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**Entrepreneurial Intentions: The Role of Individualism and Collectivism in Perspective of Theory of Planned Behaviour**

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# Entrepreneurial Intentions: The Role of Individualism and Collectivism in Perspective of Theory of Planned Behaviour

## Abstract

**Purpose** – Culture plays a vital role in shaping individuals' intentions and behaviour. Influence of cultural values on entrepreneurship has been acknowledged widely by academics and practitioners. However, little in terms of empirical results is known. Thus, the aim of this study is to investigate the effect of cultural values on entrepreneurial intentions of Pakistani students.

**Design/methodology/approach** – Cultural values of individualism and collectivism were incorporated into the Theory of Planned Behaviour (TPB). Smart-PLS software was used to run a Structural Equation Modeling (SEM) technique to analyze the data.

**Findings** – SEM results showed that attitudes towards entrepreneurship (ATE) and perceived behavioral controls (PBC) mediated the relationship between individualism and entrepreneurial intentions while Subjective Norms (SN) mediated the relationship between collectivism and entrepreneurial intentions.

**Originality/value** – The study confirms the applicability of the TPB for understanding the entrepreneurial intentions in a collectivist culture. Additionally, findings of this study displayed that external factors, such as cultural values, can impact entrepreneurial intentions through subjective norms (SN), attitude and PBC. Incorporation of cultural values in TPB contributed to the understating of antecedents of entrepreneurial intentions.

**Keywords** Entrepreneurial intentions, Individualism, Collectivism, Theory of Planned Behaviour, Structural Equation Modeling

**Paper type** Research paper

## Introduction

This study has been conducted in the context of Pakistan, a developing country that shares 2.64 % of the world's population. It is pertinent to mention that 64% of Pakistan's population is under the age of 30 (Ahmad, 2018). Unfortunately, a substantial part of the population is beneath the murky hazes of unemployment and poverty. Pakistan is currently facing seasonal, cyclic, technical and structural unemployment. The horrifying part is that this phenomenon is intensifying every year which in the long run will prove to be menacing for the economy of Pakistan (Gul *et al.*, 2012). To cope up this issue, the core focus should be

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3 to stabilize the economic settings. Promotion of entrepreneurship could be one of the factors  
4 to stabilize economic setting. Literature suggest that entrepreneurship is a vital source of job  
5 creation and economic development (Arshad *et al.*, 2016; Bell, 2019; González-Serrano *et*  
6 *al.*, 2018; Mwiya *et al.*, 2018; Nyadu-Addo and Mensah, 2017) and intentions play a  
7 significant role in starting a new venture (Devonish *et al.*, 2010; Drnovšek *et al.*, 2010;  
8 Shahid *et al.*, 2018). However, less is known about the attitude and motivational antecedents  
9 of the entrepreneurial intentions (EI), and this is the case in non-Western developing  
10 countries like Pakistan. The research on EI is, most of the time, inclined to Western  
11 economies, all of which are more individualistic countries. As a result, there is less empirical  
12 evidence currently on EI and its antecedents from countries and cultures which are somewhat  
13 more collectivistic than individualistic. One of the collectivistic countries is Pakistan, where  
14 there is a possibility that the various cultural principles and values may help to advance EI.  
15 Pakistan has an ancient and rich cultural heritage. It also has economic and strategic  
16 importance within the Asian sub-continent. Thus, there is a need to investigate the  
17 antecedents of EI in Pakistan. For this reason, Theory of Planned Behaviour (TPB) is  
18 espoused to examine if the entrepreneurial intention antecedents acknowledged in a TPB-  
19 based model affect students' EI when it comes to a developing, non-Western collectivist  
20 country.

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22 Just as very little is known about the antecedents of EI in non-Western and/or developing  
23 countries, little is also known about what cultural values at the individual level have  
24 contributed to the non-Western contexts, in particular, and the antecedents of EI, in general.  
25 Generally, attitudes and behaviour are shaped by cultural values (Kirkley, 2016), and  
26 intentions are also affected by cultural values. Nevertheless, at the individual level, very little  
27 is known about the effects of cultural values. Particularly, only a limited amount of cultural  
28 values tested empirically in the entrepreneurial intention models are available, and, perhaps,  
29 there is none in the Pakistani context. The exact mechanisms through which EI is effected  
30 by culture are not clear. Therefore, scholars want more studies to be conducted on the effect  
31 of cultural values on EI.

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Leaning on the TPB and the cultural orientations literature, this research constructed an EI model and examined the effects of motivational factors and individual-level cultural values on EI within the Pakistani context. More specifically, the current study endeavored to check the mediation role of motivational factors on the relationship between cultural values and EI. Little attention has been given to this extended model of EI in the previous research. This model will provide a deeper understanding and insights into EI, TPB and cultural values.

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3 The study will contribute to developing interventions to foster EI among students.  
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5 In the next section, the hypotheses to be tested and the theoretical framework are  
6 presented. This is followed by the methods by which the research was carried out and the  
7 results in which the study outcomes and characteristics are presented. These results are dealt  
8 with in the discussion section. Lastly, the implications for policymakers and educators,  
9 potential limitations of the paper, and the directions for future research are discussed.  
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## 14 **Theoretical Framework and Hypothesis Development**

### 15 *The Theory of Planned Behaviour*

16 Research conducted in the past to get an understanding of the factors that affect the decision  
17 to begin a new venture, and consequently, become an entrepreneur, paid more attention to  
18 psychological physiognomies, such as personality traits, need for achievement and risk-  
19 taking propensity. The role of demographic traits, such as gender, religious background, age,  
20 level of education, association with ethnic groups, and experience in employment, was  
21 highlighted in later studies (Ghouse *et al.*, 2017; Tandrayen-Ragoobur and Kasseeah, 2017).  
22 The early trait and subsequent demographic methods to entrepreneurship study were both  
23 judged because they had limited predictive value, and, in turn, explanatory capacity. As a  
24 result, they also had major conceptual and methodological weaknesses.  
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34 Later, the research on psychological and cognitive determinants of EI came forth. This  
35 focused on the motivation, attitudes and perceptions of starting a new venture. In these  
36 models, the intention was the main focus as the intention is considered an immediate  
37 antecedent of behaviour (Ajzen, 1991). According to Bird (1988), intentions are effected by  
38 numerous aspects such as beliefs and values. Numerous academics have also stated that  
39 paying attention to EI and cognition structures is essential in understanding entrepreneurship  
40 (Busenitz and Barney, 1997; Krueger Jr, 2007; Mitchell *et al.*, 2002).  
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46 As was originally put forth by Ajzen (1991), TPB is one of the most broadly researched  
47 cognitive models (Shah and Soomro, 2017). Ajzen (1991) assumed that in this model human  
48 behaviour is reasoned, planned and controlled such that it takes the potential results of a  
49 behaviour that is being considered. Thus, the intention is the major factor in the TPB as to  
50 whether an individual will perform a given behaviour.  
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54 Ajzen (1991) asserted that an individual's attitude towards the behaviour, SN and  
55 perceived behavioral controls (PBC) affect the intentions which subsequently form  
56 behaviour. Attitude towards behaviour refers to the extent to which an individual has  
57 favorable or unfavorable appraisal or assessment of the issue or behaviour in question.  
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3 According to the TPB, attitudes are determined by the total set of accessible behavioral  
4 beliefs linking the behaviour to various outcomes and other attributes. They include not only  
5 affective (I like it, it is attractive) but also evaluative (it has advantages) considerations  
6 (Liñán and Chen, 2009). Another important component of TPB is SN, it refers to the pressure  
7 exerted by the significant others (such as family, friends, relatives, etc.) to perform or not to  
8 perform a certain behaviour. Usually, literature divides SN into two component: normative  
9 beliefs and motivation to comply. Normative beliefs are the perception of support or rejection  
10 of behaviour by the significant others, while the motivation to comply is an individual's  
11 willingness to comply with these norms. The third component of TPB is PBC. It refers to the  
12 perception of ease of difficulty in performing the behaviour in question. PBC is similar to  
13 the self-efficacy concept coined by Bandura (1977).  
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16 In the past, a plethora of research has incorporated and empirically tested the TPB to  
17 determine the EI of university students, and TPB was confirmed as a valid predictor of EI  
18 when motivating factors are taken into account (Aragon-Sanchez *et al.*, 2017; Lourenço and  
19 Jayawarna, 2011). However, the results of these studies vary across different countries and  
20 situations based on the antecedents' importance and the extent of their effects. Remarkable  
21 and clear effects of PBC and attitudes towards entrepreneurship (ATE) on students' EI have  
22 been recorded. In terms of SN, an important element in TPB, the results of research are  
23 inconsistent and unclear. In addition, most of the past studies showed a weak power of  
24 prediction of the said factor. There is a significant connection between SN and EI in just two  
25 out of six countries in the research conducted by Moriano *et al.* (2012).  
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28 In line with these research findings, Santos and Liñán (2007) recommended that  
29 subjective norm is a particular type of social capital, and hence, might influence other  
30 intention antecedents, namely PBC and ATE. In fact, Ajzen (1991) is of the opinion that the  
31 three antecedents of TPB may not always affect the prediction of intentions. In a few recent  
32 entrepreneurship studies from a social-capital viewpoint, SN really impacted PBC and ATE  
33 in a positive manner, and thus, EI indirectly. Consequently, based on the above discussion,  
34 we postulate the following hypotheses:  
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37 **H1:** *Entrepreneurial intention is positively associated with PBC, SN and ATE.*

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39 **H2:** *There is a positive impact of SN on EI through ATE.*

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41 **H3:** *There is a positive impact of SN on EI through PBC.*  
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### ***Entrepreneurial Intentions and Culture***

Cultural values play a very vital role in the way individuals act in a given social context (Solesvik *et al.*, 2014). According to Stedham and Wieland (2017), culture is the inherent system of values common to a particular society or group. Hence, culture can propel members of a society to engage in behaviour that might not be that common in some other cultures.

The importance of cultural values in predicting an individual's cognitive and decision-making process of starting a new venture is established (Zeffane, 2014). However, very less empirical work has been conducted regarding measuring the impact of norms and cultural values. Besides, the results have been inconsistent or ambiguous in the few researches that analyzed EI with respect to culture. While some studies found that entrepreneurship has a positive relation to cultural values (Krueger *et al.*, 2013; Mueller and Thomas, 2001), other studies have concluded that the idea cannot uphold that higher level of collectivism will mean a higher level of EI (Pinillos and Reyes, 2011). The mechanisms that affect how culture impacts entrepreneurship are not well understood (Bowen and De Clercq, 2008; Hayton *et al.*, 2002).

Correspondingly, past research acknowledges the importance of cultural values in determining EI (Kirkley, 2016; Pruett *et al.*, 2009). However, the conclusion has not been very firm as most of the studies were based on Hofstede's national cultural dimensions. The country is considered an entire unit in most of these studies, and any person, within-group differences in cultural values, is not considered. The society members can vary to the extent to which they adhere to, relate to and act, as per particular cultural norms and values (Cleveland and Laroche, 2007; Cross and Madson, 1997; McCoy *et al.*, 2005). Sometimes members of a collectivist society appear to work better as individualists than as collectivists, but in contrast, members of an individualist culture might occasionally perform better as collectivists than as individualists (Triandis, 1995). Thus, it is not logical to utilize national cultural dimensions at an individual level (McCoy *et al.*, 2005; Straub *et al.*, 2002).

Dynamic political, social and economic circumstances may change the cultural values over a period. This is why, researchers have argued that the measurement of cultural values should be done at the individual level and incorporated into the investigations of perceptions, attitudes and behaviour in the entrepreneurship domain (Fayolle and Liñán, 2014; Fayolle *et al.*, 2014).

To summarize, very few studies, up until this point, have examined the effect of cultural values on EI at the individual level, especially using the TPB framework. Thus, to bridge this literature gap, the present work engrossed on two important aspects of culture, namely,

1  
2  
3 collectivism and individualism.

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5 Collectivism and individualism have been used a lot in entrepreneurship research.  
6 Without a doubt, they are part of the most crucial aspects of culture. Thus, they are a part of  
7 the main dimensions along which different cultures vary. The addition of these values in this  
8 research contributes to researchers' understanding of entrepreneurship and also the TPB  
9 (Franke *et al.*, 1991; Schimmack *et al.*, 2005; Vandello and Cohen, 1999).

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13 Collectivism and individualism were conceptualized as two opposing dimensions of the  
14 culture. However, some researches have shown that these concepts are better understood and  
15 seen as different dimensions along which one culture varies from others, and therefore, as  
16 co-existing dimensions of culture (Oyserman *et al.*, 2002; Triandis, 1994; Triandis and  
17 Gelfand, 1998).

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22 Empirical studies equally suggest that collectivism and individualism constitute different  
23 attributes at the individual level (Ho and Chiu, 1994; Van Hooft and De Jong, 2009). This  
24 implies that an individual can have both collectivist and individualist tendencies and traits  
25 (Triandis, 1989). More collectivist or individualist manifestations of the self may be  
26 provoked by different situations (Trafimow *et al.*, 1991; Ybarra and Trafimow, 1998). An  
27 individual may have a strong belief in personal independence and initiative, for instance, but  
28 also greatly cherish group sharing and harmony (Trafimow *et al.*, 1991). Hence, collectivism  
29 and individualism should not be evaluated as opposites along a single continuum but as  
30 unrelated characteristics of the person.

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The TPB posits that exogenous variables, such as culture, can affect behaviour and intentions (Prabhu *et al.*, 2012) in two ways. Firstly, external or exogenous variables can affect the behaviour and intentions of individuals indirectly through their effects on individuals' attitudes (such as SN, attitude and PBC). What this means is that exogenous or external factors can have mediation impacts. Secondly, external or exogenous factors can affect how individuals see attitudes as to what determines their intentions. In this study, it has been examined, how cultural values indirectly affect EI through TPB factors.

### ***Mediation Effect of ATE, PBC and SN***

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Inglehart (1997) stated that culture is the set of shared fundamental values that help to shape the behaviour of the members of society. Therefore, one important aspect of culture is values. Values are also crucial when forming attitudes and in the occurrence of behaviour (Dumas and Ter Hofstede, 2001; Homer and Kahle, 1988). They are used as criteria for choices of behaviour, judgments and preferences because they are profoundly established in the person

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3 and culture. Values play a very crucial role in the decision-making of humans.  
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5 The relationship between behaviour and values has been explained using several  
6 developed theoretical approaches. The Cognitive Hierarchy Theory is the foundation for one  
7 well-established model (Homer and Kahle, 1988). This theory explains that values affect  
8 behaviour, and behavioral intention, affect indirectly attitudes. This means that values are  
9 distally related to behaviour, and behavioral intentions, and proximally related to attitudes.  
10 The model simply shows that there is a cognitions hierarchy in which, theoretically, the  
11 influence moves from more abstract (i.e., values) to a middle range (i.e., attitudes) to less  
12 abstract (i.e., specific intentions and behaviour).  
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19 Models derived from the Cognitive Hierarchy Theory have been tested in many areas, for  
20 example, social psychology (Milfont *et al.*, 2010), consumer behaviour and management  
21 research (Shim and Drake, 1990), and environmental studies. Values are widely believed to  
22 indirectly affect behaviour and intentions via attitudes (Defever *et al.*, 2011)  
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26 According to Soininen *et al.* (2013), within the field of entrepreneurship, it is shown that  
27 the values-attitudes-behaviour framework is also functional. Nonetheless, no comprehensive  
28 model in which behavioral intentions, cultural values and attitudes are incorporated to link  
29 EI has been formulated and tested, especially in the Pakistani context. This research tries to  
30 fill this gap by developing an integrated model of EI. Based on both the Cognitive Hierarchy  
31 Theory and TPB, it is hypothesized that attitudes could predict EI, or cultural values could  
32 predict the most proximal determinants of attitudes and EI or the more distal determinants of  
33 EI.  
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39 With respect to the cultural values as a determinant of attitudes, and hence, EI, more  
40 attention is paid to the two essential cultural aspects of collectivism and individualism or the  
41 association between the collectivity within a given society and the individual. Individualism  
42 generally focusses more on the independent self, achievement, uniqueness, personal control  
43 and attitudes. The social ties between people in an individualist society are sometimes loose.  
44 What motivates individualists includes their own interests, achieving the personal goals they  
45 set for themselves and the feeling of pride once the personal goals have been achieved.  
46 Collectivism is more interested in group goals, cooperation within the group, social norms  
47 and connectedness. Maintaining harmony within the group and meeting the expectations of  
48 others are what the collectivist cares about.  
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56 Therefore, it could be postulated that individuals who score high on the measuring scale  
57 of individualism will be inclined towards their own benefits and personal interests as  
58 compared to the ones who score high on collectivism. Since the individuals who score high  
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on collectivism would be more inclined to meeting others' expectations to maintain harmony, this might lead them to have higher SN than individualists.

According to Park and Levine (1999), attitude towards any behaviour is positively associated with a self-construal score, which is an individual level factor of individualism, while SN were significantly and positively associated with interdependent scores, that is an essential construct at an individual level in collectivism. Thus, based on the above discussion following hypotheses are formulated.

**H4:** *Individualisms will have a positive effect on EI through ATE.*

**H5:** *Collectivism will have a positive effect on EI through SN.*

According to Geletkanycz (1997), on the one hand, individualism has the ability to effect PBC or an individual's confidence to get involved in particular action or behaviour. On the other hand, collectivism can impede the confidence of the individual. Based on the above discussion, it is plausible to expect that individuals who are more inclined towards individualism will display a higher level of behavioral control as compared to those who follow collectivism. Thus, we postulate the following hypothesis.

**H6:** *There is a positive impact of individualism on EI through PBC.*

Figure 1 shows the hypothesized relationship among the study variables.

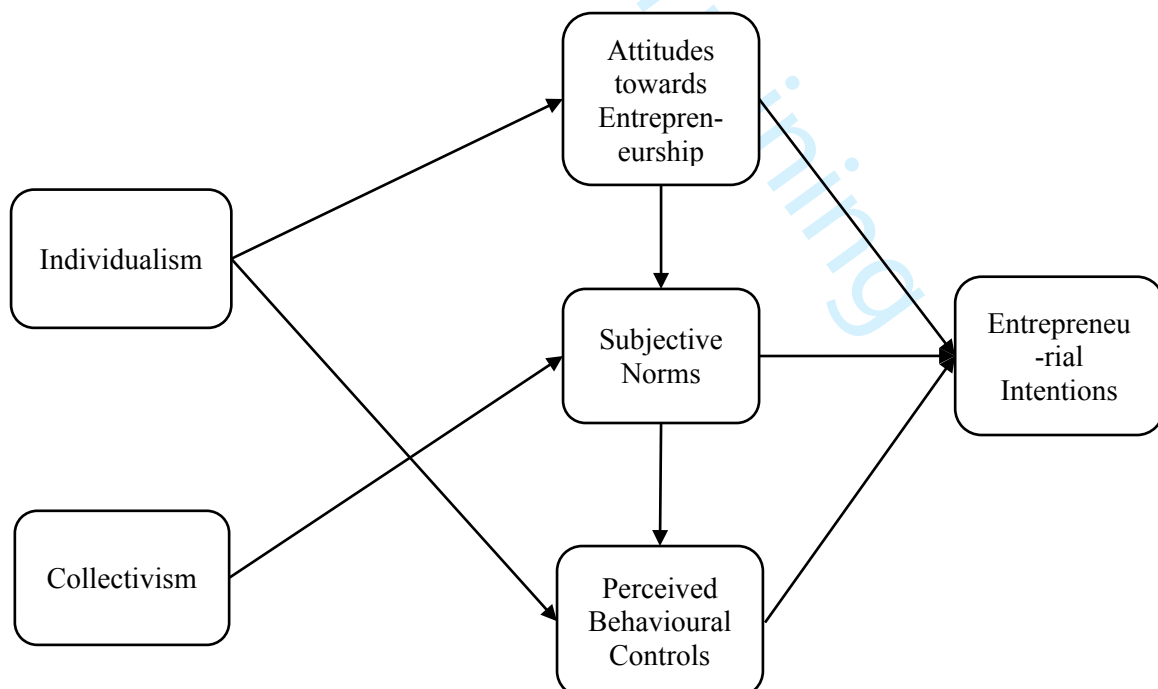


Figure 1: Theoretical model of the study

## Research Methods

### *Sample and Data Collection*

The data was collected from 1100 undergraduates who were enrolled in elective courses on entrepreneurship available at the six public Pakistani higher education institutes. The students were targeted for two reasons. First, it has been shown that students taking such courses were more likely to start a business (Wu and Wu, 2008). Second, final year college students are faced with major career decisions and are known to have a clear understanding of their futures (Krueger and Kickul, 2006; Krueger *et al.*, 2000). The six higher education institutes were traditional universities; they offer graduate and undergraduate degrees in different disciplines; their educational focus is broad, and they were located in the capital of Pakistan. The universities are all subject to the same national rules and regulations.

After getting the cooperation and approval of the lecturers, questionnaires were shared with the students at the start of a class session so that they can voluntarily complete them. The original questionnaire was typed in English. A pilot study was conducted before starting the actual data collection. The total number of questionnaires completed was 979, which represents an 89% response rate. The sample was made up of humanities students (47.2%), computer engineering students (20.8%) and agriculture engineering students (32%). The total number of female respondents was 372 (38%).

### *Measures*

The Entrepreneurial Intention Scale was adopted from Leong (2008). This scale was recently validated by Farrukh *et al.* (2017) in the Pakistani context, the Cronbach's alpha value in their study was 0.798. The scale consists of five items. Sample items for this measure are: "*I intend to set up a company in the future,*" "*I will choose a career as an entrepreneur,*" and "*I prefer to be an entrepreneur rather than to be an employee in a company or organization.*"

To gather information regarding "attitudes towards entrepreneurship" and "perceived behavioral controls," we adopted a scale developed by Liñán and Chen (2009); while a Subjective Norms Scale was borrowed from Krueger *et al.* (2000). The questionnaire items for individualism were taken from Triandis and Gelfand (1998) and for collectivism were taken from Oyserman *et al.* (2002). Items of the measures are given in the Appendix.

### *Hypothesis Testing*

Partial Least Squares (PLS) Structural Equation Modelling (SEM) was used to analyze the data. For running PLS-SEM, we used the SmartPLS software version 3.2.7. PLS-SEM is a

powerful technique which has become popular among the social scientists since the last one decade and is widely used in prior studies (Daneshjoovash and Hosseini, 2019; Farooq *et al.*, 2018; Haddoud *et al.*, 2017; Zacca *et al.*, 2017).

In terms of analysis, PLS-SEM is a two-step process involving the assessment of the measurement and structural model (Anderson and Gerbing, 1988). First, the measurement model should be assessed by examining the internal consistency reliability (ICR), convergent validity (CV) and discriminant validity (DV) (Chin, 1998; Hair *et al.*, 2017). ICR measures the degree to which the items measure the latent construct (Hair *et al.*, 2017). This assessment was done through composite reliability (CR) scores. The results indicate that the CR scores of all constructs exceeded the threshold criterion of 0.7 (Hair *et al.*, 2017), demonstrating high internal consistency of the scales used in this study.

Next, factor loadings and average variance extracted (AVE) were assessed to determine the CV of the constructs. The CV is the “extent to which a measure correlates positively with alternative measures of the same construct” (Hair *et al.*, 2017). A factor loading should be 0.708 or higher, and 0.70 is considered close enough to be acceptable (Hair *et al.*, 2017). However, indicators with weaker factor loadings (i.e., 0.40 to 0.70) can be retained if other indicators possess high loadings, and the overall construct should explain at least 50% variance (AVE = 0.50) (Hair *et al.*, 2017). The AVE scores of all constructs also exceeded the threshold value of 0.5, indicating adequate CV. Table 1 presents the factor loadings, CR and AVE scores.

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Insert Table 1 here

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Another criterion for checking the validity of the construct is DV. DV is “the extent to which a construct is truly distinct from other constructs by empirical standards” (Hair *et al.*, 2017). In this study, DV is checked with the help of Fornell and Larcker (1981) criteria, which states that the square root of AVE value should be higher than the squared correlation with other constructs (Fornell and Larcker, 1981). Results in Table 2 show that the DV was achieved.

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Insert Table 1 here

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As presented in Table 2, the correlations among the latent constructs were compared with the square roots of the average variances extracted (Fornell and Larcker, 1981). Table 2 further indicates that each of the square root of the average variances extracted has exceeded

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3 the correlations among latent constructs. Hence, this suggests that adequate DV has been  
4 achieved.  
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### 6 ***Assessment of Significance of the Structural Model***

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8 After establishing the validity and reliability of the measurement model, the results of the  
9 structural model are then presented. In the current research, a bootstrap resampling method  
10 has been applied based on 5000 replicates, and 300 cases, to assess the significance of the  
11 path coefficients (Hair *et al.*, 2017; Henseler *et al.*, 2009).  $R^2$  measures the predictive  
12 accuracy of the model (Ang *et al.*, 2015) and represents the percentage of variance in the  
13 dependent variable(s) as explained by the independent variables in a model (Hair *et al.*,  
14 2017). Whereas, path coefficients indicate the degree of change in the dependent variable for  
15 each independent variable (Hair *et al.*, 2017; Pallant, 2010).  
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25 Insert Table 2 here  
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27 After assessing the measurement model, the significance of the path coefficient was  
28 analyzed with the help of a bootstrapping function of SmartPLS to test the hypothesis. Table  
29 3 shows the results. *Hypothesis 1* was fully supported, this suggests that the TPB can predict  
30 EI. *Hypothesis 2 and 3* were also supported, suggesting that there is a significant effect of  
31 SN on EI through PBC and ATE.  
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### 36 **Mediation Analysis**

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38 Next, the bootstrapping technique, as suggested by Hair *et al.* (2017), was used to test the  
39 significance of the indirect effect. Bootstrapping does not make any assumption about the  
40 sampling distribution of the statistics or the distribution shape of variables; moreover, it can  
41 also be used for a small sample size with confidence. Thus, a bootstrapping approach for  
42 testing indirect effect is perfectly suitable for the PLS-SEM method (Hair *et al.*, 2017).  
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47 Results in Table 4 show that PBC and ATE mediated the association among individualist  
48 cultural values and EI, and SN mediated the relationship between collectivist cultural values  
49 and EI. According to Hair *et al.* (2017), if both the direct and indirect effects are significant  
50 and point in the same direction, the type of mediation would be complementary mediation.  
51 Hence, in the present study, mediation would be counted as complementary mediation.  
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## Discussion

The main goal of the study was to incorporate two cultural values, namely individualism and collectivism, in TPB to investigate the EI of students in Pakistan. The findings of *Hypothesis 1* showed that motivational factors of TPB, such as ATE, PBC and SN, have a significant and positive impact on EI. Out of the three factors of TPB, SN were the strongest predictor of EI. The reason for this could be the effect of collectivist values of the Pakistani culture. Pakistan, with a very low score of 14, is considered a collectivistic society (Hofstede Insights, 2018). The decision to start a new venture is an important decision, which is most likely to be influenced by parents and peers. *Hypothesis 2 and 3* were also supported as the SN showed a significant and positive impact on EI through ATE and PBC. The reason for this association lies in the values of Pakistani culture. When some individuals feel that those closest to them are in favor of starting a new venture, their attitude and self-confidence (PBC) increase. Results of SmartPLS bootstrapping showed that ATE, PBC and SN mediated the association between cultural values and EI. Individualist values influenced EI via PBC and ATE while collectivist influenced via SN. From these findings, it can be concluded that individualist values enhance students' self-confidence and attitude while collectivists are more prone to social context.

## Study Contributions

### *Theoretical Contributions*

The findings of this paper endorsed the TPB and its implications in knowing the antecedents of EI in a collectivist culture. Moreover, the study also showed that the antecedents of behavioral intention play a significant role in forming EI. Additionally, the findings revealed that the extent of the contributions of these variables could vary across different cultural backgrounds and situations. The investigation of cultural values at the individual level, and integrating these values in TPB, contributed to researchers' understanding of antecedents of EI. The results of the present work also endorsed the Cognitive Hierarchy Theory by showing the flow of influence from abstract and stable values to domain-specific and concert attitude towards EI. Lastly, our findings also supported Self-Construal Theory and Bontempo and Rivero's (1992) cultural variation in cognition by endorsing that TPB produces different results depending on the cultural orientations.

### *Managerial Contributions*

The findings from this study confirm the importance of the individual's ATE, SN and PBC

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2  
3 in nurturing EI. Thus, it is recommended that entrepreneurial education programs should  
4 focus on finding ways to enhance these motivational factors. Past researchers claimed that  
5 PBC or self-efficacy can be learned and it can be developed over time (Erikson, 2003;  
6 Wakkee *et al.*, 2010).  
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10 Our findings also suggest that practitioners and educators should espouse action-learning  
11 approaches to enhance entrepreneurial skills and intentions of the students. Moreover, some  
12 role models may also be incorporated into entrepreneurial courses. According to Karimi *et*  
13 *al.* (2013), these role models can enhance the confidence of the students to become  
14 entrepreneurs.  
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19 The results of this study revealed a positive assertion between SN and EI. Thus, it is  
20 suggested that policymakers should come up with such policies, which might enhance the  
21 awareness and importance of entrepreneurship. As SN significantly influenced the ATE and  
22 PBC, it is plausible to expect that the behaviour of students is affected by their closet social  
23 circles, such as family, friends and peers, Therefore, increasing awareness about the  
24 significance and importance of entrepreneurship is very vital.  
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29 As this study was conducted in Pakistan, Islam is the main religion of the people of  
30 Pakistan, and the teachings of Islam as postulated by Solaiman and Hillaly (1997) such as  
31 faithfulness, perseverance, hard work, focus, foresight, etc., are the attributes of  
32 entrepreneurs. There are similarities between the teachings of Islam and entrepreneurship;  
33 guides towards striving to survive through hard work, perseverance, foresight and  
34 independence (self-employment) in order to earn a living (create wealth) rather than lean on  
35 others (salary, jobs). The latter labels the aforementioned qualities as to what makes up an  
36 entrepreneur (Azim, 2008; Isa and Shitu, 2015). As a matter of fact, doing business or  
37 entrepreneurship is part of Islamic culture (Gursoy *et al.*, 2017; Hoque *et al.*, 2014;  
38 Muhammad *et al.*, 2017; Riaz *et al.*, 2016). Policymakers should consult Islamic scholars  
39 and religious leaders to consolidate an entrepreneurial curriculum to increase awareness; this  
40 could help in promoting entrepreneurship, which will ultimately help in poverty alleviation.  
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50 Moreover, government officials and policymakers should encourage business startups by  
51 providing some sort of subsidies. This could also increase awareness of entrepreneurship. As  
52 a result, more positive SN will be developed. Ultimately, these positive SN will lead towards  
53 having a positive ATE and higher PBC. Furthermore, students should be given exposure to  
54 entrepreneurial practices, such as teamwork and building a network, with likeminded and  
55 entrepreneurial-minded peers in results SN could be improved.  
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60 Since cultural values are acknowledged as an antecedent of EI, regardless of whether

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3 individualism or collectivism is in question, educational institutes should take this into  
4 concern while developing entrepreneurial programs. Both collectivism and individualism  
5 affect the antecedents of behaviour differently, and individualism plays a very vital role in  
6 the motivational antecedents of entrepreneurship. Universities should consider this  
7 knowledge, and hence, encourage the development of individualist values that play an  
8 important role in entrepreneurship, such as an adjustment towards autonomous thinking,  
9 independence and achievement.

## 16 **Limitations and Directions for Future Research**

17 Like many other studies, this research is also subject to a few limitations. The first limitation  
18 is related to the sample selection. The sample for this study consisted of students who were  
19 already taking entrepreneurial programs at public universities. Therefore, it is suggested that  
20 future studies should incorporate students from private universities as well as from different  
21 educational backgrounds.

22 Secondly, the current research only focused on two cultural values, namely collectivism  
23 and individualism, and ignored other values, such as power, distance and uncertainty.  
24 Avoidance at the individual level should be incorporated in the TPB and other  
25 entrepreneurial intention models. Furthermore, the cultural values proposed by Schwartz  
26 (1999) can also impact the EI of individuals. Thus, we suggest integrating these values in an  
27 entrepreneurial intention model. Furthermore, this study did not test the relationship of  
28 collectivist with entrepreneurship through PBC and ATE, future research should be  
29 conducted to validate these associations.

30 The third limitation is in regard to the timeframe, as this study was cross-sectional.  
31 Therefore, it may not provide a precise cause and effect relationship between cultural values  
32 and EI. To have a better understanding of the impact of culture on EI, a longitudinal study  
33 is, therefore, suggested.

34 Finally, we only investigated the effect of cultural values in one country/culture; therefore,  
35 a multi-country study can be conducted to have more generalizable results. Moreover,  
36 religious affiliation could also change an individual's way of behaving. Therefore, it is also  
37 suggested to integrate religious differences or religiosity in intentional models. Additionally,  
38 a study in a multi-cultural country, such as Malaysia, is also recommended.

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## Tables

**Table 3***Measurement Model Quality Criteria*

LV	Factor Loading	Cronbach's Alpha	CR	AVE
<b>Attitudes Towards Entrepreneurship</b>		0.76	0.75	0.58
ATE1	0.739			
ATE2	0.772			
ATE3	0.864			
ATE4	0.759			
ATE5	0.845			
<b>Entrepreneurial Intentions</b>		0.73	0.71	0.54
EI1	0.878			
EI2	0.755			
EI3	0.769			
EI4	0.703			
EI5	0.712			
<b>Perceived Behavioral Controls</b>		0.74	0.84	0.64
PBC1	0.732			
PBC2	0.879			
PBC3	0.848			
PBC4	0.785			
PBC5	0.815			
PBC6	0.888			
<b>Subjective Norms</b>		0.77	0.85	0.55
SN1	0.771			
SN2	0.725			
SN3	0.893			
SN4	0.878			
SN5	0.752			
<b>Collectivist</b>		0.89	0.88	0.52
Collec1	0.716			
Collec2	0.816			
Collec3	0.746			
Collec4	0.893			
Collec5	0.717			
Collec6	0.850			
Collec7	0.752			
<b>Individualist</b>		0.79	0.82	0.53
Indi1	0.868			
Indi2	0.734			
Indi3	0.777			
Indi4	0.790			
Indi5	0.721			
Indi6	0.755			
Indi7	0.857			



**Table 4**  
*Fornell and Larcker Criteria for Discriminant Validity*

	ATE	Collectivist	EI	PBC	SN	Individualist
ATE	<b>0.762</b>					
Collectivist	0.367	<b>0.721</b>				
EI	0.464	0.396	<b>0.734</b>			
PBC	0.442	0.557	0.489	<b>0.803</b>		
SN	0.492	0.548	0.412	0.544	<b>0.742</b>	
Individualist	0.290	0.363	0.329	0.528	0.514	<b>0.728</b>

**Table 5**  
*Results of Hypothesis Testing via Bootstrapping*

Hypothesis	Path	Path coefficient	T-statistics ( O/STDEV )	P-values
<i>H1</i>	ATE -> EI	0.284	5.00	0.000
	SN -> EI	0.432	3.00	0.000
	PBC -> EI	0.229	4.00	0.001
<i>H2</i>	SN -> PBC -> EI	0.394	12.70	0.000
<i>H3</i>	SN -> ATE -> EI	0.253	3.01	0.000

**Table 6**  
*Mediation Analysis*

Indirect path	Path coefficient	T-statistics ( O/STDEV )	P-values
Individualism -> ATE -> EI	0.36	5.03	0.00
Individualism -> PBC -> EI	0.31	4.55	0.00
Collectivism -> SN -> EI	0.30	3.20	0.00

## Appendix

### Questionnaire Items

#### **Entrepreneurial Intentions**

- I prefer to be an entrepreneur rather than to be an employee in a company or organization.
- I will choose a career as an entrepreneur.
- I intend to set up a company in the future.
- I have a very serious thought in starting my own firm.
- I will make every effort to manage my own firm.

#### **Attitudes towards Entrepreneurship**

- Being an entrepreneur would entail great satisfactions for me.
- I believe that if I were to start my business, I will certainly be successful.
- I'd rather be my own boss than have a secure job.
- A career as entrepreneur is attractive for me.
- Being an entrepreneur implies more advantages than disadvantages to me.

#### **Perceived Behavioral Controls**

- To start a firm would be easy for me.
- To keep a firm working well is easy for me.
- I know how to develop an entrepreneurial project.
- If I tried to start a firm, I would have a high probability of succeeding.
- If I want, I could become self-employed after my studies.
- To start my own firm would probably be the best way for me to take advantage of my education.

#### **Subjective Norms**

- My parents are positively oriented towards my future career as an entrepreneur.
- My friends see entrepreneurship as a logical choice for me.
- I believe that people, who are important to me, think that I should pursue a career as an entrepreneur.
- In my University, students are actively encouraged to pursue their own ideas.
- There is a well-functioning support infrastructure in my University to support the start-up of new firms.

#### **Individualism**

- I'd rather depend on myself than others.
- I rely on myself most of the time; I rarely rely on others.
- I often do "my own thing."
- My personal identity, independent of others, is very important to me.
- It is important that I do my job better than others.
- Winning is everything.
- When another person does better than I do, I get tense and aroused.

#### **Collectivism**

- I would help, within my means, if a relative were in financial difficulty.
- I would rather do a task in a group than do one alone.
- It is my duty to take care of my family, even when I have to sacrifice what I want.
- Before making a decision, I always consult with others.
- To me, pleasure is spending time with others.
- It is important to me that I respect the decisions made by my groups.
- I feel good when I cooperate with others.