors. How women think of their capabilities, their ability to explore opportunities in their communities, their fear of failure; all these elements could be an obstacle in their way. Being exposed to role models and other entrepreneurs has also proven to have an effect on entrepreneurial intention.



Women entrepreneurship development has also a great benefit to the overall economy. Elborgh-Woytek and others (2013, p.40) referred to a conclusion suggested by that:

*“raising the female labor force participation rate to country-specific male levels would, for instance, raise GDP in the United States by 5 percent, in Japan by 9 percent, in the United Arab Emirates by 12 percent, and in Egypt by 34 percent”.*

By looking at the societal values of entrepreneurship of Egypt over the years, Egypt has an advantage: People is considered as a good career choice topping the global average and also successful entrepreneurs have a high status in the society. However, in the aftermath of the 25<sup>th</sup> January revolution, the political discussion took a great margin of people’s life and hence the media. Media attention given to entrepreneurship has fallen through the years from 70.5% in 2008 to 58.5% in 2015. Since this research concluded that knowing an entrepreneur affects the relationship between gender and entrepreneurship, and the literature relates it to role models effect, it is highly recommended that the media gives more attention to entrepreneurship and give good examples of successful women entrepreneurs.

### *Recommendations*

Looking in to the future of achieving the UN’s SDG related to gender equality, it is recommended that the global community should focus on ‘*leveling the playing field*’ to afford women with an ‘*equal opportunity*’ at full participation in all facets of life, particularly the job market. This can be achieved through the implementation of non-discriminatory laws, programs and practices that afford women with ‘*basic opportunities*’ to equal access to education, healthcare, and housing.

Since promoting entrepreneurship amongst women can prove effective in creating employment opportunities as well as empowering women with financial and social autonomy to allow her to become a more equal decision maker in the family, few policy recommendations are provided as a conclusion to of this research:

- Encouraging women to start their own enterprises can be achieved by developing a supportive environment in terms of access to financing and resources needed to scale up an idea.
- Building the capacity of associations and organizations that support women's entrepreneurship would help ensure lasting support for women entrepreneurs.
- Raising awareness about successful models of enterprises run by women can help raise the confidence of other women to start their own businesses.
- Confidence training is needed just as much as practical skills to combat social stigma against women being capable independent business owners.
- Establishing networks and strategic alliances between various organizations can provide women with a comprehensive bundled tool kit to get started on the right track and to offer continued support throughout the process of building a business.
- Policies need to encourage part-time jobs arrangement which is suitable to women. This will allow women to gain professional experiences and develop their skills which will have a direct impact on their confidence in their skills and knowledge. This will also help women to navigate opportunities in their communities.
- Egypt needs to adopt a bankruptcy policy that does not result in criminalizing the entrepreneurs. This could possibly lead to less fear among potential women entrepreneurs to start new business.
- Raising awareness on the business registration and business operations models would support entrepreneurial efforts. The results are based on the women entrepreneurs' survey (WES) conducted by the ILO.

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