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Article

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Education for Women Entrepreneurial Attitudes and Intentions: The Role of Perceptions on Gender Equality and Empowerment

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Abstract

Within the patriarchal society of Pakistan, the current study has modeled one research question: Does university-based entrepreneurship education (EE) raise university students' self-employment attitudes and intention through nurturing their perceptions of gender equality and empowering women?

To address this question, the current study uses partial least square structural equation modeling (PLS-SEM), with the hypotheses grounded in the theory of planned behavior (TPB) and Sustainable Development Goals (SDGs, 4&5) to provide the complementary explanations of the female students' intention to become self-employed. Based on reliable and valid constructs, the PLS structural model significantly explains about 54% of the variance in female students' intention to become self-employed.

However, the most relevant result to be considered is the confirmation that female students' positive perceptions of gender equality can lead them to their perceptions of women empowerment. Likewise, through it, to attitudes about and intention to participate in self-employment

Apart from its limitations, the current study presents some theoretical and practical implications in the Pakistani context. Particularly that through discussion and persuasion, entrepreneurial education-based gendered supportive activities can reshape especially female students' gender attitudes and stereotypes. That, in turn, may enhance their self-employment career attitudes and intention.

Keywords: entrepreneurship education, theory of planned behavior, gender equality and women empowerment, women entrepreneurs, education for women entrepreneurs, sustainable development goals, Pakistan.

1. Introduction

1.1 Background of the Study

Worldwide currently, over 1.8 billion youth aged 10-24 years predominantly massed in developing economies, including Pakistan. Deprived, this youth, especially females, are experiencing top rates of poverty and economic inequality in comparison to youth in stable and rich economies. Consequently, in this context of ongoing socio-economic structural gaps, self-employment constitutes a weak career option for many females. Such a development issue is stronger in Pakistan where powerful demographics are changing. Has been suffered mostly by terrorism over the past several years, Pakistan is the fifth heavily populated and among the youngest nations worldwide. Currently, in its history, Pakistan has ever recorded the highest youth generation-under the age of 30 and 29% having the age range 15-29 years (Government of Pakistan- National Youth Development Framework, 2019).

Empowerment of women and encouraging gender equality is, therefore, necessary to accelerate sustainable development. Particularly, the 2030 vision for sustainable development, has a separate objective on gender equality and the empowering of females (SDG5). Additionally, there are gender equality targets in other goals, and a more compatible call for gender disintegration of data over various indicators (UN WOMEN, 2019).

Nevertheless, attaining gender equality demands a rights-based strategy that assures that both genders not only attain admission to and finish education levels. But are empowered equally in and through education. Both need the attitudes, values, skills, and knowledge that empower them to play their role in sustainable development (Rieckmann, 2017). Education, thus, is a basic foundation for sustainable development, for it nurtures majority rule and feeds a national economy to reduce poverty and increasing choices. A mutual consensus on this exists currently, merely as exhibited by the presence of an exclusive sustainable development goal on education (SDG4). It aims that by the end of 2030, fully enhance the quantity of youth having requisite skills for entrepreneurship, employment, and decent jobs. Education, thus, is necessary for the attainment of inclusive, sustainable development (Garzon, et al., 2018).

However, not every kind of education promotes sustainable development. Education that enhances economic growth only may well also contribute to an increase in unsustainable consumption forms. Therefore, education that promotes formal education on gender equality to execute the gender empowerment plans is important to develop females globally. This can help in eliminating the deeply ingrained unconscious biases and gender stereotypes. Thereby to ensure inclusive and equitable quality education and enhance its continuing through life learning opportunities for all (Rieckmann, 2017).

Therefore, higher education turns to be more appealing in the changing world of work by assuming as a vehicle for innovation (World Development Report, 2019) to promote entrepreneurial culture among young women and men (European Commission, 2013). Thereby to further increase their perceived attitudes about and intention to participate in self-employment as a possible profession and a credible alternative to face unemployment and growth challenges (Choukir et al., 2019).

1.2 Research Gap

However, in current empirical studies, the gendered impact of EE programs is equivocal because some studies suggest stronger positive effects (Choukir et al., 2019; Nowiński et al., 2019; van Ewijk & Belghiti-Mahut, 2019; Feder & Nițu-Antonie, 2017), other research provides that female participants gain little (López-Delgado et al., 2019; Shinnar et al., 2018) or other suggest no major gender effect at all (Nasiri & Hamelin, 2018). These inconsistent findings have been assigned to conceptual and empirical limitations, as well as lack of key detail on instructional methods (Nabi et al., 2017; Bae et al., 2014; Martin et al., 2013; Hahn et al., 2019).

Besides, the samples of the above-mentioned gendered EE impact studies relate to university students studying in western and MENA countries. However, it is much less researched in the context of South Asian countries (Sharma, 2018) especially in Pakistan (Hussain, 2018; Farrukh et al., 2019), where the patriarchal character of the nation have caused females to undergo serious discriminations (Roomi et al., 2018) as only one percent of women are entrepreneurs in contrast to twenty-one percent of men in Pakistan (GEM-Pakistan, 2012).

Finally, effective education is about the co-construction of knowledge, questioning of norms, and introducing gender awareness into the mainstream (Byrne & Fayolle, 2010). However, the recent reviews (Hahn et al., 2019; Nabi et al., 2017), meta-analyses (Martin et al., 2013; Bae et al., 2014) and gendered EE impact studies lack gender equality as a sort of pedagogic method to invite university teachers and students to challenge and overthrow conventional thoughts of men, women, and human civilization that legalize and maintain these views (Ahl, 2002; Ylöstalo & Brunila, 2018).

1.3 Rationale of the Study

The above discussion forms the rationale for the current study. Particularly, the current study refers to the EE program at the university level aims to inculcate positive perceptions on gender equality and empowering women as well as on entrepreneurial attitudes and intentions to own or to set up a venture among university students. This

conception is wider than a course including a collection of supportive entrepreneurial activities (Souitaris et al., 2007) including reshaping gender attitudes through discussion and persuasion (Ahl, 2002; Dhar et al., 2018) which can especially equip female learners cognitively, socio-emotionally and behaviorally to deal with the unique challenges of sustainable development including gender equality and empowerment, employment and entrepreneurship (Rieckmann, 2017). In these activities, apart from different modules on EE, to ponder on themselves and societal values, students were provided with facts on gender roles at home, gender stereotypes, females' education, women's entrepreneurship, a decent job, and employment outside the home. Particularly, through these activities, students explicitly challenge the entrepreneurial stereotypes and notions of success. Moreover, students also lead the discussion around how women can succeed in different contexts in most sessions. Finally, during these activities, teachers, students, and female entrepreneurial role models together discussed the alternative models of entrepreneurship (Gupta et al., 2008).

1.4 Research Question and Objective(s)

Within the patriarchal society of Pakistan, therefore, the current study had modeled one research question: Does university-based entrepreneurship education (EE) raise university students' self-employment attitudes and intention through nurturing their perceptions on gender equality and empowering women? It is significant to mention that the constructs are EE program-originated benefits 'captured' by each individual attending the class compared to program activities 'offered' to all participants. Particularly, the current study assessed the EE program-based benefits at each student's level. Thus, they can be associated with each student's perceptions about gender equality and empowerment, as well as their entrepreneurial attitudes and intentions. As such these perceptions, attitudes, and intention can change within a student group that attend the same program (Souitaris et al., 2007). Therefore, the current research targets two aims within the context of the EE program:

- To examine how the role of perceptions on gender equality and women empowerment contributes to developing entrepreneurial attitudes and intentions among university students.
- To investigate whether the gender moderates the paths from perceptions of gender equality and empowerment to TPB's antecedents (PA, SN, and PBC) and EI.

1.5 Usefulness of the Study

The current study contributes to the existing literature in several forms: Firstly, theoretically, it integrates the lens of SDGs (4&5) with the TPB in one comprehensive

theoretical framework to better understanding the paths from gender equality to women empowerment, further to entrepreneurial attitudes and intention. So affirms the application of the TPB and the belief that intentions may well be projected by its immediate attitudinal variables (Attitude, SNs, & PBC) (Ajzen, 1991). Secondly, the current research adopted a sound analytical method applying structural equation modeling to examine the hypothesized relationships and to confirm the theoretical framework (Al-Jubari, Hassan, & Liñán, 2019). Finally, current research contributes to the scholarship of entrepreneurship education itself by disclosing the impact of specific benefits for the female learners extracted from the EE program (Souitaris et al., 2007).

2. Literature Review

2.1 Entrepreneurial Attitudes and Intention

In explaining the self-employment intention (EI), including antecedents describing individuals' attitudes to become self-employed, the entrepreneurial event theory (Shapero, 1982) and TPB (Ajzen, 1991) have obtained particular importance. The former put EI as depending upon desirability, feasibility, and propensity to act (Shapero, 1982). On the other hand, TPB was put to describe planned behavior broadly (Ajzen, 1991) and often has been used to describe EI (Liñán & Chen 2009; Kolvereid 1996) with its three attitudinal antecedents. Two take in to account the perceived desirability of carrying on the behavior: personal attitude toward consequences of the behavior (PA) and perceived social norms (SN). The third, perceived behavioral control (PBC), represents perceptions that the behavior is personally controllable or feasible to perform and therefore considered as situational competence (self-efficacy). In reality, both models are regarded equally coherent (Krueger et al., 2000) in terms of sharing significant commonalities to explain the construction of EI through three factors including PA and SN (very similar to desirability), and PBC (very similar to feasibility) (Santos et al., 2016). Most importantly, as TPB put 'intention' as an immediate antecedent of behavior (Ajzen, 1991), so the all-encompassing question in the domain of entrepreneurship—How does a person become an entrepreneur?—may be addressed (Rauch & Hulsink, 2015).

Particularly, according to Rauch and Hulsink, (2015), TPB is useful in explaining intention towards self-employment as it concerns processes that can impact through the EE program (Liñán et al., 2011). For instance, the basic factor of EI is the personal attitude towards self-employment (PA), which is an individual's firm belief that initiating new economic activity is a reasonable career choice (Rauch & Hulsink, (2015). Therefore, it is sound to think that the short-term aim of EE is to promote a positive

attitude toward entrepreneurship. Besides, the conviction to become self-employed (PBC) is a realistic possibility is also a basic factor of one's entrepreneurial intention, which may be impacted by EE (Liñan et al., 2011). Moreover, subjective norm reflects "perceptions of what important people in respondents' lives think about them becoming self-employed, weighted by the strength of the motivation to comply with them" (Souitaris et al., 2007). As such, intention towards self-employment is considered to be a drive to involve in venture creation and personal attitude (PA), subjective norm (SN) and perceived behavioral control (PBC) towards self-employment may impact it (Souitaris et al., 2007; Rauch & Hulsink, 2015). Therefore, within the context of EE impact research, Nabi et al. (2017) recently synthesized the rapidly increasing empirical scholarly work of 159 published articles from 2004 to 2016 and found the impact of EE on feasibility-PBC (42 articles), PA (32 articles), knowledge and skills (34 articles), and EI (81 articles). However, Nabi et al.'s (2017) synthesis found limited studies regarding the moderating role of gender.

Besides, as gender gaps in career choice as an entrepreneur are mainly accounted by self-efficacy gaps (PBC), hence, by using the diagnostic strength of TPB, EE can raise students' entrepreneurial self-efficacies that will enhance not only their perceptions of venture feasibility (PBC) and venture desirability (PA & SN) but also their intentions regarding self-employment (EI) (Krueger et al., 2000). Therefore, within the context of gendered EE impact studies, entrepreneurship researchers recently have started to empirically test the constructs of TPB by applying self-employment as the target behavior and found significant empirical evidence validating the TPB through the influence of PA, SN and PBC on EI (Choukir et al., 2019; Nowiński et al., 2019; van Ewijk & Belghiti-Mahut, 2019; Feder & Nițu-Antonie, 2017).

As a result of the empirical literature reviewed, the current study suggests:

- **H_{1a-c}**: The higher the students' (a) attitude, (b) subjective norm, and (c) perceived behavioral control towards self-employment, the stronger the students' intention to become self-employed.

Besides, scholars are far from reaching a consensus regarding the controversial influence of SN on EI in the field of entrepreneurship (Santos et al., 2016; López-Delgado et al., 2019). While some studies have found that SN usually affects EI less than PA and PBC (Krueger et al., 2000; Rauch & Hulsink, 2015; Iglesias-Sánchez et al., 2016), other research revealed a significant association with EI (Kolvereid, 1996; Feder & Nițu-Antonie, 2017; Choukir et al., 2019). Therefore, some researchers exclude SN from the analysis (Rauch & Hulsink, 2015). Other studies have, contrary, proposed SN to impact

EI through PA, PBC (Liñán et al., 2011; Santos et al., 2016; López-Delgado et al., 2019). SN is, therefore, an expectation of the anticipated benefits or losses by people in the individuals' closer environment if the behavior performed (Santos et al., 2016). As a result of this, based on the fact that SN may exercise their influence primarily through PA and PBC as well as directly with EI (Krueger & Brazael, 1994; Aloulou, 2016; Santos et al., 2016; López-Delgado et al., 2019), the current study further suggests:

- **H_{2a-b}**: The higher the students' subjective norm for self-employment, the stronger the students' (a) attitude and (b) perceived behavioral control to become self-employed.

However, entrepreneurial scholars (Fayolle & Liñán, 2014; Fayolle et al., 2014; Al-Jubari et al., 2019) believe that entrepreneurial intentions approaching a dead end and inviting for considering the temporal change of perceptions, beliefs, and intentions to close the gaps in the comprehending of how intention factors are shaped, and regarding the situations moderating their impact on intention.

Thus, the current study, in the following section, suggests that especially female students' perceptions of gender equality and women empowerment can contribute a significant part in shaping their entrepreneurial attitudes and intention.

2.2 Benefits of Entrepreneurship Education

Women in less developed nations are experiencing disempowerment relative to their peers in advanced. High unemployment ratio of young people and early-age marriages and childbirth limit their human capital investment and compel them to depend on males. Moreover, gender roles based on societal stereotypes also economically deprived females in many low developing nations (Dhar et al., 2018). The basic question is then whether women's human capital investment through EE can set them on a track into a higher gender equality balance, or whether such conditions are retained by obeying individual preferences or social norms, that may not easily be relaxed or shifted by policy interventions (Field et al., 2010).

The findings of Bandiera et al. (2018) indicate that women can enhance their economic and social empowerment through the provision of a blend of vocational and life skills education, and unsurmountable difficulties coming from following the social norms may not necessarily restrain it. As such, these findings are following a socioeconomic perspective of EE (Bechard & Gregoire, 2005).

Therefore, the current study proposes that through EE, young female university students can change their mindset, that is fundamental to their capacity to examine, to reflect upon, and to behave on their standards of living and to attain entry to knowledge, skills, and abilities about innovative thinking that will equip them to survive socio-economically (Kabeer, 2005). As such, EE increases the chances that females will take care of their well-being along with their relatives. In other words, better-educated female students will have more positive perceptions and convictions about their approach to, and authority over, resources, along with their contribution in economic decision-making (Kabeer, 2005). In short, EE not only assists the macro-level struggle for global-transformation and economic growth; at a micro-level, it advances individual self-fulfillment and the likelihood of removing the obstacles of gender, race, or class (Henry et al., 2003).

Thus, the current study further suggests:

- **H₃:** The greater the students' positive perceptions about gender equality from an entrepreneurship program, the higher the increase in the students' positive perceptions towards women empowerment
- **H_{4a-c}:** The greater the students' positive perceptions about women empowerment from an entrepreneurship program, the higher the increase in the students' (a) attitude, (b) subjective norm, and (c) perceived behavioral control towards self-employment respectively.
- **H₅:** The greater the students' positive perceptions about women empowerment from an entrepreneurship program, the higher the students' intention to become self-employed.

2.3 Entrepreneurship Education and Gender as Moderator

Bae et al. (2014), in their meta-analytic review, found that the effects of EE on EI cannot be as helpful for males as for females' students. They further referred social role theory (Eagly, 1987) to argue that gender-based expectation prompts women and men both to follow gender-stereotype professions. The argument is also in line with the proposition that females more probably to restrict their occupational desires due to the perceived lack of necessary skills (Bandura, 1992). Thus, there is the possibility that EE will have larger benefits for females to sharpen their capabilities further to enhance their EI compared to males. Thus, Wilson et al. (2007) put EE as an "equalizer."

Therefore, by following the Bae et al. (2014) that gender-based presumptions motivate males to adopt masculine based careers, including self-employment. Hence, the estimate knowledge gap for entrepreneurship is smaller for males than for females (BarNir et al., 2011). Thus,

considering EE as less probably to facilitate males shaping their self-employment intention by decreasing the constraints of knowledge for entrepreneurship (Wilson et al., 2007). Therefore, keeping in view this low need of EE for men, the current study finally suggests:

- **H₆:** Gender will moderate the paths from perceptions of gender equality and empowerment to TPB's antecedents (PA, SN, and PBC) and EI such that the relationships are stronger for female students than for male students.

The following Figure 1 depicts the theoretical framework of the current study.

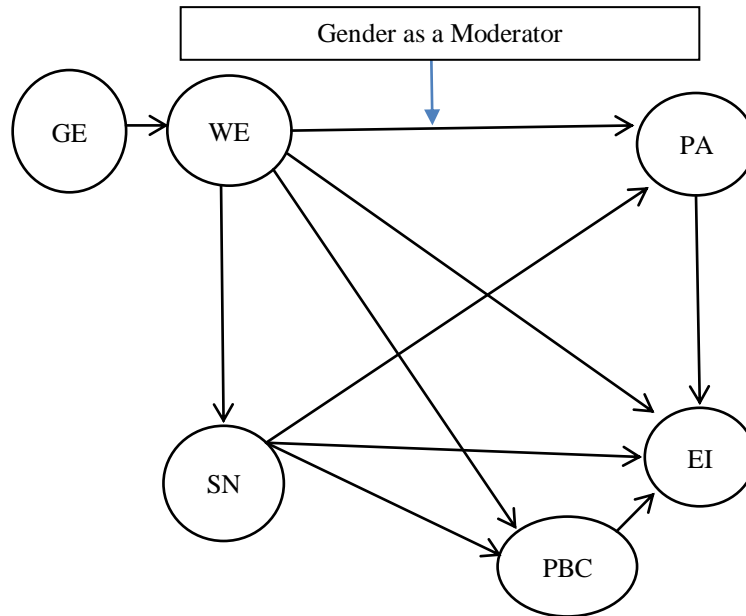


Figure 1: Theoretical Framework

Notes: GE= Perceptions on Gender Equality, WE= Perceptions on Women Empowerment, SN= Subjective Norms, PBC= Perceived Behavioral Control, PA= Personal Attitude, EI= Entrepreneurial Intention

3. Research Methodology

3.1 Pedagogical Methods

Based upon the behaviorist and constructivist paradigms of supply (transmission of knowledge), demand (personalized meaning through exploration, discussion &

experimentation) and competency (active problem-solving in real-life situations) modes of the teaching model framework (Nabi et al., 2017), the principal author of the current study lead a portfolio of complementary activities grouped under four parts:

- a ‘taught’ part, with different modules on entrepreneurial marketing, management, accounting, finance (history of entrepreneurship, entrepreneurial process, shaping an opportunity, building a business model and strategy, entrepreneurial marketing, organizing business, writing a business plan, financing business, scaling up, and understanding financial statements, break-even analysis, and valuation-see, e.g., Landstrom, 2007; Bygrave & Zacharakis, 2011; HBR’s, 2018), and on gender equality and empowerment (gender as a social construct, gender inequality, gender stereotypes, traditional gender roles, gender equality and participation in decision-making, gender, education and (self) employment-see e.g., Rieckmann, 2017);
- a “taught” part on competencies as businesses personal traits and backgrounds of people who become successful entrepreneurs (e.g., people skills, work style, financial savvy, passion for work, self-efficacy, proactiveness, risk-taking) and attitudes (see, e.g., HBR’s 2018);
- a ‘business-planning’ part including business plan competition and counseling on nurturing a particular business idea;
- ‘Interaction with practice’ component including talks, interviews from practitioners, including especially women entrepreneurs, and networking events.

In short, the common pedagogy was lecture-discussion, exposition, with some action learning to complement this (Sánchez, 2011).

3.2 Sampling and Data Collection

The entrepreneurial scholars (Krueger et al., 2000; Pruett et al., 2019) all having consensus that as a sampling of current entrepreneurs are not representing the relevant behavioral complexity, therefore, samples of university business students with a wide range of entrepreneurial attitudes and intentions will disclose professional options at a time when they confront significant vocational decisions. Thus, considering this type of sample is not only suitable but also desirable, for assessing self-employment career intention. Therefore, to test the study hypotheses, the principal author conducted an online survey of 244 undergraduate and postgraduate accounting and finance and commerce students at a major Pakistani public university during the 2018-2019 academic years.

The online survey was prepared on Google form because it collects and summarizes the survey responses automatically and economically. Besides, the current study used purposive sampling technique to distribute the online questionnaire because it permits to obtain the responses from relevant people. Gathering of data from only relevant individuals is extremely significant in research as the data is intended to help in comprehending the theoretical framework effectively (Bernard, 2002).

Different sample sizes suggested; however, according to the general rule of thumb, a sample of 200 or higher is sufficient for the PLS-SEM approach (Anderson & Gerbing, 1988). Therefore, to have this sample, the 260 students enrolled in four compulsory courses of entrepreneurship—three undergraduate and one graduate—were approached. At the undergraduate level, the department offered the entrepreneurship subjects in the last year of a regular four-year accounting and finance degree, along with a broad range of other electives which cover business-related subjects, such as accounting, management, marketing, human resources, accounting, economics, business finance, statistics, etc. At the M. Phil level, the subjects cover topics in contemporary issues of business, finance, marketing, human resources, issues in finance and accounting, and advanced business research methods, etc. The Principal author fully briefed the students at the start of the survey regarding its details. The principal author surveyed the last session of each course with prior notification, which ensured maximum participation from the enrolled students. Of these, 250 students completed online questionnaires, and 244 of these responses were usable.

Out of these 244 students, 59% were studying in BS Accounting & Finance (4-year, 8 semesters) degree program, 24.6% were related to MSc Accounting & Finance (2-year, 4 semesters) study program, and 16.% were from M Phil Commerce (2-year, 4 semesters) research degree program. Besides, 44.1% female and 54.9% male students responded to the survey, respectively. Finally, 95.1% of participants were in the age group from 20 to 25 years old.

3.3 Measurement Scales

To measure the TPB's every construct of the proposed theoretical framework, 20 items based entrepreneurial intention questionnaire (EIQ) of Liñán and Chen (2009) was applied. As shown in the theoretical framework (see figure 2), PA, PBC, SN, and EI are assessed by 5, 6, 3, and 6 indicators respectively by using 5-point Likert-type scales spanning from 1=strongly disagree to 5=strongly agree. Example of sample indicators are: PA-“Being an entrepreneur would entail great satisfaction for me,” PBC-“If I tried to

start a firm, I would have a high probability of succeeding,” and EI-“I have very seriously thought of starting a firm.” The reliability weights emerged in prior research conducted on students’ samples within educational contexts for the constructs of TPB spanned between 0.77 and 0.94 (Liñán & Chen 2009; Santos et al., 2016; Al-Jubari et al., 2019).

Finally, to measure the perceptions on gender equality and empowerment, 8-items based gender equality index (GEI) and 9-items based Intra house decision-making power index (DMI) of Elsayed and Roushdy (2017) has been adapted on 5-point Likert type scale spanning between 1=strongly disagree and 5=strongly agree. Elsayed and Roushdy (2017) had applied the GEI and DMI to assess the social empowerment of the female students taking the business and vocational training in rural Egypt by giving them different statements about the role of females and inquired if they endorse each statement. For instance, sample items regarding GEI includes: “A woman’s place is not only at home, but she should also be allowed to work,” “A woman can have her business project,” and “Education is important for a girl to help her find a good job.” For example, sample statements regarding DMI includes: A woman should have decision making power regarding “starting employment or a business project,” “choosing household chores,” “spending income from work,” and “going to a doctor /health unit.”

3.4 Partial Least Square Structural Equation Modeling (PLS-SEM)

Due to higher level of statistical power in contrast to covariance-based SEM (CB-SEM), the current study adopted the partial least square structural equation modeling (PLS-SEM) through Smart PLS 3 (Hair et al., 2017; Ringle et al., 2015). A higher level of statistical power implies that by examining multiple links simultaneously, PLS-SEM is more probably to detect significant links that existed in the population (Sarstedt & Mooi, 2019).

Therefore, the PLS-SEM distinctive feature of a high degree of statistical power is very valuable for exploratory research like a current study that investigates how to enhance the predictive relevance of the still-developing theory of TPB through nurturing the students’ perceptions on gender equality and women empowerment (Hair et al., 2019). Thus, PLS-SEM might look to be the fundamental option for exploratory as well as for confirmatory research (Hair et al., 2016). PLS-SEM approach initially demands an examination of the measurement model, which connects latent constructs with their manifest items followed by assessing the path modeling, which links study variables (Hair et al., 2017).

4. Results

4.1 Assessing Reflective Measurement Model

According to Hair et al., 2019, evaluation of reflective measurement model involves assessing composite reliability (internal consistency, individual indicator reliability), convergent validity (average variance extracted-AVE) as well as discriminant validity (The Fornell-Larcker benchmark & the heterotrait-monotrait-HTMT ratio of correlations). The results of each benchmark within the context of the current study are as follows:

4.1.1 Construct Reliability and Validity

According to Hair et al. (2019), at the first stage, measurement model evaluation includes assessing the item loadings. Measurement scales with greater outer loading shows that the items can better converge into their respective variable. Values beyond 0.708 show above 50 percent of the item's variance, thus offers satisfactory acceptable item reliability. As seen in Table 6, the majority of the items meet or exceed the loading benchmark of 0.708 (see Table 1). It depicts the convergent validity as the indicators of the respective construct sharing a large portion of variance (Hair et al., 2017).

Besides, to access internal consistency reliability, Jöreskog's (1971) composite reliability considers the intercorrelations of the manifest item constructs. Larger scores normally show a larger degree of reliability. For instance, reliability scores span from 0.60 to 0.70, considered as "acceptable in exploratory research." Besides, Cronbach's alpha is an additional measurement of internal consistency reliability, assuming the identical benchmarks but yields lesser scores than composite reliability. As shown in Table 1, most of the constructs' composite reliability values are reaching or exceeding the threshold level of 0.90, but are lower than 0.95. Besides, the composite reliability values are above than Cronbach's Alpha's values of the respective construct, thereby establishing constructs reliability in the current research.

According to Hair et al. (2019), the third stage of the reflective measurement model evaluation is to consider the convergent validity of every measurement variable. Convergent validity is the degree to which the variable converges to describe the variance of its indicators. The benchmark employed for assessing a variables' convergent validity is the average variance extracted (AVE) for all indicators on their respective variable. To compute the AVE, square the loading of each item on a variable is required. Benchmark for AVE is 0.50 or larger, showing that the variable describes a minimum of 50 percent of the variance of its items (Hair et al., 2019).

Thus, as shown in reliability and validity Table 1, the average variance extracted' (AVE) scores of all the constructs except PBC (0.431) exceed the acceptable level of 0.50, thus establishing the convergent validity by explaining more than 50% of the variance of their respective items.

Table 1: Construct Reliability and Validity

Main Construct	Item	Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
EI	EI1	0.873	0.875	0.909	0.639
	EI2	0.909			
	EI3	0.910			
	EI4	0.912			
	EI5	0.660			
	EI6	0.391			
GE	GE1	0.795	0.871	0.900	0.538
	GE2	0.461			
	GE3	0.762			
	GE4	0.860			
	GE5	0.773			
	GE6	0.835			
	GE7	0.607			
	GE8	0.689			
PA	PA 1	0.876	0.860	0.904	0.660
	PA 2	0.880			
	PA 3	0.869			
	PA 4	0.858			
	PA 5	0.516			
PBC	PBC1	0.698	0.760	0.819	0.431
	PBC2	0.662			

	PBC3	0.606			
	PBC4	0.643			
	PBC5	0.723			
	PBC6	0.596			
SN	SN1	0.790	0.626	0.800	0.573
	SN2	0.796			
	SN3	0.680			
WE	WE1	0.738	0.905	0.922	0.568
	WE2	0.736			
	WE3	0.740			
	WE4	0.748			
	WE5	0.743			
	WE6	0.776			
	WE7	0.776			
	WE8	0.765			
	WE9	0.760			

GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention

According to Hiar et al. (2019), the fourth stage is to check discriminant validity, which is the degree to which a variable is empirically different from the rest of the variables in path modeling. Fornell and Larcker (1981) suggested the Fornell-Larcker benchmark to check the discriminant validity. It checks the square root of the AVE scores with the construct correlations. Particularly, the square root of each variable's AVE must be higher than its largest correlation with any other variable. As shown in Table 2, all the correlations values in the rows and columns of the reflective constructs-PA, GE, EI, PBC, SN, & WE are less than with their respective square root of the AVE values, thus, established discriminant validity respectively.

Table 2: Discriminant Validity for Reflective Constructs

	EI	GE	PA	PBC	SN	WE
EI	0.800					
GE	0.290	0.733				
PA	0.455	0.330	0.812			
PBC	0.589	0.319	0.343	0.656		
SN	0.305	0.300	0.399	0.490	0.757	
WE	0.393	0.669	0.316	0.426	0.310	0.754

Note: GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention,

Fornell-Larcker benchmark is not giving desired results, especially when the item loadings on a variable vary just minorly, e.g., from 0.65 to 0.85 (Henseler et al., 2015). As an alternative, Henseler et al. (2015) suggested the heterotrait-monotrait (HTMT) ratio of the correlations. The HTMT ratio calculates the geometric-mean correlation among items across variables compares to the geometric-mean correlations among items within the same variable. Discriminant validity issues exist when HTMT scores are larger. A benchmark value of 0.90 for path models with variables that are conceptually closer. In such a situation, an HTMT scores greater than 0.90 would mean the lack of discriminant validity. However, when variables are conceptually more different, a more conservative, benchmark score is proposed, like, 0.85 (Henseler et al., 2015).

Accordingly, in current research, as shown in Table 3, HTMT ratios are presented. The technique of bias-corrected and accelerated (BCa) bootstrap confidence intervals applied with a resampling of 5,000 using two-tailed tests at a 95% significance level. Results indicated all the HTMT scores were less than the benchmark score of 0.85 and 0.90, thus, establishing the discriminatory validity of the study variables.

In short, the findings of the Fornell-Larcker criterion, as well as the HTMT ratio, confirmed the establishment of the discriminant validity of the study variables in current research.

Table 3: Heterotrait-Monotrait Ratio (HTMT)

	EI	GE	PA	PBC	SN	WE
EI						
GE	0.339 CI.95 [0.214 0.465]					
PA	0.502 CI.95 [0.345 0.636]	0.371 CI.95 [0.229 0.505]				
PBC	0.527 CI.95 [0.389 0.655]	0.368 CI.95 [0.244 0.497]	0.345 CI.95 [0.389 0.655]			
SN	0.389 CI.95 [0.223 0.535]	0.406 CI.95 [0.248 0.561]	0.575 CI.95 [0.403 0.735]	0.662 CI.95 [0.503 0.807]		
WE	0.444 CI.95 [0.321 0.566]	0.736 CI.95 [0.626 0.824]	0.343 CI.95 [0.224 0.464]	0.472 CI.95 [0.346 0.587]	0.395 CI.95 [0.257 0.527]	

GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention

4.2 Assessing Structural Model

After the satisfactory evaluation of the measurement model, the subsequent stage in examining PLS-SEM findings is evaluating the structural model in terms of collinearity problems, the magnitude of beta weights, coefficient of determination (R^2), effect size (f^2), a measure of predictive relevancy (Q^2), and the goodness-of-fit index (Hair et al., 2019).

4.2.1 Assessment of Collinearity Issues

Before checking the path links, collinearity must be assessed, ensuring not to bias the regression scores. The latent construct values of the explanatory variables are applied to compute the VIF statistics in partial regression. VIF scores larger than 5 are a source of possible collinearity problems between the explanatory variables. Still, collinearity problems may also happen at smaller VIF scores between 3 and 5 (Becker et al., 2015). Therefore, preferably, the VIF scores must be near to 3 and below.

As shown in Table 4, all the constructs are within the acceptable benchmark of multicollinearity. Specifically, VIF scores of predictor constructs are lower than the threshold score of 3 and 5, so after confirming the non-existence of collinearity issues, the study further proceeds for assessing the structural relationships in terms of path coefficients (β).

Table 4: Collinearity Assessment

	EI	GE	PA	PBC	SN	WE
EI						
GE						1.000
PA	1.269					
PBC	1.501					
SN	1.439		1.106	1.106		
WE	1.281		1.106	1.106	1.000	

GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention

4.2.2 Assessment of Direct Effects

Table 5 demonstrates the findings of the beta weights (β) for direct relationships. The results partially support hypothesis H₁, since out of three, the two factors of self-employment intention-PA and PBC are significantly related to the entrepreneurial intention. Beta weights (β) for H_{1a} and H_{1c} were 0.284 and 0.480, with t-values higher than 2.57, showing a 1% significance level, respectively. However, the β value for H_{1b} was -0.082 having t-scores less than 1.65 showing the non-significance relationship. Besides, H_{2a} and H_{2b} were accepted. As depicted in Table 5, the links of the subjective norm (SN) with both PA and PBC respectively are positive and significant. Beta weights

(β) for H_{2a} and H_{2b} were 0.333 and 0.396, with higher than 2.57 t-scores indicating a 1% significance level, respectively.

Besides on a similar pattern, H_{4a}, H_{4b}, and H_{4c} are accepted. As depicted in Table 5, the links between students' perceptions of women empowerment (WE) and all the antecedents of the intention (PA, SN, PBC) are significant and positive. Beta weights (β) for H_{4a}, H_{4b}, and H_{4c} were 0.213, 0.310, and 0.303, with t-values greater than 2.57, indicating a 1% significance level, respectively. Finally, H₃ was fully and most significantly supported. As shown in Table 5, the relationship between perceptions of gender equality and perceptions of women empowerment (WE) is positive and significant. β value for H₃ was the highest 0.669 with t-scores higher than 2.57, showing a 1% significance level, respectively. In short, the findings were encouraging and accepted all the direct proposed links in current research except H_{1b}.

Table 5: Direct Effects

Hypothesis	Paths	Original Sample (O)	Standard Deviation (STDEV)	T Value (O/STDEV)	P Values	BC 95% CI		Findings
						Lower	Upper	
H ₃	GE ->WE	0.669	0.045	14.723	0.000	0.562	0.745	supported
H _{4a}	WE->PA	0.213	0.068	3.149	0.002	0.082	0.347	supported
H _{4b}	WE->SN	0.310	0.054	5.694	0.000	0.189	0.404	supported
H _{4c}	WE->PBC	0.303	0.049	6.246	0.000	0.202	0.394	supported
H ₅	WE->EI	0.124	0.059	2.101	0.036	0.014	0.242	supported
H _{1a}	PA ->EI	0.284	0.071	4.006	0.000	0.144	0.419	supported
H _{1b}	SN->EI	-0.082	0.063	1.307	0.191	-0.210	0.038	Not supported
H _{1c}	PBC ->EI	0.480	0.059	8.173	0.000	0.355	0.584	supported
H _{2a}	SN->PA	0.333	0.086	3.870	0.000	0.152	0.489	supported
H _{2b}	SN ->PBC	0.396	0.062	6.376	0.000	0.257	0.504	supported

Notes: *Significant at p<0.1 (1.65); **Significant at p<0.05 (1.96); ***Significant at p<0.01 (2.57)
 GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention

4.2.3 Assessment of Coefficient of Determination (R^2 Value)

According to Hair et al. (2019), the R^2 examines the variance in each of the dependent variables and is thus a benchmark in examining the in-sample predictive power of a path model (Rigdon, 2012). Accordingly, in Table 6, R^2 scores for the whole sample of students were shown to be 0.096, 0.200, 0.324, 0.436, and 0.447 for SN, PA, PBC, EI, and WE, respectively. However, as compared with the whole sample, R^2 scores for the female sample were larger and shown to be 0.082, 0.295, 0.401, 0.540, and 0.568 for SN, PA, PBC, EI, and WE, respectively. Apart from SN, all these values ranging from moderate to above than moderate explained in-sample predictive power averagely more than 30.0% and 37.7% for whole and female samples, respectively. Particularly, as compared with 43.6% for the whole sample, TPB antecedents, along with students' perceptions of women empowerment for female students jointly explain the 54% variance in their self-employment intention.

Table 6: R Square Values

	R Square Whole Sample	R Square Female Sample	R-Square Adjusted Male Sample	R-Square Adjusted Female Sample
EI	0.436	0.540	0.426	0.523
PA	0.200	0.295	0.194	0.281
PBC	0.324	0.401	0.318	0.390
SN	0.096	0.082	0.092	0.074
WE	0.447	0.568	0.445	0.564

4.2.4 Assessment of the Effect Size f^2

Hair et al. (2019) recommended that along with assessing the R^2 scores of dependent constructs, changing in the R^2 score when without a distinctive independent construct, the PLS path modeling may examine if the excluded construct has a major impact on the dependent constructs. Benchmark values for examining f^2 are 0.02, 0.15, and 0.35, respectively, denoting small, medium, and large effects (Cohen, 1988) of the independent variable. Effect size scores of below 0.02 show that there is no effect. Accordingly, results in Table 7 demonstrate that except SN, entire scores were higher than the benchmark showing the significance of the effect sizes.

Table 7: Effect Size (f^2)

	Path Coefficients (β)		Relative Effect Size (f^2)
	Without Bootstrapping	With Bootstrapping	
EI			
PA	0.284	0.282	0.113 (S)
SN	-0.082	-0.080	0.008 (NE)
PBC	0.480	0.488	0.272 (M)
WE	0.124	0.120	0.021 (S)
WE			
GE	0.669	0.673	0.810 (L)
PA			
SN	0.333	0.336	0.126 (S)
WE	0.213	0.215	0.051 (S)
PBC			
SN	0.396	0.400	0.210 (M)
WE	0.303	0.305	0.123 (S)
SN			
WE	0.310	0.315	0.106 (S)

Note: GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention, S=small effect size, M= Medium effect size, L=Large effect size, NE= No effect size

4.2.5 Assessment of Cross-validated Redundancy Measure- Q^2

Hair et al. (2019) further provided that another measure to check the structural model's predictive power is by computing the Q^2 score. This benchmark is relied upon the blindfolding technique that excludes single points in the data set, assigns the excluded points with the average score, and calculates the parameters of the model (Rigdon, 2014; Sarstedt et al., 2014). Normally, Q^2 scores larger than 0, 0.25, and 0.50 show small, medium and large explanatory accuracy of the structural model. The entire scores presented in Table 8 showing the predictive accuracy of the model with EI (0.240), the highest and SN (0.044), the lowest for CV-redundancy Q^2 . Table 14 also demonstrated the weighted average of communalities for all the manifest variables with an average CV-

communality (Q^2) of 0.380. The results indicated that the model possessed predictive relevance.

Table 8: Blindfolding Results: CV-Communality and CV-Redundancy

Block	R^2	Construct Cross validated Communality (Q^2)	Construct Cross validated Redundancy (Q^2)
GE	—	0.383	—
PA	0.200	0.471	0.111
PBC	0.324	0.219	0.116
SN	0.096	0.186	0.046
WE	0.447	0.429	0.217
EI	0.436	0.489	0.240
Average	0.300	0.380***	

***Weighted Average of Communalities (14.07625/37)

4.2.6 Assessment of Goodness-of-Fit Index

The current study used Goodness-of-Fit (GOF) index as an indicator for the whole model fit to check that the model adequately responds to the actual data (Tenenhaus et al., 2005). Wetzels et al. (2009) recommended the benchmark scores for confirming the PLS model globally as GoF-small=0.1, GoF-medium=0.25, and GoF-large=0.36 indicating the global validation of the path model. A good model fit signals that a model is sound and parsimonious (Henselar, Hubona & Ray, 2016). Accordingly, as shown in Table 9, the GoF value of 0.409 has been calculated for the complete PLS model, which is larger than the benchmark value of 0.36 for the large effect size of R^2 ; thus, confirming that model's structure and data fit each other (Cohen, 1988).

Table 9: The Goodness of Fit Index

The GoF Index Calculation

GoF index calculation is as follows:

$$\text{GoF} = \sqrt{\text{AVE} \times R^2} \quad \text{Eq. (1)}$$

For calculation of the AVE average value, Eq. (2) is employed:

$$\mu_{\text{AVE}} = \frac{1}{n} \sum_{i=1}^n x_i \quad \text{Eq. (2)}$$

$$\mu_{\text{AVE}} = \frac{\text{AVE}_{EI} + \text{AVE}_{GE} + \text{AVE}_{PA} + \text{AVE}_{PBC} + \text{AVE}_{SN} + \text{AVE}_{WE}}{6}$$

$$\mu_{\text{AVE}} = \frac{0.639 + 0.538 + 0.660 + 0.431 + 0.573 + 0.568}{6}$$

$$\mu_{\text{AVE}} = 0.568$$

For calculation of the R^2 average value, Eq. (3) is employed:

$$\mu_{R^2} = \frac{1}{n} \sum_{i=1}^n x_i \quad \text{Eq. (3)}$$

$$\mu_{R^2} = \frac{R_{EI}^2 + R_{PA}^2 + R_{PBC}^2 + R_{SN}^2 + R_{WE}^2}{5}$$

$$\mu_{R^2} = \frac{0.426 + 0.194 + 0.318 + 0.092 + 0.445}{5}$$

$$\mu_{R^2} = 0.295$$

Substituting Eq. (2) and (3) into Eq. (1), the GoF value will be:

$$\text{GoF} = \sqrt{0.568 \times 0.295} = 0.409$$

$$\text{GoF} = 0.409$$

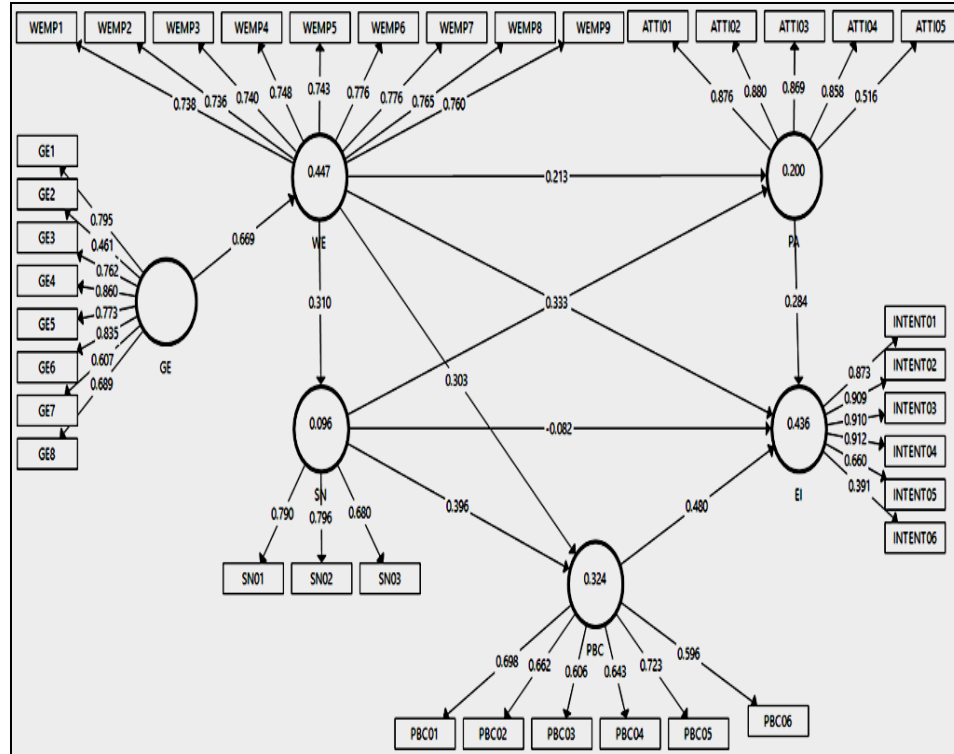


Figure 2: PLS-SEM Results

4.3 PLS-MGA Multi-Group Analysis

To check whether the differences between males and females' students' samples were statistically significant, PLS multigroup analysis was performed.

As expected, the results of PLS based multi-group analysis in Table 10 confirmed that females, as compared to males students, are significantly different in terms of paths: 1) From students' perceptions on gender equality to their perceptions on women empowerment (path-coefficient difference=0.152, p-value difference=0.038). 2) From students' attitude towards self-employment to their entrepreneurial intention (path-coefficient difference=0.336, p-value difference=0.019). 3) From students' subjective norm to their perceived behavioral control regarding self-employment (path-coefficient

difference=0.254, p-value difference=0.032). And 4) from students' perceptions on women empowerment to their attitude towards self-employment (path-coefficient difference=0.386, p-value difference=0.001). However, as shown in Table 18, the rest of the paths did not show any significant path coefficients difference across genders. Thus, H₆ partially supported.

Table 10: PLS-MGA Multi-Group Analysis

Paths	Female vs. Male Students	
	Path Coefficients-Difference	P-Value Difference
GE -> WE	0.152	0.038
PA -> EI	0.336	0.019
PBC -> EI	0.364	0.985
SN -> EI	0.004	0.481
SN -> PA	0.235	0.919
SN -> PBC	0.254	0.032
WE -> EI	0.118	0.150
WE -> PA	0.386	0.001
WE -> PBC	0.120	0.856
WE -> SN	0.058	0.708

Note: GE=Gender Equality, WE=Women Empowerment, PA=Personal Attitude, SN=Subjective Norm, PBC=Perceived Behavioral Control, EI=Entrepreneurial Intention, F=Female, M=Male

5. Discussion and Recommendations

Within the patriarchal society of Pakistan, the current study had modeled one research question: Does university-based entrepreneurship education (EE) raise university students' self-employment attitudes and intention through nurturing their perceptions on gender equality and women empowerment? Accordingly, the current study employed partial least square structural equation modeling (PLS-SEM), with the hypotheses grounded in the TPB and SDGs (4&5) to provide the complementary explanations of the students' intention to become self-employed. Based upon reliable and valid constructs,

the PLS structural model significantly explained about 43.6% and 54% of the variance in male and female students' intention to become self-employed, respectively.

Particularly, the current research assessed the TPB model by the impact of PA, SN, and PBC on students' self-employment career intention (EI), as affected by their perceptions of gender equality and women empowerment. The findings of the current study suggest that PA and PBC for both female and male students have a direct and significant impact on their intention to become self-employed. However, the current study found a significant difference between male and female samples regarding the impact of PA on their intention to become self-employed. Particularly, as compared with the male sample, the female students' attitude towards self-employment (PA) has more impact on their intention to become self-employed. These findings suggest that EE may consider like an equalizer, probably decreasing the restricting impacts of limited desirability and feasibility (PA & PBC) about self-employment career intention and eventually enhancing the opportunities for thriving self-employment creation especially by female students (Wilson et al., 2007). Therefore, in consistence with previous research (Krueger & Brazael, 1994; Linan, 2004; Linan & Chen, 2009; Aloulou, 2016; López-Delgado et al., 2019), the findings of current research affirmed the necessity to create confidence as well as desirability, especially in female students via EE programs providing education, advice, and support for self-employment (Dolinski et al., 1993; Krueger et al., 2000; Cowling & Taylor, 2001; Wilson et al., 2007).

However, the results of the current research suggest that for both male and female samples, SN has not emerged as a significant explanatory variable of intention to become self-employed. These results are similar to previous research that has employed TPB, particularly to entrepreneurship (Krueger, et al., 2000; Liñán & Chen, 2009; Santos et al., 2016; Dinc & Budic, 2016). However, in current research, SN emerged as a key variable influencing students' desirability (PA) and feasibility (PBC) to become self-employed.

Particularly, the findings suggest that female students who see to fulfill the expectations of friends, family, and significant others will feel more confident as compared to male students to be engaged in self-employment. Sole ground thereof could be that usually, learners, including females, remain in the phase of discovering their career path options. Thus, the opinions of family, friends, partners, and significant others, including academicians and practitioners (entrepreneurial teachers and women entrepreneurs), might be influential in this process (Díaz-García & Jiménez-Moreno, 2010). Especially, females' ability to utilize agency in Pakistan is mainly subject to the household dynamics where their entrepreneurial choices depend on the willingness of their spouse and his family (Roomi et al., 2018). This confirms that in the domain of self-employment, SN is

regarded as being the most significant for female learners, given their person-focused character and belonging and interpersonal requirements (Karimi et al., 2013).

However, the most relevant results to be considered as depicted by multi-group analysis in Table 10, is the confirmation that as compared with the male sample, the female students' perceptions on gender equality (GE) can lead them to their perceptions on women empowerment (WE) and, through it, to personal attitude (PA) and further towards intention (EI) to become self-employed more significantly. In other words, a reinforcement of particularly female students' perceptions of gender equality and women empowerment will increase their attitudes and intentions of self-employment as an opportunity. A possible explanation about these findings might be that those females' learners who perceive that success on self-employment depends on the presence of stereotypical masculine roles consider difficulty to succeed as entrepreneurs (Díaz-García & Jiménez-Moreno, 2010).

Besides, to decrease the gender variances in male-oriented professions such as self-employment career, these careers should undoubtedly be related to gender-neutral traits attributed to both genders. As such, by considering the stereotype activation theory (SAT), the results of the current study suggest that female students may disprove the gender-based stereotypes once had been discussed openly and directly in schooling and media (Gupta et al., 2008). Therefore, by incorporating a feminine vision of perceptions on gender equality and women empowerment in TPB, the gender-sensitive based EE program may satisfy the needs of both genders.

This implied that EE likely to change gender-based stereotyped roles (Liñán et al., 2011; Byrne & Fayolle, 2010) by adjusting its design, content, and delivery to the particular needs and expectations of female learners (Fayolle & Gailly, 2015; van Ewijk & Belghiti-Mahut, 2019) to challenge men as natural entrepreneurs (Swail & Marlow, 2018). This further implies that EE in Pakistan likely to perform as a discourse-transforming experience (Liñán et al., 2011; Byrne & Fayolle, 2010; van Ewijk & Belghiti-Mahut, 2019).

Prior empirical research has also provided the impact by the female entrepreneurial agency in Muslim cultures, including Pakistan, who firmly re-shaped the gender-based stereotyped roles in self-employment and stimulate their occupational option so that it adapts typical gender societal roles (van Ewijk & Belghiti-Mahut, 2019; Roomi et al., 2018; Tlaiss, 2015). Thereby establish a favorable landscape for budding women entrepreneurs from the non-Western culture of Pakistan (van Ewijk & Belghiti-Mahut, 2019).

In summary, the findings of the current research practically implied that it is the right time to mainstream the marginalized youth, especially females, in the development processes of Pakistan. Particularly, these results can better execute the current Pakistani Prime Minister's vision of creating 10 million (self) employment jobs under national youth entrepreneurship scheme over the next 5 years, where the government will provide the youth the basic training, aptitude as well as tools, resources and subsidized loan to be engaged in self-employment (Government of Pakistan-National Youth Development Framework, 2019).

However, the results of current research implied that to implement this vision, steps to promote self-employment as a feasible profession among youth, especially females, may involve using feminist role models in entrepreneurial teaching and engaging effective female entrepreneurs in the EE program to share their entrepreneurial experiences.

In the end, higher education institutes must promote enterprising culture furthermore. On the other hand, the Pakistani educational structure lacking a strategic plan targeted on disclosing self-employment as a career choice for learners. Therefore, it could be useful to examine the economic impact of starts-up initiated by entrepreneurship students of leading universities like MIT and Stanford. In this regard, Cohan (2017) provided that by 2014, MIT students formed 30,200 firms with \$1.9 trillion in revenue and 4.6 million jobs. On the other hand, Stanford performed even greater--by 2011, Stanford students formed 39,900 firms with \$2.7 trillion in revenue and employed 5.4 million people.

However, to achieve this, the results of current study implied that entrepreneurship discourse ontologically should not position the feminine as against the perfect entrepreneurial model granting a position prejudice to gender equality and women empowerment and feeding a poor image of their authenticity as reliable entrepreneurial models even before they start self-employment (Swail & Marlow, 2018).

5.1 Research Contributions

Present results contribute to the existing literature in several ways. Firstly, the results of the current study indicate that TPB furnishes a valid framework for explaining the effects of entrepreneurship education (EE) on female students' entrepreneurial intentions. Secondly, the current research underscores the processes whereby EE through nurturing the female students' perceptions of gender equality and women empowerment affects female students' attitudes and intention to become self-employed. It is essential to recognize such processes as awareness for them allows us to conceive better EE programs concerning what matters to budding female entrepreneurs (Edelman et al., 2006). Particularly, the current research demonstrated that entrepreneurship education

affects female students' perceptions of gender equality and women empowerment in forming their self-employment attitudes and intention. In other words, entrepreneurship education to design in such a manner that allows female learners to nurture their entrepreneurial attitudes and intentions through developing their positive perceptions on gender equality and women empowerment with a passion for trying it themselves. Thirdly, the current study contributes to the current EE based scholarly work by responding to the need for theory-driven models to examine the effect of EE programs (Fayolle & Gailly, 2008). Hence, the results of the current study would help those investigators assessing the effects of diverse EE approaches and practices, especially on female students within the context of patriarchal culture. Finally, the findings may contribute to less inconsistent results of EE based impact research because it may be reproduced to assess a specific EE program. Particularly, the findings of the current study add to the enhancement of the standard of research on the effect of EE programs. Thus supports the decision-makers of education to encourage and additionally invest in EE programs for female students through developing their positive perceptions on gender equality and women empowerment (Kamovich & Foss, 2017).

5.2 Research Limitations and Future Directions

Common with all, this study also contains several limitations. Firstly, the current study collected the data from only one department of a major public university in one country (Pakistan). Given that perceptions of gender equality and women empowerment are socially constructed, hence, differences in culture could be important on this subject. From this perspective, future research should reproduce current research in various countries. Secondly, since the current research is cross-sectional, thereby may not claim causality in any of the proposed links. Hence, stressing that the findings assist the study hypotheses without giving any assurance of causation in the proposed links unless longitudinal research to initiate in the future. Also, as put earlier that the contribution of female students' perceptions of gender equality and women empowerment can be more relevant not only in predicting their self-employment attitudes and intention but also in actually starting the venture and its success. Against this background, to test these links, over the entrepreneurial process, longitudinal studies are required. Finally, the reasonings presented in support of the findings are, right now, only provisional. However, the integration of perceptions on gender equality and empowerment as immediate constructs in explaining the formation of female students' self-employment attitudes and intention paves the way for further assessing these arguments. In this respect, the testing of the role of female students' perceptions on gender equality and women empowerment in forming

their self-employment attitudes and intention (into actual starting up), including its influence on the result of the new business creation, might be interesting (Al-Jubari et al., 2019).

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