

Towards nurturing the entrepreneurial intentions of neglected female business students of Pakistan through proactive personality, self-efficacy and university support factors

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Abstract

Purpose – Nowadays in the competitive economy, the field of entrepreneurship and particularly female entrepreneurship is rapidly advancing, and its contribution to the economy is imperative. Consequently, the female business students' factors and university support factors are imperative to nurture the entrepreneurial intentions, but the literature does not address them at large. Therefore, this study aims to examine the impact of proactive personality, entrepreneurial self-efficacy and perceived university support factors on female student's entrepreneurial intentions.

Design/methodology/approach – The data from a total of 306 female students from the business schools of universities of Pakistan is collected through the personal physical-survey questionnaires. The

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Erratum: It has come to the attention of the publisher that the article, Hussain, S. (2018), "Towards nurturing the entrepreneurial intentions of neglected female business students of Pakistan through proactive personality, self-efficacy and university support factors", published in the *Asia Pacific Journal of Innovation and Entrepreneurship*, Vol. 12 No. 3, pp. 363-378, omitted the authors Sidratulmunthah and Muhammad Imran Malik. This error was introduced in the editorial process and has now been corrected in the online version. The publisher sincerely apologises for this error and for any inconvenience caused.



data were then analyzed through Partial Least Square-Structural Equation Modelling (PLS-SEM) technique for results.

Findings – The results indicate that the proactive personality, entrepreneurial self-efficacy and university support factors are the significant predictors of entrepreneurial intentions of female students. Moreover, the results also support that entrepreneurial self-efficacy partially mediates the relationship between proactive personality and entrepreneurial intentions of female students.

Originality/value – To the best of authors' knowledge, the study originality lies in the testing of university support factors and individual personality factors (entrepreneurial self-efficacy and proactive personality) as the predictors of entrepreneurial intentions. Moreover, the present study provides the useful insight for the policymakers in formulating, delivering and evaluating educational policies into the universities for female students.

Keywords Proactive personality, Entrepreneurial intention, Entrepreneurial self-efficacy, Female students, University support

Paper type Research paper

1. Introduction

In the global world, “female students as entrepreneurs” has become one of the growing topics nowadays because entrepreneurship is considered as a key factor for economic growth and job creation. During the decade of the 1970s, studies were based on early trait psychology, and the theories were not measured to broaden the concept of female entrepreneurs rather they focused on the gender as a variable (Greene and Saridakis, 2007). Later in the 1990s, female entrepreneurship became a renowned profession and field of research in the developed countries.

Female empowerment and liberation have been increased by the concept of female entrepreneurship. Now in developed countries, the more focus is given to female entrepreneurship but in developing countries like Pakistan the number of females starting their own business are fewer as compared to males while given that most of the people of Pakistan as the member of the patriarchal society believe that entrepreneurship is the domain of males (Mehtap *et al.*, 2017). The statistic on employment also shows that there is few number of jobs as compared to unemployed graduates in the market. Therefore, the entrepreneurial activities are best possible ways to start a business. It is the desire of every graduate woman to get a secured job, but unfortunately, it becomes difficult for them to get job because of unavailability in a developing economy like that of Pakistan (Iftikhar, 2016). Pakistan rank is 138th out of 189th countries on the World Bank's “doing business report 2016”. It slipped two places further down from its previous ranking of past year (Nadeem, 2016). So there is the need to make students particularly female students of business schools make capable of doing business. For that universities make students capable by providing them entrepreneurial education and support particularly in a developing country like that of Pakistan where the perspective of female entrepreneurship as field and policymaking exclusively for female business students with gender/feminist lens have not been addressed at large (Henry *et al.*, 2016).

Previous research focused on a wide range of individual and environmental factors to understand an individual's entrepreneurial intention determinants (Lüthje and Franke, 2003; Mustafa *et al.*, 2016). However, this study proposes based on the extensive critical review and that University support factors and individual personality factors (entrepreneurial self-efficacy and proactive personality) particularly for the female business students of business schools as the determinants of entrepreneurial intention have not been tested.

Personality plays a significant role in the business creation and its success. Wang *et al.* (2016) found that personality is an important factor for entrepreneurial intentions and entrepreneurial self-efficacy mediates the relationship between personality and entrepreneurial intentions. Wang *et al.* (2016) recommended testing the impact of proactive personality on

entrepreneurial intentions. Similarly, [Mustafa et al. \(2016\)](#) studied the influence of proactive personality on the intentions of students while recommending testing other factors like entrepreneurial self-efficacy as the determinant of entrepreneurial intentions.

Similarly, entrepreneurship education is crucial for business students in getting the knowledge about entrepreneurship and then taking on a business venture after the completion of business degrees. But for starting a new firm/business venture not only entrepreneurial education is required but training support from the university is also required ([Saeed et al., 2015](#)). In Pakistan, it is difficult for students to get the funding for starting their own business ([Ali et al., 2012](#)). To change the intention of student towards starting own business, educational support is not enough ([Liñan and Rodríguez-Cohard, 2015](#)) but the university support in the form of perceived concept development support and perceived business development support is also necessary for entrepreneurial intentions of students ([Saeed et al., 2015](#)).

To bridge all these aforementioned gaps on the comparatively fewer research on female entrepreneurship in developing countries, university support factors (perceived university support, perceived concept development support and perceived business development support) and individual personality factors (proactive personality and entrepreneurial self-efficacy), the purpose of this study is to test these personality factors and university supports factors as the determinants of entrepreneurial intentions of female business students. The data of 306 is collected through empirical and personal survey questionnaires from the female students of business schools of Pakistani Universities. The Partial Least Square-Structural Equation Modelling (PLS-SEM) in Smart PLS 3 Version 2.6 is used for analysis. The results show some conflicting and conforming findings.

More specifically, the research questions posed by this study are:

- RQ1. Whether the proactive personality and perceived university support have the significant impact on the female student's entrepreneurial intentions?
- RQ2. Whether entrepreneurial self-efficacy mediates the relationship between proactive personality and entrepreneurial intention for female business students?

2. Literature review

2.1 Entrepreneurship in Pakistan

Entrepreneurship had been an essential topic for research since 200 years ([Bull and Willard, 1993](#)). As [Wennekers and Thurik \(1999\)](#) stated that entrepreneurship has expanded its attention globally in the past decade. However, in many countries the need for entrepreneurship, its driving forces and economic support remained inactive. The entrepreneurship is the procedure of creating new venture, and entrepreneurial intention takes an important part in this process ([Saeed et al., 2015](#)).

In the developing countries, there is need of entrepreneurship as the unemployment level is higher ([Rana, 2011](#)). It is a way to overcome the unemployment in the country. Pakistan suffers from unemployment and the numbers of unemployed graduates' increases as there are more unemployed educated people as compared to uneducated ([Iftikhar, 2016](#)). The overall unemployment rate of Pakistan after the global financial crisis is 5.90 per cent. Moreover, according to [The World Bank \(2013\)](#)'s report, young female unemployment rate in Pakistan was 11.90. [Global Entrepreneurship Monitor \(GEM\) \(2010\)](#) Report also highlighted the significance of entrepreneurship and found that Pakistan has the lower rate of entrepreneurial activities as compared to other countries. On the other hand, one of the key components for creating awareness about entrepreneurship is to provide entrepreneurship education to students, definitely through the business schools ([GEM, 2012](#)).

In this context of Pakistan where there is patriarchal society, and thus, there is fewer number of female entrepreneur, [Azam Roomi and Harrison \(2010\)](#) conclude that in the context of Pakistan, barriers perceived by the women entrepreneurs can be lessened by providing women-only training and education programs that allow them in developing skills and capabilities. For improving the quality of women' life, female entrepreneurship has been assumed as a substantial factor ([Anwar and Rashid, 2012](#)). Moreover, from the feminist point of management sciences, the female entrepreneurship particularly of business students is too important particularly for the suppressed women of developing countries.

Prior literature shows that fewer research studies have been carried out specifically on the female students regarding entrepreneurship. Some problems faced by the female in becoming an entrepreneur include the financing difficulty in getting financial resources for starting a new business in Pakistan ([Tanveer et al., 2013](#)). [Afza et al. \(2010\)](#) stated that in Pakistan the socio-economic growth is adverse because of its uncertain environmental condition that has also affected women entrepreneur in Pakistan. [Batool and Ullah \(2017\)](#) stated that the constraints faced by females in Pakistan are lack of family support, finances, insufficient education. Education plays an important role in entrepreneurial activities but not only education is necessary, but the support from the university is also important for nurturing the business. [Mehtap et al. \(2017\)](#) also argued that providing practical education on entrepreneurship and necessary skills to the female students help them in their future entrepreneurial activities.

2.2 Entrepreneurial intention and its predictors

In prior studies, researchers defined entrepreneurial intention in broader as well as in narrow terms. Given the scholarly importance of entrepreneurial intentions, many researchers have discussed deeply on factors which influences an individual's entrepreneurial intentions and try to understand it by using a wide range of theoretical approaches ([Peng et al., 2013](#)). As [Sesen \(2013\)](#) stated that for entrepreneurial intentions, in majority of studies three basic approaches are followed: Shapero's model of the entrepreneurial event (SEE); Ajzen's theory of planned behavior (TPB); and Luthje and Franke's model (LFM).

The first approach is entrepreneurial event model (SEE), given by [Shapero \(1982\)](#), states that entrepreneurial intention depends on perceived desirability, propensity to act and perceived feasibility ([Shapero, 1982](#)). Second, [Ajzen \(1991\)](#) gave the Theory of Planned Behavior. The model of theory contains planned behavior which is the outcome of intention supported by subjective norms as well as environment and perceived behavior control ([Ajzen, 1991](#)). This shows that the perceptions that the behaviors are personally controllable ([Krueger et al., 2000](#)).

Finally, Luthje and Franke model include both personality trait and contextual factors in examining the attitude regarding entrepreneurial intentions. *This model is the relevant and prime focus of this study.* It provides a sound framework to access the antecedent of entrepreneurial intention ([Mustafa et al., 2016](#)). LFM model is used by the various scholar to examine the demographic, personal and entrepreneurial antecedent of Entrepreneurial intention ([Kristiansen and Indarti, 2004](#); [Sesen, 2013](#); [Schwarz et al., 2009](#) and [Mustafa et al., 2016](#)). In emerging and developed economies, LFM model has proven to be a strong predictor of entrepreneurial intention.

2.2.1 Individual personality traits as predictors. Many scholars used some different traits for personality in their study to check their influence on entrepreneurial intention. Some of the traits are the need for achievement, locus of control ([Sesen, 2013](#)) and the Big Five Traits ([Zhao et al., 2010](#)). In contrast to all these traits, an individual's proactive personality (PP) is assumed to be an effective trait in pursuing career-related choices such as starting their own business ([Seibert et al., 2001](#)).

Quite a few numbers of studies support the assumption that there is a positive relationship between proactive personality and entrepreneurial intention (Crant, 1996; Gupta and Bhawe, 2007; Prabhu *et al.*, 2012; Dell and Amadu, 2015). According to social learning theory (Bandura, 1977), self-efficacy defines an individual's beliefs in his/her capability to get success in a certain task. Moreover, self-efficacy can impact an individual's intention and behavior (Gupta and Bhawe, 2007). Prabhu *et al.* (2012) examined and found the significant impact of proactive personality and entrepreneurial self-efficacy as the significant predictors of entrepreneurial intention.

2.2.2 University support predictors. In addition to personality traits, the environmental factors also influence an individual's entrepreneurial intentions. In Luthje and Franke model, environmental factor is assumed to be an important factor for entrepreneurial intention (Luthje and Franke 2003). Previous research studies have considered an extensive range of environmental factors which effect entrepreneurial intention. As Wang and Wong (2004) and Carr and Sequeira (2007) have identified family business experience which has a substantial effect on the entrepreneurial intention of an individual. Many researchers have identified other environmental antecedent of entrepreneurial intention like access to capital (Luthje and Franke, 2003), business knowledge (Kristiansen and Indarti, 2004) and social network (Sequeira *et al.*, 2007).

Prior research has found that entrepreneurial education programs influence an individual entrepreneurial intention (Yu Cheng *et al.*, 2009; Souitaris *et al.*, 2007; Packham *et al.*, 2010). Kolvereid and Moen (1997) found that entrepreneurial education programs significantly influenced entrepreneurial intention of students. In addition to educational programs, a supportive entrepreneurial environment provided by universities can also encourage a student's entrepreneurial intention (Kraaijenbrink *et al.*, 2009). Kraaijenbrink *et al.* (2010) suggested that it is essential to measure the magnitude to which university support could have an influence on students and which can be attained by gauging students' perception of getting support from university or perceived university support (Saeed *et al.*, 2015). The research also suggested that in emerging economies universities are do not support students in developing entrepreneurial abilities and skills because of the lack of resources (Othman *et al.*, 2012). In this context, this study focuses on the three types of support that universities can offer female students to nurture their interest in entrepreneurship as a career that are perceived educational support, perceived concept development support and perceived business development support.

3. Hypothesis development

The proactive dimension of personality and entrepreneurial intentions: Personality plays an important role in the business creation and business success (Brandstätter, 2011). In 1993, Bateman and Crant developed the proactive personality concept and defined it as a relatively constant propensity to effect environmental change that distinguished people by their action to influence their environment. Proactive personality is a comparatively persistent individual nature of proactive behavior. According to Bateman and Crant (1993), "proactive personality is a dispositional construct that identifies differences among people in the extent to which they take action to influence their environment". Similarly, proactive personality represents a unique attribute as compared to other personality traits like five-factor model (Prieto, 2011). (Seibert *et al.*, 2001; Mustafa *et al.*, 2016).

Gupta and Bhawe (2007) studied the proactive personality of female business students and moderating influence of masculine stereotype. The study found that proactive personality is a key factor for females to create their venture. There is a positive relationship between proactive personality and entrepreneurial intentions (Brandstätter, 2011). Similarly, Prabhu *et al.* (2012) examined the impact of proactive personality on entrepreneurial

intention. This study concluded that proactive personality is significantly related to entrepreneurial intention. Individual with proactive personality is more determined by scanning the environment (Prabhu *et al.*, 2012). Luca *et al.* (2013) explored the relationship between the personality trait and entrepreneurial intention and training, and found that skills, creativity and proactive personality are important factors which affect the entrepreneurial intentions of students. The student with proactive personality is more motivated to start their venture as they are better able to identify the opportunities (Mustafa *et al.*, 2016). Hence, this study proposes the following hypothesis:

H1. Proactive personality positively influences the female student's entrepreneurial intention.

3.1 Perceived university support and entrepreneurial intentions

Carsrud *et al.* (1986) underlined the need to study the environmental impact on the individual in becoming entrepreneurs. A university environment plays an important role in student's entrepreneurial intentions. Similarly, Lüthje and Franke (2004) illustrated that the students' perception of their university environment affects entrepreneurial intentions; and it significantly affects entrepreneurial intentions. Mustafa *et al.* (2016) also illustrated that a supportive university environment could differ in its composition and quality of support services offered to the students. Nowadays, there is a growing interest in entrepreneurship and new firm startup, but a few number of research studies have been carried out that finds entrepreneurial education and support factors together (Walter *et al.*, 2006).

Entrepreneurial education programs influence an individual's entrepreneurial intention as Kolvereid and Moen (1997) found that entrepreneurial education programs positively influenced Entrepreneurial intention of students. Many universities across the world still are working on converting the ideas of students into the practical concept (Saeed *et al.*, 2015). Nasiru *et al.* (2015) also illustrated the importance of perceived university for entrepreneurial intentions. Kraaijenbrink *et al.* (2010) suggested that it is crucial to measure the extent to which university support influences students. Similarly, Saeed *et al.* (2015) also illustrated that student's perception of the university support could be measured by the support that they receive. In spite of such issues, this study focuses on the three types of support that universities can offer female students to nurture their interest in entrepreneurship as a career, that is, perceived educational support (PES), perceived concept development support (PCDS) and perceived business development support (PBDS). The relations of these types with the entrepreneurial intentions are explained as follows.

3.2 Perceived educational support

Perceived educational support refers to as a student's perception about the education support provided by the university. Lüthje and Franke (2004) also recognized that a student's perception of his/her university environment could significantly impact their Entrepreneurial intention. According to Henderson and Robertson (2000), entrepreneurial education and entrepreneurial support that is provided by the universities are actual ways of getting knowledge about entrepreneurship and influences the students to pursue the career as an entrepreneur (Souitaris *et al.*, 2007). The students are provided with the necessary knowledge, skill, internship which help them in enhancing their entrepreneurial intention (Saeed *et al.*, 2015). Diaz-Casero *et al.* (2017) investigate the relationship between university support and entrepreneurial intention and found that in environmental factors, university support has a substantial impact on the entrepreneurial intentions. Therefore, by above discussion, the following hypothesis is proposed:

H2. Perceived educational support positively influences the entrepreneurial intention.

3.3 Perceived concept development support

Perceived concept development support refers to as a students' perception about the support provided by the university in term of "motivation, awareness, and business ideas in the early stages of the entrepreneurial process" (Saeed *et al.*, 2015). The provision of support provided by the universities to the students regarding the business ideas development, the knowledge required for new business startup and introducing with entrepreneurial role models (Mustafa *et al.*, 2016). This type of support motivates female students to pursue their career in the field of entrepreneurship through pushing their ideas into reality. Many universities across the world are now focusing on the making and converting student's ideas into the concept. Recent findings by Mustafa *et al.* (2016) and Saeed *et al.* (2015) showed that student's perception of concept development support positively influences entrepreneurial intention of students. Hence by above discussion the following hypothesis is elicited.

H3. Perceived concept development support positively influences the entrepreneurial intention.

3.4 Perceived business development support

Perceived business development support refers to as a students' perception about university support in term of developing their enterprise once they have graduated (Mustafa *et al.*, 2016). It is the support by the university in startup venture of the students by providing the financial resources. Díaz-Casero *et al.* (2017) investigated the link between university support and entrepreneurial intention and found that in environmental factors, university support has a significant impact on entrepreneurial intentions. Hence, based on the above reasoning the following hypothesis is proposed:

H4. Perceived business development support positively influence the entrepreneurial intention.

3.5 Entrepreneurial self efficacy

Self-efficacy refers to as an individual's self-assurance and capability to achieve a certain behavior (Karimi *et al.*, 2011). Entrepreneurial Self-efficacy is used to highlight career choice intentions. Self-efficacy plays a significant role and similarly, in many other studies entrepreneurial self-efficacy is assumed as an important factor which has a significant impact on entrepreneurial intentions (Zhao *et al.*, 2005; Krueger and Carsrud, 2000). Peng *et al.* (2013) illustrated that entrepreneurial self-efficacy has a considerable impact on entrepreneurial intention. There is the optimistic connection between entrepreneurial self-efficacy and entrepreneurial intention among college women (Austin and Nauta, 2016).

H5. Entrepreneurial Self-efficacy is positively related to entrepreneurial intention.

3.6 Mediating role of entrepreneurial self-efficacy between proactive personality and entrepreneurial intentions

Brandstätter (2011) illustrated that proactive personality and self-efficacy helps in predicting entrepreneurial intentions. Prabhu *et al.* (2012) concluded that individual with proactive personality and entrepreneurial self-efficacy predicts the environmental situation and are more confident in taking the initiative to start their own business. Moreover, this study found that entrepreneurial self-efficacy partially mediates the relationship between proactive personality and entrepreneurial intention. Similarly, Zhao *et al.* (2015) also investigated the mediating role of entrepreneurial self-efficacy in nurturing the

entrepreneurial intention of students in becoming entrepreneurs. Wang *et al.* (2016) examined the mediating effect between the personality trait and entrepreneurial intention and recommended using proactive personality and entrepreneurial self-efficacy for mediation. Zhao *et al.* (2005) also recommend for studying the mediation role of self-efficacy between proactive personality and entrepreneurial intention. Zhao *et al.* (2005) examined the mediating role of entrepreneurial intention in becoming entrepreneurs and results find that entrepreneurial self-efficacy plays a mediating role in many personality traits and entrepreneurial intention. Thus, the proposed hypothesis is:

- H6. Entrepreneurial self-efficacy positively mediates the relationship between proactive personality and entrepreneurial intention.

4. Method

4.1 Sample and data collection

The unit of analysis in the present study is the female business student enrolled in the last years of study in business schools of universities of Islamabad, the capital of Pakistan. Business students were taken for the study because of the reason that they are assumed to pursue their career as entrepreneurs in the future. The data was collected through personal physical survey questionnaires.

The sample size was determined by using Krejcie and Morgan (1970) formula, which yield the sample size of 306 female students from the total population of 1,485 students. The questionnaire was personally administered for data collection. The process of questionnaire distribution and collection was carried out for three months. A total of 306 questionnaires were received and used for the analysis.

Of the 306 sample size, 211 were from the female students from public sector universities (69 per cent) and 95 were from private sector universities (31 per cent). The average age of the respondent was 23.5 years. As the data was collected through personal physical survey questionnaires, therefore, there was no involvement of late respondents. Consequently, no additional analysis concerning the late respondents was needed.

4.2 Measurement scales/instruments

A questionnaire using a five-point Likert scale was used to collect the data for each construct of the research model. Proactive personality trait was measured by using the adopted scale of Bateman and Crant (1993) with 12 items. Perceived university support was measured by adopting the scale of Saeed *et al.* (2015) which contains 13 items (the number of items for perceived educational support is six; four number of items have been used for perceived concept development support; and three number of item for business development support). Entrepreneurial self-efficacy was measured by using four items adopted from Zhao *et al.* (2005). The final construct is an entrepreneurial intention which was measured by six items adopted from Liñan and Chen (2009).

To assess the common method variance bias, the Harman factor's approach was used. It was found that common method variance bias does not exist as the value of the technique was less than 50 per cent.

4.3 Data analysis

To analyze the data, PLS-SEM was used in SmartPLS 3 Version 2.6 (Ringle *et al.*, 2015, 2018). Hair *et al.* (2014) stated that PLS replace the stepwise regression with multiple regressions, and it allows the user to run the entire model with some advanced techniques for validity and mediation. But more specifically, the choice of the PLS-SEM over the CB-SEM was by the lower sample size and exploratory nature power issue.

5. Results

5.1 Measurement model evaluation

A part of the measurement model, the study following the guiding articles (Ringle *et al.*, 2015, 2018; Wong, 2013) assesses the four components: outer loadings, indicator reliability, construct reliability, convergent validity and discriminant validity. Latent variable's reliability was assessed through outer loadings, indicator reliability and composite reliability (Fornell and Larcker, 1981; Hair *et al.*, 2014). The outer loading of indicators should be 0.7 or higher (Hair *et al.*, 2014; Wong, 2013). So all those items were included in the model which had the value equals to 0.7 or above.

Similarly, the acceptable value for indicator reliability is 0.4 or higher (Hulland, 1999). As Table I shows the values of indicator reliability, which were greater than the threshold level of 0.4. For estimating internal consistency reliability, composite reliability of threshold value 0.7 or higher is preferable (Wong, 2013). The composite reliability for all the variables ranged between 0.83 and 0.89 indicates that the reliability of constructs is good enough.

For measuring the convergent validity, Average Variance Extracted (AVE) was used. All constructs demonstrated good convergent validity as the values of AVE for each construct ranges from 0.51 to 0.66 that is larger than the threshold value of 0.50 (Fornell and Larcker, 1981). Discriminant validity was evaluated using the Fornell–Larcker criterion and for that Wong (2013) suggested that the square root of average variance extracted from each latent variable should be greater than the correlations among the latent variables. Similarly, Hair *et al.* (2014) also suggested that off-diagonal values in latent variable correlation should be

Variable	Indicator	Loading	Indicator reliability	Composite reliability	AVE
<i>loadings*loadings</i>					
Entrepreneurial intentions	EI1	0.717	0.514	0.892	0.579
	EI2	0.769	0.519		
	EI3	0.741	0.549		
	EI4	0.812	0.659		
	EI5	0.731	0.534		
	EI6	0.792	0.627		
Entrepreneurial self-efficacy	ESE1	0.823	0.677	0.840	0.637
	ESE2	0.760	0.577		
	ESE4	0.810	0.656		
Proactive personality	PP1	0.649	0.421	0.860	0.507
	PP2	0.747	0.558		
	PP4	0.676	0.457		
	PP8	0.767	0.588		
	PP11	0.692	0.479		
	PP12	0.734	0.539		
Perceived educational support	PES1	0.687	0.472	0.834	0.558
	PES2	0.836	0.699		
	PES4	0.728	0.529		
	PES5	0.728	0.529		
Perceived concept development support	PCDS1	0.719	0.517	0.864	0.615
	PCDS2	0.816	0.666		
	PCDS3	0.878	0.771		
	PCDS4	0.712	0.507		
Perceived business development support	PBDS1	0.723	0.528	0.857	0.667
	PBDS2	0.854	0.729		
	PBDS3	0.866	0.749		

Table I.
Measurement model

less than the diagonal ones. As shown in Table II Ismail, the square root of AVE appears in the diagonal cells and correlations appear below it, and the diagonal values (in bold) are higher than off-diagonal values.

5.2 Research structural model for hypotheses testing

The study adhering to the instructions of Ringle et al. (2018) maintains that the PLS-SEM does not require assessing the goodness-of-fit measures like that of CB-SEM. It places the minimal requirement on these statistics and normality of data. Therefore, to test the fit of the model R^2 has been used. The value of regression is 0.479 (Figure 1) that is quite adequate. Figure 1 and Table III present the results. The value of R^2 was 0.479 which means that 47.9

Table II.
Fornell–Larcker
criterion

Discriminant validity

EI	<i>0.761</i>					
ESE	0.501	<i>0.798</i>				
PBDS	0.269	0.498	<i>0.817</i>			
PCDS	0.403	0.434	0.634	<i>0.784</i>		
PES	0.513	0.604	0.593	0.620	<i>0.747</i>	
PP	0.646	0.528	0.339	0.411	0.574	<i>0.712</i>

Note: Values in the diagonal (italics) are square root of the AVE, while the off diagonals are correlations

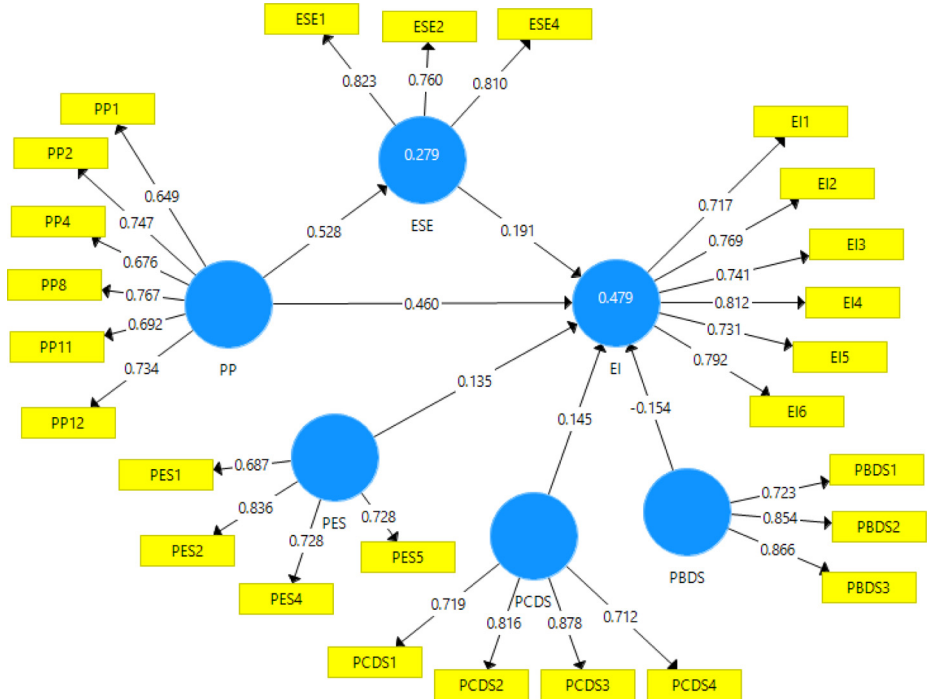


Figure 1.
Research structural
model

per cent of the variance in entrepreneurial intention can be explained by other variables (Figure 2).

The results revealed that all other direct hypotheses for the entrepreneurial intention of female business students (PP ($\beta = 0.460, p < 0.01$), PES ($\beta = 0.135, p < 0.05$), PCDS ($\beta = 0.145, p < 0.01$), ESE ($\beta = 0.191, p < 0.01$)) have been accepted. However, *H4* on PBDS to entrepreneurial intention is significant, but negative predictor ($\beta = -0.154, p < 0.01$). Thus, *H4* is not supported and accepted.

5.3 Mediation analysis

The mediation analysis of the research model was carried out through the method defined by Hair *et al.* (2014) by using SmartPLS. The first step was to evaluate the significance of direct path relation (PP to EI) by checking significance (t- statistics significance in bootstrap). If it is significant, then check the significance of indirect effect (ESE to EI). If this relationship is also significant, then the mediation exists. The results indicated that both the direct and indirect effects are significant because both the values of *t*-statistics (7.837 and 2.705) are greater than the threshold value 1.96. Hence, the mediation exists, and entrepreneurial self-efficacy mediates the relationship between proactive personality and entrepreneurial intention. The strength of mediation was found out through variance accounted for (VAF) (Hair *et al.*, 2014). Variance accounted for (VAF) is calculated through the following formula

$$\text{VAF} = \text{Indirect effect} / \text{total effect} * 100$$

where:

- Total effect = indirect effect + direct effect;
- Indirect effect: PP → ESE = 11.36, ESE → EI = 2.705;
- Direct effect: PP → EI = 7.837;
- VAF > 80 per cent = full mediation;
- VAF 20 – 80 per cent = partial mediation; and
- VAF < 20 per cent = no mediation.

The value of VAF for the mediation of entrepreneurial self-efficacy equals to 80 per cent that explains that entrepreneurial self-efficacy partially mediates the relationship between proactive personality and EI.

6. Discussion

The findings of the study showed that female student entrepreneurial intention was positively influenced by their proactive personality, entrepreneurial self-efficacy, and the extent to which they perceived educational and concept development support for their universities. That is, the proactive personalities, entrepreneurial-self efficacy, perceived

Hypothesis	Relationship coefficient	T value	Decision
<i>H1</i>	PP → EI 0.460	7.837	Supported
<i>H2</i>	PES → EI 0.135	1.992	Supported
<i>H3</i>	PCDS → EI 0.145	2.739	Supported
<i>H4</i>	PBDS → EI -0.154	2.834	Not supported
<i>H5</i>	ESE → EI 0.191	2.705	Supported
<i>H6</i>	PP → ESE → EI 0.528	11.369	Supported

Table III.
Path analysis to test
the generated
hypotheses

university support, perceived concept development support are statistically significant predictors of entrepreneurial intention. Conversely, the perceived business development support has found a negative relationship with entrepreneurial intention. Moreover, entrepreneurial self-efficacy mediates partially between the relationship proactive personality and entrepreneurial intention which is partial mediation. Hence, only *H4* is not accepted. These hypotheses results are discussed below:

As per the *H1* results, female students with proactive personality are more likely to recognize the opportunities and take the actions on it in pursuing an entrepreneurial career path. The findings of the study show that proactive personality has a strong impact on female student's entrepreneurial intentions. The results of *H1* are consistent with that of Crant (1996) and Mustafa *et al.* (2016) The individual with proactive personality is more determined by scanning the environment and, thus, grabbing the opportunity.

As per the *H2* results, the university support has the significant influence on the entrepreneurial intention of female students. Previous results suggest that academic environment plays a crucial role in nurturing the student's skill (Lüthje and Franke, 2004) toward entrepreneurial activities. The current study findings show that among the three types of university support, perceived educational support and perceived concept development support have a positive relationship with entrepreneurial intentions. The results are in coherence with that of (Saeed *et al.*, 2015; Mustafa *et al.*, 2015). These results indicate the effectiveness of learning and teaching of the female business students in the business schools of Pakistan where there is sufficient education and brainstorming about the awareness and brainstorming opportunities for the idea generation.

The not-supporting of hypothesis on the perceived business development support requires that there should be additional analysis while eliminating the effect of control group variable, for example, the self-concept about being lazy/active support could moderate/control the relationship. These and other types of social, organizational (related to the universities and business schools) and individual variables should be explored and tested empirically to explain these sorts of defying results.

7. Conclusion

The literature indicated that female entrepreneurship as the research field and at policymaking has not been focused much. Moreover, the impact of the university support factors and individual personality factors (proactive personality and entrepreneurial self-efficacy) on the entrepreneurial intention of the female business students has not been tested explicitly. Therefore, this study attempted to test these two types of predictors of entrepreneurial intentions. The data were collected from the female business students of business schools of Islamabad, the capital of Pakistan. The data was analyzed using the PLS-SEM in SmartPLS Version 2.6. The results confirm that except perceived business support, all other individual personality factors (entrepreneurial self-efficacy and proactive personality) and university support factors except that of perceived business development support can nurture the entrepreneurial intention. Moreover, results support that entrepreneurial self-efficacy mediates between proactive personality and entrepreneurial intention.

7.1 Theoretical contribution

The study makes following contributions to the literature. First, by collecting data from Pakistan, the study explores the feminist point of view of developing countries like Pakistan in management literature. Second, this study also adds our understanding about the drivers/factors of entrepreneurial intentions of female students especially in the context of emerging

economy. Third, to the best of authors' knowledge, this is the first study that tested the university support factors and individual personality factors (proactive personality and entrepreneurial self-efficacy) as predictors of the intention of the business students empirically. Fourth, the study tests the mediating role of entrepreneurial self-efficacy between proactive personality and entrepreneurial intention of the female students. Finally, this study affirms that Luthje and Franke model works as a relatively useful tool for measuring entrepreneurial intentions and furthers it for the entrepreneurial self-efficacy and proactive personality, while given that this model has been used for the relationship of individual personality factors.

7.2 Practical implications

From the findings of the study, the implications for academic institutions and public policy arise. Academic institutions should regularly assess the type of support that they provide to female students. The study findings show entrepreneurial education and concept development support are perceived to be good in enhancing entrepreneurial intentions of female students but lacking in their business development support role. Thus Pakistani academic institutions can pay attention in reinforcing their traditional teaching roles.

About designing entrepreneurship programs and courses, the policymakers and academic institutions can shift their focus from theoretical concept to the practical concepts. The attitudes and skills can be developed by the business simulation experiences. As in developed countries, the liaison between academia and industry is high. Therefore, the students can get the experience. However, in Pakistan, less effort has been put so the universities should focus for greater liaison. The most of the business schools here in Pakistan focus too much on the publications in JCR journals, while ignoring professional and entrepreneurial development. Moreover, academic institutions should craft the entrepreneurial ecosystem into the universities. Also, it is suggested that universities teachers should receive training on how to teach and how to change “the heart and mind” of the students for inspiring them in the process of entrepreneurship. Finally, to raise proactive personality of female students, the academic institutions should provide training and skill to them.

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