**Perceived Behavioral Control Mediates the Relationship between** **Personal Characteristics and Psycho-Sociological Factors, and Entrepreneurial Intentions**

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***Keywords:*** *Entrepreneurial Intentions; Personal Characteristics; Psycho-Sociological Factors; Perceived Behavioral Control.*

***Article History*** *Date of Submission: 28-11-2022
Date of Acceptance:30-12-2022
Date of Publication:31-12-2022*

***How to cite?***IdreesF., Hassan H., Syed T., Ahmad N., A., Khan M., M., (2022). Perceived Behavioral Control Mediates the Relationship between Personal Characteristics and Psycho-Sociological Factors, and Entrepreneurial Intentions *Research Journal for Societal Issues.* 4(1), 217-232.

**DOI No:** 10.56976/rjsi.v4i1.50

The entrepreneurial intention with its antecedents is an active area of research. Perceived behavioral control as an antecedent of entrepreneurial intention and a mediator between the relationship of personal characteristics, psycho-sociological factors, and entrepreneurial intentions is proposed in this study. This study is grounded in the theory of reasoned action by Fishbein and Ajzen (1975), the theory of planned behavior by Ajzen (1985), and the Entrepreneurship Event Model by Shapero and Sokol (1982). The data for this study is collected from a sample survey of the students of higher educational institutions to empirically validate the theoretical research model. The analysis establishes that perceived behavioral control mediates the relationship between personal characteristics, psycho-sociological factors, and EIs. The study is useful for policymakers, economists, and educationists.

# **Introduction**

Entrepreneurship is both a vehicle of improvement and an integral component that can help both in employment generation as well as the potential to develop, foster, and promote the overall economic and social structure of a society and an economy. Entrepreneurship is one of the viable and better options that can help in many ways, which mainly include self-employment and employment of other humans, thus a multiplying collaborative factor. Entrepreneurship is a major contributor to (Small and Medium Enterprises) SMEs, which follows Entrepreneurial Intention (EI). The importance of SMEs can be further determined in developed countries like the United States, and small businesses contribute nearly 50 percent of the GDP (Office of Advocacy, 2019). Globally, entrepreneurship has given birth to countless successful organizations and, eventually, better economies in developed, moderately developed, and underdeveloped countries. Historically, entrepreneurship has helped underdeveloped economies to move into the league of moderately developed and developed economies.

Personal characteristics refer to a set of specialized behaviors, thoughts, and emotional patterns created by environmental and biological factors (Burch & Anderson, 2009; Matthews 2018). Most of the theories of personal characteristics focus on psychological and motivational interaction with the environment. The study emphasizes the significance of personal characteristics on business intentions. Personal characteristics, therefore, are essential for explaining entrepreneurs' readiness to act as entrepreneurs and why entrepreneurship is different in similar situations. Personal characteristics research has been revived in several domains, for example, efficiency, leadership, and psychology, in recent years (Rauch & Frese, 2000; Judge et al., 2002). According to Rauch and Frese (2007a, b), entrepreneurship will be an active participant in the research. Meta-analytic evidence suggests that personality influences entrepreneurial purpose (Rauch & Frese 2007b). Personal characteristics include psychological and sociological factors.

Steward and Roth (2004) performed a meta-analysis of entrepreneurial personalities based on the literature available in the United States and in other countries. They found that entrepreneurs are gifted with characteristics such as the need to be achieved or have a distinctive personality. Psychological factors, from a theoretical perspective, pertain to psychological reasoning. In order to differentiate in other personality features, the study includes input from the basic psychological characteristics (structured and vibrant personality traits, intellectual ability, character, value systems, and general and special capacity). The study is based on a comprehensive, multi-level, hierarchically organized structure of the personality. The analysis recognizes that two fairly independent but strongly affiliated spheres of life-the psychological and sociological-need to be considered. These two spheres interact in the structure of the personality constantly. The manifestations of a person's transition to the notion of a subject and the reflections of subjectivity on individual intentions are given special attention.

Entrepreneurial intention (EI) refers to an individual intention regarding the start of a business (Krueger et al., 2000). EI concept refers to the commitment to initiate a new venture after graduating (Krueger & Carsrud, 1993). Persons with higher opportunity lean towards greater EI and are therefore inclined to have greater intent towards entrepreneurship (Bloemen et al., 2019). The importance of EI needs to be recognized. This study, therefore, is a contribution to the area of EI in relation to EI’s antecedents.

**Literature review and conceptual framework**

EI has been stated as “the conscious state of mind that precedes action and directs attention toward entrepreneurial behaviors such as starting a new business and becoming an entrepreneur” Moriano et al. (2012, p. 165). Individual attitude to recognize, exploit and act on profit opportunities is of vital importance. The ability to recognize opportunities is more in individuals with higher EI than other individuals. It exists not only in their attitudes but also in their expressed behavior. Similarly, the ability to exploit the recognized opportunity is another essential characteristic in individuals with EIs. Finally, individuals with the ability to recognize and exploit opportunities cannot flourish unless they act. So, the ability to act on the opportunity becomes imperative. Literature supports that attitude changes over time. So is true of EI, which may change as the perception of individual changes. Individuals change through education or experience, which leads to desirability and perceives entrepreneurial effectiveness (Bell, 2019; Liñán et al., 2011).

Entrepreneurial intentions have strong consequences for psychology and management as EI is significantly linked to a range of essential outcomes in the workplace, such as job performance, mental health, and leadership (Humphrey, 2013). Entrepreneurial intentions have been applied to entrepreneurship (Cardon et al., 2012; Haynie & Shepherd, 2009; Humphrey, 2013). Humphrey (2013a) indicated that EI-high entrepreneurs appear to be more competitive and robust while confronting challenges and function well with their staff, consumers, and other stakeholders. Strong EI offers companies an edge in dealing with financial sponsors, manufacturers, and marketers and designing innovative goods and services. In combination with the person-environment fit theory, it contributes to the assumption that persons with greater EI are more probable to start their own business since their emotional intelligence suits the job requirements and needs of entrepreneurship (Hoyte, 2019). Perceived behavioral control explain EI. Perceived behavioral control explains the degree to which an individual is attracted to proceed for EIs.

Perceived behavioral control also relates to the extent to which people are convinced that they can initiate their own business individually and consider the option to be an entrepreneur when it is feasible to initiate his/her own business. It shows how competent a person feels in conveying his or her intention to start a business. Perceived behavioral control refers to how attracted an individual is to proceed with EIs. It also relates to the extent to which people are convinced that they can initiate their own business individually. Persons having high PBC are with a stronger intention to start a firm. This high intention in their starting a firm gives them direction to investigate and look into the opportunity as an entrepreneur. Looking into these opportunities and their alternatives helps them in developing an understanding of their EI. Persons with greater optimism are inclined to experience better PBC and therefore experience a higher EI. Similarly, the preparation to start a viable firm is the ability to adapt the intentions in line with the strategies and techniques to handle unforeseen conditions. Individuals with higher preparation to start a viable firm is inclined to have higher EI and, therefore lean towards entrepreneurship. It examines the commitment and focus of persons to control and manage the mechanism of development and creation. They consider the option to be an entrepreneur when feasible and to initiate their own business. Perceived behavioral control enhances people's cognitive behavior. The intentional behavior needs to be explained. This explanation may provide a better framework to explain PBC and EI.

 Perceived behavioral control is based on personal characteristics and psycho-sociological factors. This has been confirmed by the research in the domain. Attitude, subjective norms and beliefs, perceived behavioral beliefs, perceived desirability, perceived propensity, and perceived feasibility are the significant constructs behind PBC. Scholars have often associated EI with PBC, stating that PBC can influence EI. The PBC enhances the change in behavior of the person, which provides a person with the best chance from a range of possibilities and assesses this based on their perception of individual characteristics and psycho-sociological factors. For example, a big majority of people are inclined to become entrepreneurs only after they have completed their studies. Even so, being educated or once graduated tends to increase an individual's feeling that one wants to be an entrepreneur. Furthermore, entrepreneurial intent is affected by the propensity to act on occasion. The idea that entrepreneurs have a greater intent to accomplish in comparison to non-entrepreneurs has certain scientific evidence. Begley (1995) and Hornaday and Aboud (1971) found that the motivation for achievement exists as a stable feature and is more common among entrepreneurs in comparison to others.

Perceived behavioral control tends to have three dimensions, the first dimension is associated with the start of a business and keeping it working. The higher the possibility of starting a firm, the higher would be the tendency to keep it working. The decision to start a new venture requires a level of comfort associated with it. The measurement scale of the construct provided options in terms of agreement and the higher side represents the PBC.

The importance of personal characteristics on PBC is an area of interest for entrepreneurial research. The major concern also regarding personal characteristics began as if no further research was needed on the explanatory variable, personal characteristics (Gartner 1990). This raised some research questions: Does the evidence on the impact of personal characteristics on EI's, which persisted for more than one decade, have no significance anymore? Do the inconsistent findings of the intentional impact of characteristics completely reject the association between the study factors? Should the researchers continue to investigate the effect of personal characteristics on entrepreneurship? Researchers argued that the impact of personal characteristics on EI was not investigated thoroughly (Ilgen et al., 2003; Tett et al., 2003). When the features of a person measure different perspectives, these are theoretically linked to each other. This points to another issue: can the relationships of personal characteristics have an important effect on EI?

Zampetakis et al. (2011) analyzed the impact of family and university support on social interactions. In addition, they discovered that self-perceived social interaction results in line with the predicted business intentions. The students began testing similar relations but within a totally cross-cultural perspective (Spain, rather than England) to prove that these earlier findings were generalized with a data set of more diversified university students. This data set included a population of undergraduate, master's students, and pre-doctoral students. Whereas, Zampetakis et al. (2011) studied this phenomenon in undergraduate students.

Following this line of direction, this study also includes diversity in university students (public and private universities). Further diversity can be seen in programs in business, engineering, and computer science. Still another level of diversity is associated with the levels i.e. undergraduate, graduate, and postgraduate students of HEIs. The following of this stream of direction from a psycho-sociological perspective for EI is consistent with the literature on EI. This study, therefore, articulates and empirically validates the personal characteristics and psycho-sociological factors with PBC. It further reviews and analyzes the mediating role of PBC between personal characteristics and psycho-sociological factors and EI.

The ability to consider the psyche and mindset of an entrepreneur is crucial when developing successful training and educational initiatives for prospective and working entrepreneurs. According to (Radipere, 2012) there have been suggestions that individuals' responsiveness to business assistance initiatives differs due to psychological characteristics and behavior. (Hansemark, 2003) argues, people with traits and behavior such as the need for success, risk-taking ability, and confidence in their abilities i.e. self-control over the situations were shown to be more willing to entrepreneurship education linked to an increase in EI relative to those with fewer traits. Despite the evidence presented counter argument advocates that characteristics and personalities propose that psychological behaviors are stable and therefore cannot be changed by the experience and contact with exterior interference (Cobb-Clark & Schurer, 2012; McCrae & Costa,  1994). Research on personal characteristics and entrepreneurial behavior has highlighted that psychological characteristics inspire individuals to launch their own companies (Espiritu & Sastre, 2015).

The proposed research model is grounded in the theory of planned behavior (Azjen, 1987), the theory of reasoned action (Fishbein, 1975), and the entrepreneurial event model (Shapero, 1982). In this study, personal characteristics, psycho-sociological factors, and sociological factors are explanatory variables. PBC is mediating variable between the explanatory variables and the response variable i.e. EI. The proposed theoretical model has been developed on logic. The model presents the study variables' personal characteristics, psycho-sociological factors, PBC and entrepreneurial intentions, and pattern of relationship among them (figure1).

This research includes a vast amount of literature and theories of social sciences, management, and economics. One may argue regarding the fragmented theoretical support in the presence of a large number of theories from different fields of study. However, the purpose has been to give the required support to the proposed model. A large amount of literature review and theories from diverse fields of study add strength to the conceptual framework on which the proposed model rests (Miles & Huberman 1994; Robson & McCartan 2016). Since the conceptual framework is a unique process for each study, thus care and recommendations of Ravitch and Riggan (2011) were followed while developing the framework and model.

**Figure No1:Mediating Impact of Perceived Behavioral Control between the Relationship of Personal Characteristics, Psycho-sociological, and Entrepreneurial Intentions**

 H1
 H4 H3

Personal Characteristics

Psycho

-Sociological

Perceived Behavioral Control (PBC)

Entrepreneurial

Intentions

  H2

 H2

# **Research Hypotheses**

# The research hypotheses provide a significant base to argue the causative association among the study variables and support building the research project. A research hypothesis is clear, and precise, and covers the essential foundation of the problem (Toledo et al., 2011). Hypotheses should be supported by the results of the proposal. The proposed hypotheses of this study are framed as under:

H1: Personal characteristics have a significant impact on perceived behavioral control.

H2: Psycho-sociological factors have a significant impact on perceived behavioral control.

H3: Perceived behavioral control has a significant impact on entrepreneurial intention.

H4: Perceived behavioral control has a mediating impact on the relationship between personal characteristics and entrepreneurial intentions.

H5: Perceived behavioral control has a mediating impact on the relationship between psycho-sociological factors and entrepreneurial intentions.

# **Methodology**

The data in this study has been gathered from students of HEIs as after graduation either the students seek employment or self-employment i.e., they become entrepreneurs and initiate their own businesses. In this study, the role of students in achieving the desired results of EI is investigated.

Operationalization of construct means to measure those variables that are quantifiable only after observation. Operationalization is done as a hypothesis that needs to be measurable and quantifiable. It is the first step in defining the construct. The second step requires that the respondents are provided with a scale to express their opinion. The likert scale is considered to be the most commonly used and easy to comprehend scale in social sciences (Gay et al., 2009). The second part of the study uses a Likert scale with 5 points where 1 represents strongly agree and 5 represents strongly disagree.

The selected higher education are contacted to participate in the research. Survey questionnaires are served to the students (voluntarily participating).

A scale is adapted for testing entrepreneurial intentions by utilizing the TPB (Linan & Chen 2009). The questionnaire needs to be specific and relevant to the study variables. The items of the questionnaire are adopted according to the study context. This was done after receiving feedback from the experts in the area on the questionnaire drafts. This helped the researcher to raise and improve the face validity with the 13 forms of feedback that were received from the researcher as well as students. Following the incorporation of the feedback into the questionnaire, another review is made by another expert in the domain.

The questionnaire was launched for the survey. To increase the response to the questionnaire, the guidelines give us the understanding that a cover letter is useful. Accordingly, this study used a cover letter attached to each questionnaire that contained a brief background of the study, its importance, and contact details.

# **Descriptive Statistics**

In view of the objectives of this research, the descriptive statistical analysis gives us an understanding of the representative sample. The results indicate the majority of research participants were in the 21 to 23 years age group (336, 73%) whereas in 27 to 29 years, there was a minimum number of participants and they may be returning students (6, 1.3%). The graduating students who participated in this research can better explain EI. The gender-wise description of the respondents indicates that the male and female population in the study is in proportion. In most of the studies, males participated whereas this study reports quite a healthy no. of females. Males in this study are (255, 55.4%) and females are (205, 44.6%).

The majority of entrepreneurship studies on the individual level study male entrepreneurial practices, activities, and behaviors. (Carter, 2000; Carter, 1992) argue that the earlier study results clearly show that there exists no significant and noteworthy gap between entrepreneurs both male and female. This study is in line with the previous research and it can help in the generalization of results as female participation is marginally less than the male population. This also helps in ascertaining female participation in entrepreneurship. The results indicate that majority of the participants in the current study are enrolled in a bachelor’s degree 16 years (299, 65%) followed by a bachelor's degree for 14 years (121, 26.3%), with a cumulative effect for 16 years, and 14 years bachelor degree (420, 91.3%) whereas in the Ph.D. program, there was the almost minimum number of participants and they may be returning students (4, 0.9%). Ph.D. students normally go for a job and are with less chance of going for an internship. The results indicate the majority of research participants have work/internship experience (270, 58.7%). This work/internship experience helps create entrepreneurial intentions. Another way to know the entrepreneurial intentions is to see their ability to deal with the people. To know this thing, they are asked if they have been in charge of people. The majority of the respondents are in charge of 1 to 5 employees (157, 34.1%) whereas least number of respondents tell that they are in charge of more than 10 people (14, 3%). The respondents are students of HEIs and there is a likelihood that they may not be in charge of people. Accordingly, a quite considerable number (138, 30%) responded with no employee being under their charge represents a realistic picture of the data as presented in Table 2. These results are encouraging to convince that our respondents had considerable consideration for entrepreneurial intentions. These descriptive results help in understanding the study variables and that data is quite in line with the study objective i.e. to go for entrepreneurial intentions.

# **Table No 1: Frequency Analysis of Descriptive Statistics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Frequency** | **Cumulative Frequency** | **Percentage** | **Cumulative Percentage** |
| **Age** |
| 18 to 20 years | 79 | 79 | 17.2 | 17.2 |
| 21 to 23 years | 336 | 415 | 73.0 | 90.2 |
| 24 to 26 years | 39 | 454 | 8.5 | 8.5 |
| 27 to 29 years | 6 | 460 | 1.3 | 100 |
| **Gender** |
| Male | 255 | 255 | 55.4 | 55.4 |
| Female | 205 | 460 | 44.6 | 100 |
| **Current Degree Enrolled** |
| Bachelor 14 year | 121 | 121 | 26.3 | 26.3 |
| Bachelor 16 year | 299 | 420 | 65.0 | 91.3 |
| Master 16 year | 20 | 440 | 4.3 | 95.6 |
| MS 18 year | 16 | 456 | 3.5 | 99.1 |
| PhD | 4 | 460 | .9 | 100 |
| **Work / Internship Experience** |
| Yes | 270 | 270 | 58.7 | 58.7 |
| No | 190 | 460 | 41.3 | 100.0 |
| **In charge of People** |
| No employee | 138 | 138 | 30.0 | 30.0 |
| 1 to 5 employee | 157 | 295 | 34.1 | 64.1 |
| 6 to 10 employee | 151 | 446 | 32.8 | 97.0 |
| more than 10 employees | 14 | 460 | 3.0 | 100.0 |

# **Descriptive Statistics Analysis of Study Variables**

Table 4 provides a summary of descriptive statistics of each study variable. All the variables were measured by using the five-Likert scale. The array of mean values ranged from 3.6 to 4.158, while the standard deviation of responses ranges lies between 0.60 and 0.91. The mean score for items evaluating personal characteristics, psycho-sociological factors, PBC, and entrepreneurial intentions is high and significantly exceeds the midpoint. Statements of entrepreneurial intentions have mean=4.158 and SD=0.601, which implies that sampled respondents at response variable entrepreneurial intentions are more inclined to go for entrepreneurship.

Similarly, responses of personal characteristics have mean=3.92 and SD=0.86, which indicates that respondents are giving value to personal characteristics for entrepreneurial intentions. Additionally, the responses of a psycho-sociological factor with mean=3.98 and SD=0.86, communicate that respondents are keenly interested to see these characteristics as explanatory towards entrepreneurial intentions. Moving ahead, the statements of the students regarding and s with mean value 3.91 & SD=0.85, and mean=4.06 & SD= 0.78 respectively, which suggest that students are interested to go for entrepreneurial intentions. Finally, the statements of the students regarding PBC with the second highest mean value 4.156 & SD=0.66 suggest that students are satisfied to give higher value to PBC for entrepreneurial intentions.

# **Table No 2: Descriptive Statistics of Model Variables**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Mean** | **Standard Deviation** |
| Personal Characteristics | 3.92 | 0.862 |
| Psycho-sociological Factor | 3.976 | 0.861 |
| Perceived Behavioral Control  | 4.156 | 0.665 |
| Entrepreneurial Intention | 4.158 | 0.601 |

# **Internal Consistency**

To ensure the reliability of the survey questionnaire, internal consistency was computed. Previous studies declare Cronbach’s alpha, a useful coefficient to measure internal consistency (Bland & Altman, 1997; Nunnally & Bernstein, 1994). The threshold value of Cronbach’s alpha as suggested by the researchers is 0.70 (Hair et al., 2010). Moreover, Elmasri (2005), had advocated that vaule of Cronbach's alpha(reliability coefficient) greater than or equal to 0.90 is regarded as “excellent”, an alpha value near to 0.80 is considered “very good” and an alpha value close to 0.70 is accepted as an “adequate”. Table 5 displays the results of the reliability test for the study variable and Cronbach’s alpha met the threshold value, ranging from adequate to very good (i.e. 0.83 to 0.97). The results indicate that all study variables have internal consistency of 83% to 97% and ensure, there is no reliability issue in our study data.

Prior to hypothesis testing, bivariate correlations analysis among was performed the study variables. Table 6 presents the square root of AVE in bold and diagonal elements. All diagonal values were greater than inter-construct correlations values are in accordance with H1 and H2. The results shows that PBC is significantly and positively related to EIs, in accordance with H3.

# **Table 3: Correlation Matrix**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Construct | Mean | SD | PC | PS | PBC | EI |
| PC | 3.9196 | 0.86171 | (0.945) |   |   |   |
| PS | 3.9674 | 0.86064 | 0.269\*\*\* | (0.907) |   |   |
| PBC | 4.1558 | 0.66458 | 0.210\*\*\* | 0.274\*\*\* | (0.962) |   |
| EI | 4.1582 | 0.60062 | 0.203\*\*\* | 0.282\*\*\* | 0.960\*\*\* | (0.869) |

\*\*\*p<0.001, Square roots of average variances extracted (AVEs) shown on diagonal.

# **Hypothesis Testing**

# The study hypothesis was examined in two steps. In the first step, we measured linear relationships among study variables, at the second step, we measured and analyzed the mediation path among the variables. Two linear relationships between explanatory variables (personal characteristics and psycho-sociological factors) and response variables (PBC) are explored and analyzed. H1: Personal characteristics have a significant impact on PBC, H2: Psycho-sociological factor has a significant impact on the PBC. Similarly, H3: PBC has a significant impact on EI.

The results indicate a positive influence of personal characteristics (β 0.331, p<0.001) on PBC (H1). In this way, H1 predicting the impact of personal characteristics on PBC is accepted. This explains that personal characteristics cause a positive impact on PBC. The results indicate a positive influence of psycho-sociological factors (β 0.153, p<0.001) on PBC (H2). In this way, H2 predicting the impact of psycho-sociological factors on PBC is accepted. This explains that psycho-sociological factors cause a positive impact on PBC. The results indicate a positive influence of PBC (β 0.961, p<0.001) on EI (H3) as mentioned in table 7. In this way, H3 predicting the impact of PBC factors on EI is accepted. This explains that PBC causes a positive impact on EI.

**Table No 4: Linear Relationship among Study Variables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Path | Β | SE | P-value | Result |
| PC🡪PBC | 0.331 | 0.045 | <0.001 | Accepted |
| PC🡪PBC | 0.153 | 0.046 | <0.001 | Accepted |
| PBC🡪EI | 0.961 | 0.041 | <0.001 | Accepted |
| Model fit and quality indicesAverage path coefficient (APC)=0.263, P<0.001Average R-squared (ARS)=0.632, P<0.001Average adjusted R-squared (AARS)=0.629, P<0.001Average block VIF (AVIF)=1.049, acceptable if <= 5, ideally <= 3.3Average full collinearity VIF (AFVIF)=4.252, acceptable if <= 5, ideally <= 3.3Tenenhaus GoF (GoF)=0.757, small >= 0.1, medium >= 0.25, large >= 0.36 |

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# **Mediation Models in the Study**

Table No 5 presents the mediation paths of PBC in the relationship between personal characteristics and psychosociological factors and EI. The results indicate that mediating path of PBC in the relationship between PC and EI is significant (β 0.318, p 0.001). In this way, H4 predicting the mediating impact of PBC between the relationship of personal characteristics and entrepreneurial intention is accepted. That means PBC mediates the impact of personal characteristics on entrepreneurial intentions. The mediating effect of PBC is seen through the explanatory variable psycho-sociological factors on entrepreneurial intentions (β 0.147, p 0.001). In this way, H5 predicting the mediating impact of PBC between the relationship of psycho-sociological factors and entrepreneurial intention is accepted. That means PBC mediates the impact of psycho-sociological factors on entrepreneurial intentions. This result guides the policymakers of higher educational institutions that personal characteristics and psycho-sociological factors are important triggers among students to promote entrepreneurship.

# **Table 5: Mediation path of Perceived Behavioral Control**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Path | Β | SE | P-value | Result |
| PC🡪PBC🡪EI | 0.318 | 0.032 | <0.001 | Accepted |
| PS🡪PBC🡪EI | 0.147 | 0.032 | <0.001 | Accepted |
| Model fit and quality indicesAverage path coefficient (APC)=0.235, P<0.001Average R-squared (ARS)=0.158, P<0.001Average adjusted R-squared (AARS)=0.155, P<0.001Average block VIF (AVIF)=1.096, acceptable if <= 5, ideally <= 3.3Average full collinearity VIF (AFVIF)=1.238, acceptable if <= 5, ideally <= 3.3Tenenhaus GoF (GoF)=0.369, small >= 0.1, medium >= 0.25, large >= 0.36 |

Note: Path coefficients greater than 0.1 with t-values greater than 1.96 are significant at the 0.05 level.

**Research Implications**

One of the goals of this research study was to study the impact of student’s personal characteristics and psycho-sociological factors on PBC and EI. The results obtained from data analysis have several implications for predicting students’ perception regarding PC, PS, and PBC which contributes towards EI. This research investigated the antecedents of PBC being an integral factor in the contribution of EI. Keeping in view the nature of the findings, the implications are categorized into theoretical and practical implications.

# **Theoretical Contribution**

This study is an attempt to answer the questions and address the gaps identified in the literature. These questions and gaps are converted into concerns and suggestions. This study addresses these concerns and suggestions by following the exploratory research in the literature. The study takes into account the context of EI. This has sought to enrich theoretical knowledge in this field, particularly taking the lead from the human developmental field and adding in the context of personal characteristics psycho-sociological factors, and PBC and EI. The review of the literature establishes that this is a unique aspect of this study and may generate discussion from an explanatory variable, mediating variable, and even response variable of particular interest. It is of great importance to dig out other dimensions of these variables.

Considering that the young students of HEIs in Pakistan depicted a positive view of the study variables and they have given relatively high scores to the items of the construct, it is suggested

that the representative sample of the population has a tendency towards EIs. This tendency may help to promote entrepreneurship, and therefore, add to the economic sustainably in the country, region, and globe.

The findings of the study suggest that a sustainable local economy can be achieved through EI. Specifically, the responses make it clear that EI in the teaching and learning process can influence and develop a trend for entrepreneurship. This study proposes a new, significant, and complete causal model of intention formation that is effective for the country and can be further validated in other economies of the world with similar and dissimilar demographics and psycho-graphics. **Practical Contribution**

This research has several implications for stakeholders i.e. the policymakers, practitioners, and faculty of higher educational institutions seeking to cultivate and sustain EI in their students. This research study has special practical implications for improving EI among students in HEIs. First, the majority of HEIs students may be aware of the importance of EI, but they do not often practice Entrepreneurship. Second, policymakers at all concerned national, and provincial levels along with HEIs should consider making significant investments in human capital with the view of enhancing students’ discretionary behavior and level of satisfaction rather than just a greater emphasis on simply improving academic qualification and reducing the imbalance among graduates tilting towards the job.

**Generalization of Results**

Generalization is a vital concept in the research that depicts the procedure of developing knowledge that is valid to all elements of a population while studying only a part of these elements. In this research, a structured questionnaire with close-ended questions was used to collect data which leads to limited outcomes. Thus, in such a scenario the results do not represent the actual occurrence, in a generalized form. The results and conclusions of the present study might also be more relevant to Pakistan, especially for the study. Care should be taken in generalizing the results and conclusions for other countries that may have slightly different social structures.

**Limitations of the Study**

This study provides new insight into the importance of antecedents of PBC and its mediating impact on EIs respectively. In this study, due care is exercised by an in-depth literature review supported by the theoretical backing of the proposed relationship of the proposed and empirically validated relationship between the variables.
The cross-sectional data were collected for the study which brings in limitations relevant to cross-sectional data i.e., the selected period might have yielded different results compared to the use of longitudinal data. The availability of the data is the reason behind this compromise.
The consistency of the hypothesized model is another question with the existing theoretical literature is another question. This question is addressed by using Structural Equation Modeling (SEM) to overcome the limitations attached to using ordinary linear regression for multivariate analysis. One benefit of SEM is that it allows the researcher to control the measurement errors for the latent constructs. It also helps in evaluating all the variables in one model with less complexity.
A common argument regarding the use of a convenient sampling technique is the fragmented representation of the total population. It is mostly used and is prominent in the area of business and management in comparison to probability-based sampling (Bryman 1989a). There are occasions when non-probability sampling is ideally adapted for the researcher (Zikmund, 2003).
The present research concerned the perception of students and their subjective views regarding EIs. One of the most sensitive problems that arise in such research is how the questionnaire was perceived and answered. Researchers try to control bias in several ways such as a cover letter with the questionnaire assuring the confidentiality of the information and follow-ups to increase the response in terms of completely answered questionnaires. However, controlling the responses and the manners of responses are not in the hands of the researchers. This issue is often faced when the researcher is trying to collect data `regarding sensitive topics (Kalton 1983; Bradburn et al., 2004).
Social desirability is another factor that indulges students to answer questions in a manner that are favorable for them, yet not true, which might have affected the results. The present study tries to reduce these biases by taking a few steps. Firstly, the students were assured that this research has nothing to do with their jobs and hence, is used for self-learning and research purpose. Secondly, questionnaires were randomly sent and students were not asked for their identity information.
**Future Research Agenda**

This research suggests a direction for future research on basis of the study findings. Further research could extend and add to the existing body of knowledge in various ways. First, the results of the study are based on the data analysis collected from the students of HEIs of Lahore, Pakistan. Future studies can be done by collecting data from other sectors (primary and secondary education, health care, banking, etc.). Second, in the future, a comparative study could be managed to see the difference between students’ prediction of and among different sectors of Pakistan. Third, cross-cultural research study, particularly among developing and developed countries could give the insight to see the difference related to the predictive of students of higher educational institutions studying in different higher educational institutions based on different cultures and economies.

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