Journal of Knowledge Management Application and Practice
An International Journal

http://dx.doi.org/10.18576/jkmap/010204

Entrepreneurial Intentions in Jordan: Does Gender Matter?

Khalid Jarrar[1*], *Radwan Kharabsheh*[2] *and Sonia, Chien-I, Chen*[3]

[1] Head of Strategic Planning Unit, Bank of Jordan.

[2] Hashemite University, Jordan.

[3] Research Associate, Huaquio University, Xiamen, Taiwan.

Received: 3 Jul. 2019, Revised: 22 Jul. 2019, Accepted: 30 Jul. 2019.

Published online: 1 Aug 2019.

Abstract: This study uses the theory of planned behavior to investigate how gender factors influence entrepreneurial intentions in Jordan and considers what implications the study's findings have for accelerating socio-political development and economic growth in Arabic countries. To collect the data needed to conduct this study, 411 valid participants at two universities in Jordan were asked to complete a survey, and their responses were analysed using structural equation modelling multi-group analysis. The results showed that while both genders value entrepreneurship as a desirable career path, males' value it more strongly. Even though the perceived feasibility of undertaking such a career was found to be high for both genders, it was higher for females. This indicates that females are more self-confident than males that they will be successful entrepreneurs. The effects of subjective norms were found to be insignificant, with the exception of females in regard to the moderating level of analysis, which showed that while a woman's family might not approve of her decision to become an entrepreneur, she would generally ignore their disapproval.

Keywords: Entrepreneurial Intention, Theory of Planned Behavior, Entrepreneurship, Jordan, Gender, SEM.

1 Introduction

1.1 Entrepreneurial Intentions

Entrepreneurship is vital to accelerating the momentum needed to promote countries' socio-political and economic growth (Acs et al. 2008), by reducing poverty and unemployment rates (Hergnyan and Williams 2012). This form of activity is particularly relevant to today's Arabic world, when it comes to economic challenges and political chaos. Extensive research has found that current ecopolitical crises occurring in the Arab world are influenced by the cost of engaging in political, which suggests entrepreneurial activities may be relatively beneficial for boosting economy (Campante and Chor 2012; Kayadibi and Birekul 2011). It is essential for decision makers to acknowledge the significance of promoting an entrepreneurial environment due to the change of their ecopolitical relationship with advanced countries (Szirmai et al. 2011). This study adapts theory of planned behavior (TPB) to explore the gender factor of entrepreneurial engagement to see if gender influences the intention to start a business in Jorden by qualitative methodology. The research of entrepreneur intention is significant not only for Arabic countries but also for their governed countries, as it may offer relevant indications and implications for the ecopolitical challenges globally (Fattouh and El-Katiri 2012).

2 Literature Review

2.1 Problem Statement

*Corresponding author-mail: kjarrar@bankofjordan.com

The main problems that have arisen since the late 1980s are political conflicts, fluctuating oil prices, and an overall increase in military spending at the expense of economic development (Abdih et al. 2010). Inflation, poverty, and unemployment rates are increasing rapidly. Moreover, pressures on public finances have precipitated major cuts to social security and health insurance payments, and increases have been observed in the costs of education and other public services (Arezki and Gylfason 2011). Unlike older generations, since the Arab Spring, a high percentage of well-educated but disappointed young people have been forcefully expressing their opinions on political matters, and on the economic issues affecting their lives (Abdih 2011). Some governments took steps to absorb the youths' anger, by pushing through reforms and increasing employment opportunities in the public sector (Adams and Rebecca 2011). Unfortunately, these opportunities have not kept pace with educational attainments, and have served to worsen the situation by increasing the levels of disguised unemployment (Watkins 2011). According to the World Economic Forum (2011), the Arab world must create more than 75 million jobs by 2020 (a 40% increase over 2011), to keep employment rates close to present ones.

2.2 Theoretical Foundation

According to the 2009 Global Entrepreneurship Monitor (GEM) report on the Middle East and North African (MENA) countries (Allen 2007), the rates of entrepreneurship are generally lower than might be expected, based on comparisons with other nations. Moreover, the recorded rates of involvement in entrepreneurial activities average 8.5% for females, and 18.0% for males. Jordan—along with Syria and Palestine—recorded the largest gender gap, with a 4:1 ratio (4 males to 1 female) of involvement in entrepreneurship, even when including the large number of government and NGO programs that support women's entrepreneurship. In addition, it has also been observed that women choose to work in sectors that do not substantially contribute to economic growth. Accordingly, this study utilized the theory of planned behavior (TPB) to analyze gender differences, identify and understand the factors that motivate both genders toward entrepreneurship, and draw a clear distinction between male and female motivations. This step may help restructure entrepreneurship programs and create a more encouraging entrepreneurship environment.

The TPB models relationships between attitudes to a specific behavior, and the actual behavior (Ajzen 1985, 1991; Ajzen and Fishbein 2005). Central to the TPB is mediating the relationship between attitude and actual behavior (Elfving et al. 2009). It posits that three types of attitudes lead to individuals' behaviors. Behavioral beliefs represent the subjective probability that an action will create a certain result. Normative beliefs represent what one's culture / people think, believe, or expect as a result of performing certain actions. Control beliefs reflect the influences that might enable or hinder performing the behavior, and the perceived strength of these influences (Ajzen 2001).

The TPB was not specifically developed to analyze entrepreneurial behavior, but rather all types of behaviors (Engle et al. 2010). Nonetheless, it is one of the most widely used theories in the field of entrepreneurial intention (Diaz and Moreno 2010; Izquierdo and Buelens 2011). In general, if an attitude toward establishing your own business (motivation) is positive, others' opinions are encouraging (social-cultural acceptance), and the individual perceives that he or she has control over doing the behavior (feasibility / profitability), the intention will be strong, and the person will be more likely to perform the behavior. In other words, perceived behavioral control affects both intention and actual performance.

2.3 The Study Model

Literature indicates that there are several and different causes will drive both males and females' engagement in entrepreneurship (Htun and Weldon 2011). This study explores how gender influences the intention to start a business in Jonrdnbased on Ajzen's (1991) TPB concept, and Maes et al.'s (2014) work on the factorial and indictor levels of analysis. The TPB was first proposed by Ajzen (1991) as the development of the theory of reasoned action (TRA). The TRA predicted that if a person evaluates a specific behavior as a positive /favorable attitude, and believes that this behavior is important to other peoples' subjective norms it will result in a higher

level of behavioral intention or motivation. Then, the behavioral intention will be transformed to behavior (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975).

The predictive power of the TRA has been widely criticized. For instance, behavioral intention does not always lead to actual behavior, because of some situational limitations, even if a person has a good attitude toward a behavior and a supportive social norm. However, it may be difficult for him / her to have complete control over his / her behavior, because of a lack of money, time, and skills for example. As a result, Ajzen (1985) extended the TRA by adding a new variable—perceived behavioral control—to cover non-elective behaviors, and thus the theory was renamed TPB. Ajzen (1991) differentiated between factorial and indicator levels of analysis in TPB. Stating that factors (personal attitudes, subjective norms, and perceived behavioral controls) are subject to indicators (behavioral, normative, and control beliefs) that measure them respectively.

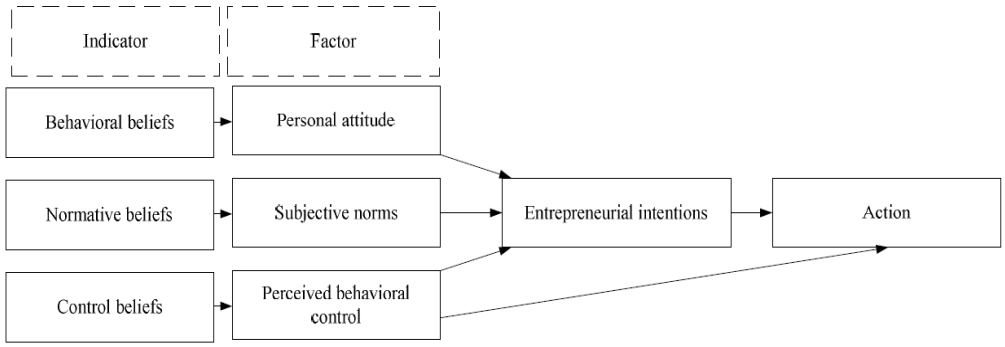

Fig.1: TPB factors and indicators Maes et al. (2014)

The TPB is not gender-blind, and is used not only to understand whether gender makes a difference, but, if it does, to also to understand how it makes a difference (Carter and Shaw 2006). Many studies have examined the influence of gender on entrepreneurial intention (Zellweger et al. 2011; Lu and Tao 2010), and gender-based differences have been reported (Langowitz and Minniti 2007; Wilson et al. 2009). For example, females have fewer opportunities to establish new businesses than males, because of gender-related limitations (Verheul et al. 2012). On the other hand, many researchers found that gender similarities are much greater than gender dissimilarities (Diaz-Garcia and Jimenez-Moreno 2009). Therefore, research on the influence of gender on entrepreneurship remains questionable.

3 TPB Methods

Personal attitude: Behavioural beliefs toward becoming an entrepreneur.

Maes et al. (2014) stated that in the process of deciding whether to become an entrepreneur or not, an individual's personal desirability plays the role of value weighted by expectancy. For example, an individual might value autonomy in a future profession, and expect entrepreneur-related professions to provide him / her with self-sufficiency (being his own boss). According to the literature, the entrepreneurial behavior of both genders is commonly influenced by various factors (Nishimura and Tristán 2011), and these are subject to different beliefs based on gender differences (Shaw et al. 2008). Carter and Shaw (2006) pointed out that in the process of establishing a new business, women search for autonomy and the ability to control their own futures. Another factor important to female entrepreneurs is job flexibility with regard to family and work life balance. In MENA cultures, women often have greater accountability for childcare activities than men, and thus entrepreneurship is viewed as a tool that can help them achieve balance between their professional and family life (Carter and Williams 2003). In addition, Georgellis and Wall (2006) found that men engaged in entrepreneurial activity are more interested in making money than women are. Though women value making money, they value it as being less significant than their need for independence.

Orhan and Scott (2001) argued that women's entrepreneurial motivations are the same as men's, but the degree of motivation is what makes a difference. Both genders value self-actualization and autonomy, but women value the prestige associated with this career and financial success less than autonomy (Van Gelderen et al. 2008). For example, females may decide to be entrepreneurs because they want job satisfaction. Men choose entrepreneurship to achieve financial success and power. Malach-Pines and Schwartz, (2008) also found that females as students and business owners put a high premium on independence, flexibility, and not having to answer to an authority, as more significant motives for starting a business than males did. Kirk and Belovics (2006) found that Asian female entrepreneurs highly valued the flexibility that comes with entrepreneurship for the benefit it provided to their families and personal lives.

DeTienne and Chandler (2007) concluded that men and women have different motives for recognizing opportunities, and they use different methods to recognize them. Based on these results, Maes et al. (2014) proposed the concept of achievement indicators vs. balance indicators that aimed to explain the different motives that led males / females to establish businesses. Maes et al. (2014) argued that males are more achievement oriented than females, who are more balance oriented. Applying the TPB, this leads to the following hypotheses:

H1: The effect of gender on entrepreneurial intentions is mediated by personal attitude.

H1a: Achievement indicators (money, challenge) are typically more male-oriented, whereas balance indicators (work-life balance, autonomy, stress, and energy) are more female-oriented.

Subjective norms: Normative beliefs toward becoming an entrepreneur

H2: The effect of gender on entrepreneurial intentions is mediated by subjective norms.

H2a: Females will be more motivated to comply with normative referents than males.

Perceived behavioral control: Control beliefs toward becoming an entrepreneur

In the process of deciding whether to become an entrepreneur or not, perceived behavioral control plays the role of importance weighted by the strength of control beliefs related to establishing a new business (Maes et al. 2014), or the extent to which individuals feel they can be involved in certain behaviors (Ajzen, 1991). According to Ajzen (2002), perceived behavioral control is composed of two parts. First are the internal feelings of control, namely the degree to which individuals conceptualize themselves as adequately having the skills, knowledge (e.g., know-how), and ability needed to perform the behavior. Second are the external feelings of control, namely, the extent to which individuals feel that situational factors, such as the cooperation of their colleagues, access to resources, or time constraints, could hinder or facilitate the behavior.

Zhao et al. (2005) found significant effects of gender on entrepreneurial intention. Langowitz and Minnitti (2007) argued that women's propensity to startup companies is subject to their learning and work experiences. Men have more experience managing human resources, more previous experience working in industry, and more previous entrepreneurial experience (Carter and Williams 2003). On the other hand, women are more highly educated than men in most countries, but their lack of experience is putting them at a great disadvantage. Machado et al. (2002) also found significant differences between males and females' managerial styles (e.g., being able to solve problems, and decision making), relationships with the market (e.g., managing money and getting people to agree with you), and entrepreneurial strategies (e.g., being creative). These results were confirmed by Wilson et al. (2007), who found a lower score for women on entrepreneurial intention and on feelings of internal control.

Moreover, government policies, one of the situational factors, were examined in relation to motivating women's' entrepreneurship (e.g., Zhang et al. 2009 found that in Poland the change from a communist to a free market society motivated woman to participate in entrepreneurship activity due to the availability of opportunities). Also, many studies have reported that women exhibit lower levels of self-confidence in their

abilities to succeed as entrepreneurs (e.g., Wilson et al. 2007). Thus, we expect that females searching for entrepreneurship will place more value on internal feelings of control such as having the abilities to recognize opportunities, sufficient knowledge, and being innovative in their assessment of the feasibility of establishing new businesses. Applying the TPB, this leads to the following hypotheses:

H3: The effect of gender on entrepreneurial intentions is mediated by perceived behavioural control.

H3a: Indicators of internal feelings of control (know-how, opportunity recognition, and creativity) are more important predictors of perceived behavioural control for women than for men.

4 Research Methods

4.1 Data Collection

Structural equation modeling (SEM) is a sampling technique suitable for large sample (usually N > 200; e.g., Kline 2005, pp. 111–178), depending on the model's complexity. According to Krejcie and Morgan (1970), a population of 10,000 or more requires a sample size of 370 to ensure obtaining the necessary response rate. The respondents from Jordan's business school at two largest public Universities were invited to complete self-administered surveys in a voluntary manner in their comfortable environment to fulfil the ethical considerations. Essentially, prospective participants are fully informed about the procedures and risks involved in research and relevant consent is given to participate.

A total of 550 respondents were asked to complete self-administered surveys, and 411 usable questionnaires were returned (74.7% response rate). In the field of entrepreneurship research, the validity of student samples has been justified, emphasized, and used in previous research (Grubuz and Aykol 2009). In addition, many studies have been able to extract valuable results from such samples. Thus, due to the nature of the data collection process, there were no missing data.

Almost 45.99% of the respondents were male, and 54.01% were female. The respondents' majors were business, accounting, economics, finance, management information systems, and risk management. At 40.15%, business students represented the largest percentage of respondents, followed by accounting students at 13.14%, and economic students 12.9%. Most of the surveyed respondents were third and fourth year students, and together represented 90% of the respondents.

4.2 Measures

The study used a questionnaire survey that was designed by Maes et al. (2014). All of the items were measured on five-point Likert scale. At the factorial level, Van Gelderen et al. (2008) developed the items related to entrepreneurial intention (EI). Krueger et al. (2000) developed the items related to personal disability (PD). Kraft et al. (2005) developed the items related to perceived feasibility (PF), and Maes et al. (2014) developed the items related to subjective norms (SN). At this level the (Gender-EI) relationship is mediated by the PD, SN, and PF. At the indicator level, gender moderated the relationship between specific belief-indicators and EI. Maes et al. (2014) developed all the items for this level of analysis.

4.3 Analytical Procedures

We conducted SEM multi-group analysis to compare the results of different models for different gender groups. SEM is generally conducted in two stages. First, researchers check the adequacy of the measurement model. Second, they check the adequacy of the structural model. SEM is a second-generation multivariate method, allows for testing second-order constructs, and is suitable for complex models with numerous exogenous and endogenous variables.

5 Results

5.1 Measurement Model

First, we measured the reliability and validity of the models. The internal reliability of the model was confirmed by measuring Cronbach's alpha. Cronbach's alpha for the constructs ranged between 0.54 and 0.77 (Table 1).

Table 1: Cronbach's alpha α

Dimension	SN indicators	PF indicators	PD indicators	SN	PF	PD	EI
No. of Items	6	5	6	4	4	4	4
Cronbach's α	0.544	0.577	0.598	0.553	0.773	0.659	0.581

According to Sijtsma (2009, p. 119), in the psychological constructs a 0.5 alpha is acceptable, as it tends to be biased downward as a measure of reliability when responses to a scale are determined by more than one underlying latent variable.

5.2 Factorial Level

The fitting indices of the model were GFI (goodness of fit index) which is considered to be high fitting when if = 1.00, good fitting when if = 0.90, and fair, when if = 0.85–0.89. The other fit index is the RMSEA (root mean square error), which is considered to be excellent when the if = 0.00, good when the if < 0.05, and fair when the if = 0.05–0.08. When testing the relationship between gender and EI as mediated by PF, PD, and SN for males and females using group comparisons, the model showed the following fitting indices: (GFI = 1.00), (RMSEA = 0.247). These values suggest satisfactorily fitting indices for the mediation model; the results are provided in the next table.

Table 2: Effects of mediators on EI for the independent models.

Impact direction	Males		Females	
	Standardized β	pro	Standardized β	pro
PF on EI	0.173	0.013	0.355	0.000
PD on EI	0.392	0.000	0.293	0.000
SN on EI	0.109	0.094	0.036	0.519

The results shown in Table 2 suggest the following: Concerning PF it seems that females are more oriented (0.355) to EI than males (0.173), given that these relations were statistically significant. Males, on the contrary, are more oriented (0.392) to PD than females (0.293), and these relations were significant. No significant effects were observed of the SN for males (beta = 0.109 with probability value = 0.094 > 0.05) or for females (beta = 0.036 with probability value = 0.519 > 0.05).

5.3 Indicator Level Hypotheses

When testing the relationship between PF, PD, and SN indicators and EI as moderated by gender, the model showed the following fitting indices: GFI = 1.00 and RMSEA = 0.192. These values suggest satisfactorily fitting indices for the moderation model, and the results are provided in Table 3.

Table 3: Effects of sex moderation on EI for the independent models on the indicator level.

Impact direction	Males		Females	
	Standardized β	pro	Standardized β	pro

PF (Believe strength & power) on EI	0.187	0.018	0.278	0.000
PD (Expectancy & value) on EI	0.164	0.035	0.149	0.025
SN (personal referent) on EI	0.049	0.492	0.189	0.003

The results shown in Table 3 suggest the following: there was no significant effect of the SN on EI for males (beta = 0.049 with probability value = 0.492 > 0.05), while the PD had an effect on EI (0.164 with probability = 0.035) and PF (beta =0.187 with probability = 0.035).

As for females, each indicator had an effect on EI, such that the effect for PD (beta = 0.149 with probability value = 0.025), PF (0.278 with probability = 0.000), and SN (0.189 with probability = 0.003) supported accepting hypothesis H2a.

Table 4: The effects PD indicators on EI as moderated by gender.

Items	Full model		Gender differences for full model			
	Stand β	R2	Stand β (males)	Stand (females)	f	sig
Autonomy	0.407	0.998	0.556	0.546	1.67	0.196
Stress	0.354		0.410	0.209	0.84	0.359
Money	0.352		0.634	0.632	1.72	0.189
Challenge	0.353		0.665	0.662	12.04	0.001*
Balance	0.374		0.506	0.604	1.33	0.248

The results shown in Table 4 suggest that PD items have an effect on EI. In general, for both genders, the largest effect was observed for autonomy (0.407). Concerning the effect of moderation, it was observed that males and females are close in their desirability for autonomy, money, and challenge in their choice to be entrepreneurs. On the other hand, males were more oriented (0.410) to entrepreneurship as a job accompanied by a lot of stressful situations than females (0.209). Females are more oriented (0.604) to entrepreneurship as a job choice that will help them achieve balance between their work and personal life, than males (0.506).

These results support the acceptance of first part of the hypothesis H1a, as the achievement indicators (money, challenge) are found to be more male oriented, with small variances, when compared to females. We reject the second part of the hypothesis, except for the work-life balance indicator, as females were found to be more oriented to this indicator. In general, PD indicators showed no significant differences between males and females (except in challenge [0.001]) as the probability values were > 0.05.

Table 5: The effects of PF indicators on EI as moderated by gender.

Items		Full model		Gender differences for full model			
		Stand β	R2	Stand (males)	Stand (females)	f	sig
Internal	know-how	0.259	0.999	0.611	0.616	0.93	0.334

feelings control	opportunities	0.269		0.576	0.569	14.94	0.000*
	creativity	0.254		0.682	0.626	4.97	0.026*
External feelings control	finance	0.288		0.468	0.510	0.34	0.556
	governmental support	0.304		0.589	0.573	3.88	0.049*
	entrepreneurial climate	0.307		0.663	0.657	0.49	0.484

The results shown in Table 5 suggest that the PF items have an effect on EI where the largest effect was observed for entrepreneurial climate (0.307). Concerning the importance of prediction, it was observed that females have larger beta coefficients in know-how (0.616) and finance (0.510) than males, with (0.611) and (0.468) respectively. All the internal feelings of control items were higher in males than females.

These results support the rejection of hypothesis H3—except for the part of *know-how*, as females scored higher beta coefficients for it than males. Significant differences were observed between males and females in PF for opportunities (0.000), creativity (0.026), and government support (0.049), while the other indicators show no significant sex differences.

Table 6: Summary of the hypotheses testing results.

Hypothes	Accepted / Rejected
H1	Accepted
H2	Accepted
H3	Rejected
H1a	H1a Part 1 Accepted / H1a part 2 Rejecte
H2a	Accepted
H3a	Rejected

6 Discussion

The discussion section will continue the dialogue under three main themes: personal desirability (PD), perceived feasibility (PF), and subjective norms (SN), for further insights.

6.1 Personal Desirability (PD)

The study found that both males and females value entrepreneurship as a desirable career path, but it is more desirable for males. The study examined the PD indicator that may drive the decisions of both genders to entrepreneurship, and found that all PD indicators are important for both genders. However, when comparing the results, males valued achievement more than females (men chose entrepreneurship to achieve financial development and power). The work-life balance indicator was found most important to females (women often have greater accountability for childcare related activities), and thus entrepreneurship is viewed as a tool to help them achieve balance between work and family. Contrary to other research findings, men are more oriented toward autonomy than women. For males, valuing autonomy means that they expect entrepreneurship to provide them with self-sufficiency (being their own boss). However, in many cultures women regularly search for autonomy through entrepreneurship, but without the permission of the male (e.g., husband) women's decisions will not be socially acceptable.

6.2 Perceived Feasibility (PF)

The PF was found to be a significant determinant for both genders. The PF score was higher for females,

thereby indicating that females have more self-confidence in their abilities to establish their own businesses. The study also examined PF indicators, and found that all of them are important for both genders. However, when only knowledge and financial means were compared, they were found to be more important for females than males. This means that if females see themselves as having the needed skills, knowledge, and resources, they will be able to perform more successfully than males. Based on the literature, for males money is important as a result and return of establishing a business, not as a mean to starting it. An interesting finding concerning the recognition of business opportunities, and the creativity of the business ideas proved to be extremely significant predictors for males. This is not the case for females, and according to the literature, females' entrepreneurship movements in developing countries are motivated by necessity, as they push to get themselves and their families out of poverty for example. Finally, government support and the presence of a supportive entrepreneurial climate were more important factors for males than females. This result raises a very important question concerning the effectiveness of disseminating women-empowering programs across the country. Females vest less importance in government support. It is possible that females do not know of or do not trust the government's efforts (e.g., bureaucratic obstacles, discrimination).

6.3 Subjective Norms (SN)

When investigated as a mediator, the SN factor was insignificant for both genders. As moderator the SN was significant for females only. This means that both genders will perform the action with no regard to what other people think; but for females' social acceptance will encourage them to perform the action, and social displeasure will discourage them, but in either case, they will perform the action. Given the cultural context these results are expected. No significant evidence was found to show that SN is higher in men than in women. The effect of culture may be implicitly included in the PD and PF factors.

7 Conclusions

This study summarizes the results of entrepreneurial intentions from a gender perspective in Jordan, discusses the implications for purposes of contributing to the existing body of knowledge, and makes the following recommendations to demonstrate the applicability of the research findings. First, there is a need to increase women's support in government, by creating permanent government offices to promote women's business ownership to facilitate their engagement in entrepreneurship. The availability of inexpensive childcare services, supported by local governments in the work place, will also help women achieve work-personal life balance. Second, government may need to be made aware of how regulations and environmental factors can influence business development. Finally, encouraging the development of entrepreneurial networks and associated facilities is critical for both genders.

These research findings imply that culture and environment may not be particularly encouraging for females to develop their enterpreneurial intention as they may not have sufficient support to be their backup in Jordan. However, this phanomona may exist in other Abrabic countries and even worldwidely. Equality in gender may be a direction to move forward as people's talent has little difference in gender, but the support has a big gap for it When equality for both genders is considered, more talented people will have a stage to perform to bring economic contributions.

Limitations and future research

This study specifies on TPB factors in entrepreneurial intention to make it focused, there may have other factors that would influence entrepreneurial intention to be developed in the future research. How the findings of this study can be applied in different research setting can be further explored. A mixed methodology can be considered to explore both deeper understanding of entrepreneur intention and conduct represented outcomes from different from different perspectives.

References

[1] Abdih, Y. (2011). Arab Spring: Closing the Jobs Gap. International Monetary Fund, Finance and Development. http://www.imf.org/external/pubs/ft/fandd/2011/06/abdih.htm. Accessed 18 August 2017.

[2] Abdih, Y., Lopez-Murphy, P., Roitman, A., & Sahay, R. (2010). The cyclicality of fiscal policy in the Middle East and central Asia: Is the current crisis different? IMF Working Papers WP/10/68, Washington: International Monetary Fund.

[3] Ács, J., Desai, S. & Hessels, J. (2008). Entrepreneurship, economic development and institutions. Small Business Economics., **31(3)**, 219–234, 2008.

[4] Adams, A., & Rebecca, W. (2011). The role of education in the Arab world revolutions. Brookings Institute, 2011.

[5] Ajzen, I. (1985). From intention to action: A theory of planned behavior" In J. Kuhl & J. Beckmann (Eds.), Action control: From cognition to behavior (pp. 11–40). New York: Springer-Verlag., 1985.

[6] Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes., **50(2)**, 179–211, 1991.

[7] Ajzen, I. (2001). Nature and operations of attitudes. Annual Review of Psychology., **52**, 27–58, 2001.

[8] Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. Journal of Applied Social Psychology., **32**, 665–683, 2002.

[9] Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior: The handbook of attitudes. Mahwah, NJ: Erlbaum.,173–221, 2005.

[10] Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. Prentice-Hall, 1980.

[11] Allen, I. E., Elam, A., Langowitz, N., & Dean, M. (2007). GEM global 2007 report on women and entrepreneurship. Babson Park, MA: Babson College. UK: Global Entrepreneurship Research Association, 2007.

[12] Arezki, R., & Gylfason, T. (2011). Commodity price volatility, democracy and economic growth. UK: Emerald Group., 9–24, 2011.

[13] Baughn, C., Chua, B. L., & Neupert, K. (2006). The normative context for women's participation in entrepreneurship: A multi-country study. Entrepreneurship Theory & Practice., **30(5)**, 687–70, 2006.

[14] Buttner, E. (2001). Examining female entrepreneurs' management style: An application of a relational frame. Journal of Business Ethics., **29**, 253–269, 2001.

[15] Campante, F., & Chor, D. (2012). Why was the Arab world poised for revolution? Schooling, economic opportunities, and the Arab Spring. Journal of Economic Perspectives., **26(2)**, 167–188, 2012.

[16] Carter, N., & Williams, M. (2003). Comparing social feminism and liberal feminism: The case of new firm growth. In J. Butler (Ed.), New perspectives on women entrepreneurs (pp. 25–50). Information Age Publishing, Greenwich, CT., 25-50, 2003.

[17] Carter, S. (2000). Improving the numbers and performance of women-owned businesses: Some implications for training and advisory services. Education and Training., **42**, 326–333, 2000.

[18] Carter, S., & Shaw, E. (2006). Women's business ownership: Recent research and policy development. DTI Small Business Service Research Report, London., 2006.

[19] Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. Journal of Business Venturing., **18(3)**, 301–331, 2003.

[20] DeTienne, D., & Chandler, G. (2007). The role of gender in opportunity identification. Entrepreneurship Theory and Practice., **31(3)**, 365–386, 2007.

[21] Díaz-García, M., & Jiménez-Moreno, J. (2010). Entrepreneurial intention: The role of gender. International Entrepreneurship and Management Journal., **6(3)**, 261–283, 2010.

[22] Elfving, J., Brännback, M., & Carsrud, A. (2009). Towards a contextual models of entrepreneurial intentions. Springer Science Business Media., 23–33, 2009.

[23] Engle, L., Dimitriadi, N., Gavidia, V., Schlaegel, C., Delanoe, S., Alvarado, I., et al. (2010). A twelve-country evaluation of Ajzen's model of planned behavior. International Journal of Entrepreneurial Behavior and Research., **16(1)**, 33–57, 2010.

[24] Fattouh, B., & El-Katiri, L. (2012). Energy and Arab economic development. United Nations Development Programme Regional Bureau for Arab States Arab Human Development Report Research Paper Series.

[25] Fishbein, M. & Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. MA: Addison-Wesley, 1975.

[26] Georgellis, Y., & Wall, H. (2006). Review: Entrepreneurship and the policy environment. Federal Reserve Bank of St. Louis, https://www.fedinprint.org/items/fedlrv/y2006imarp95-112nv.88no.2.html. Accessed 18 August 2017.

[27] Grubuz, G., & Aykol, S. (2009). Entrepreneurial management, entrepreneurial orientation and Turkish small firm growth. Management Research News, **(4)**, 321–336, 2009.

[28] Hergnyan, M., & Williams, H. (2012). Transforming Higher Education for Economic Competitiveness. In Jobs challenge: Fresh perspectives on the global employment crisis Bethesda: Developing Alternatives Initiative. https://www.files.ethz.ch/isn/153973/developing_alternatives_summer_2012.pdf. Accessed 18 August 2017.

[29] Htun, M., & Laurel W. (2012). Sex equality in family law: Historical legacies, feminist activism, and religious power in 70 countries, 2011. Background Paper for the World Development Report.

[30] Izquierdo, E., & Buelens, M. (2011). Competing models of entrepreneurial intentions: The influence of entrepreneurial self-efficacy and attitudes. International Journal of Entrepreneurship and Small Business., **13**, 75–91, 2011.

[31]Kayadibi, S., & Birekul, M. (2011). Turkish democracy: A model for the Arab world. Journal of Islam in Asia., Special Issue (**3)**, 255–273, 2011.

[32] Kirk, J. & Belovics, R. (2006). Making e-working work. Journal of Employment Counseling., **43**, 39–46, 2006.

[33] Kline, R. B. (2005). Principles and practice of structural equation modeling (2nd ed.). New York: Guilford Press.

[34] Kraft, P., Rise, J., Sutton, S., & R'ysamb, E. (2005). Perceived difficulty in the theory of planned behavior: Perceived behavioral control or affective attitude? British Journal of Social Psychology., **44**, 479–96, 2005.

[35] Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. Educational and Psychological Measurement., **30**, 607–610, 1970.

[36] Krueger, J., Reilly, D., & Carsrud, L. (2000). Competing models of entrepreneurial intentions. Journal of Business Venturing, **15(5–6)**, 411–432, 2000.

[37] Langowitz, N., & Minniti, M. (2007). The entrepreneurial propensity of women. Entrepreneurship Theory and Practice., **31(3)**, 341–364, 2007.

[38] Lu, J., & Tao, Z. (2010). Determinants of entrepreneurial activities in China. Journal of Business Venturing., **25(3)**, 261–273, 2010.

[39] Machado, A., Kliman, M., Markert, A., & Hey, J. (2002). Inferring the history of speciation from multi-locus DNA sequence data: the case of Drosophila pseudoobscura and close relatives. Molecular Biology., **19(4)**, 472–488, 2002.

[40] Maes, J., Leroy, H., & Sels, L. (2014). Gender differences in entrepreneurial intentions: A TPB multi-group analysis at factor and indicator level. European Management Journal., **32**, 784–794, 2014.

[41] Malach-Pines, A., & Schwartz, D. (2008). Now you see them, now you don't: Gender differences in entrepreneurship. Journal of Managerial Psychology., **23(7)**, 811–832, 2008.

[42] Morris, H., Nola, N., Craig, E., & Susan M. (2006). The dilemma of growth: understanding venture size choices of women entrepreneurs. Journal of Small Business Management., **44(2)**, 221–244, 2006.

[43] Nishimura, S., & Tristán, M. (2011). Using the theory of planned behavior to predict nascent entrepreneurship. Academia, RevistaLatinoamericana de Administración., **46**, 55–71, 2011.

[44] Orhan, M., & Scott, D. (2001). Why women enter into entrepreneurship: an explanatory model. Women in Management Review, **16(5)**, 232–243, 2001.

[45] Shabbir, A., & Di Gregorio, S. (1996). An examination of the relationship between women's personal goals and structural factors influencing their decision to start a business: The case of Pakistan. Journal of Business Venturing., **11(6)**, 507–529, 1996.

[46] Shaw, E., Carter, S. & Lam, W. (2008). An integrated view of gender, finance and entrepreneurial capital: theory, practice and policy. Paper presented to the Diana International Conference, Belfast, November., 2008.

[47] Shinnar, O., Giacomin, & Frank, J. (2012). Entrepreneurial perceptions and intentions: The role of gender and culture. Entrepreneurship Theory and Practice., **468(3)**, 65–69, 2012.

[48] Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. Psychometrika., **74(1)**, 107–120, 2009.

[49] Szirmai, A., Naudé, W., & Goedhuys, M. (2011). Entrepreneurship, innovation, and economic development: An overview. Entrepreneurship, Innovation, and Economic Development ., 2011.

[50] Van Gelderen, M., Brand, M., van Praag, M., Bodewes, W., Poutsma, E., & van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behavior. Career Development International., **13(6)**, 538–559, 2008.

[51] Verheul, I., Thurik, R., Grilo, I., & van der Zwan, P. (2012). Explaining preferences and actual involvement in self-employment: Gender and the entrepreneurial personality. Journal of Economic Psychology., **33(2)**, 325–341, 2012.

[52] Wagner, J., & Sternberg, R. (2004). Start-up activities, individual characteristics and the regional milieu: Lessons for entrepreneurship support policies from German micro data. Annals of Regional Science., **38**, 219–240.

[53] Watkins, K. (2011). Education failures fan the flames in the Arab world. Education for All Global Monitoring Report World Education Blog. http://tinyurl.com/edu-failure. Accessed 18 August 2017.

[54] Welter, F. (2011). Contextualizing entrepreneurship-conceptual challenges and ways forward. Entrepreneurship Theory and Practice., **35(1)**, 165–184, 2011.

[55] Wilson, F., Kickul, J., Marlino, D., Barbosa, D., & Griffiths, M. D. (2009). An analysis of the role of gender and self-efficacy in developing female entrepreneurial interest and behavior. Journal of Developmental Entrepreneurship., **14(2)**, 105–119, 2009.

[56] Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. Entrepreneurship Theory and Practice., **33(3)**, 387–406, 2007.

[57] World Economic Forum. (2011) Accelerating Entrepreneurship in the Arab World . http://www3.weforum.org/docs/WEF_YGL_AcceleratingEntrepreneurshipArabWorld_Report_2011.pdf. Accessed 18 August 2017.

[58] Zhang, Z., Zyphur, M. J., Narayanan, J., Arvey, R. D., Chaturvedi, S., Avolio, B. J., ... & Larsson, G. (2009). The genetic basis of entrepreneurship: Effects of gender and personality. Organizational Behavior and Human Decision Processes., **110(2)**, 93-107, 2009.

[59] Zellweger, T., Sieger, P. & Halter, F. (2011). Should I stay or should I go? Career choice intentions of students with family business background. Journal of Business Venturing., **26(5)**, 521–536, 2011.

[60] Zhao, H., Seibert, E., & Hills, E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. Journal of Applied Psychology., **90**, 1265–1272, 2005.