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# Factors that influence the entrepreneurial intention of psychology students of the virtual modality

## Factores que influyen en la intención emprendedora de estudiantes de psicología de la modalidad virtual

**Dr. Alejandro Valencia-Arias** is associate professor at the Metropolitan Technological Institute (Colombia) (jhoanyvalencia@itm.edu.co) (http://orcid.org/0000-0001-9434-6923)

**Mg. Paula Andrea Rodríguez-Correa** is a research professor at the Escolme University Institution (Colombia) (cies4@escolme.edu.co) (https://orcid.org/0000-0002-9748-0148)

**Mg. Jairo Andrés Cárdenas-Ruiz** is a professor at the Catholic University Foundation of the North (Colombia) (jandrescardenas@ucn.edu.co) (https://orcid.org/0000-0002-9779-9351)

**Mg. Sergio Gómez-Molina** is a professor at the Catholic University Foundation of the North (Colombia) (sgmolina@ucn.edu.co) (https://orcid.org/0000-0002-9066-0170)

#### **Abstract**

Most of the studies on entrepreneurial intention have been applied in university students under a face-to-face modality. However, it is also important to consider the context of the students in the virtual mode, that is, those students at a distance, so the objective of this study is to identify the most influential factors in the entrepreneurial intention of enrolled psychology university students in virtual mode. For this, a study with a quantitative approach is applied in which the Factorial Analysis statistical technique is used from the application of a survey to 178 psychology students from the Catholic North University Foundation. The convergent and discriminant validity of the proposed model is evaluated from the Theory of Planned Behavior and the Business Event Model, as well as the reliability and contrast of hypotheses. The results allow identifying relevant relationships between attitude, perceived behavior control, entrepreneurial behavior, and current behavior control with respect to the entrepreneurial intention of the surveyed students. Based on these results, it is possible to identify the most influential factors in the entrepreneurial intention of students, which allow strengthening from higher education institutions and universities the academic programs aimed at fostering the entrepreneurial spirit of psychology students in the virtual modality.

#### Resumen

La mayoría de los estudios sobre intención emprendedora se han aplicado a estudiantes universitarios en la modalidad presencial. Sin embargo, también es importante considerar el contexto de los estudiantes en la modalidad virtual, es decir, estudiantes a distancia, por lo que el objetivo de este estudio es identificar los factores más influyentes en la intención emprendedora de estudiantes universitarios de psicología inscritos en la modalidad virtual. Para esto, se aplica un estudio de enfoque cuantitativo en el cual se utiliza la técnica estadística Análisis Factorial a partir de la aplicación de una encuesta a 178 estudiantes de psicología de la Católica del Norte Fundación Universitaria. Se evalúa la validez convergente y discriminante del modelo propuesto a partir de la Teoría del Comportamiento Planificado y el Modelo del Evento Empresarial, así como la fiabilidad y contraste de hipótesis. Los resultados permiten identificar relaciones relevantes entre la actitud, el control de comportamiento percibido, el comportamiento emprendedor y el control de la conducta actual con respecto a la intención empresarial de los estudiantes encuestados. A partir de estos resultados es posible identificar los factores más influyentes en la intención emprendedora de los estudiantes, que permitan fortalecer desde las instituciones de educación superior y universidades los programas académicos orientados a fomentar el espíritu emprendedor de estudiantes de psicología en la modalidad virtual.

#### Keywords | palabras clave

Intent, entrepreneurship, student, psychology, university, attitude, behavior, entrepreneurship.

Intención, emprendimiento, estudiante, psicología, universidad, actitud, comportamiento, espíritu empresarial.

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#### 1 Introduction

Entrepreneurship has represented one of the great challenges for the economic development of a country. Although entrepreneurial activities may be very suitable for some people with innate abilities, the entrepreneurial challenge has been encouraged from higher education in the curricula of all levels of education (Arango-Botero et al., 2020). This occurs due to the fact that the economies of many countries have little or insufficient capacity to generate jobs, improve the quality of existing employment and share the benefits of economic growth (Fragoso et al., 2019; Hernández-López et al., 2018). Sustainable economic growth is necessary; therefore, the creation of new opportunities is usually represented in the formation of new companies and entrepreneurship. In this sense, higher education institutions (HEIs) and universities seek to train students in an entrepreneurial spirit as a professional option as a way to counteract the problem of unemployment and expand the labor market (Baaba et al., 2018; Zea-Fernández et al., 2020).

The study of entrepreneurship has aroused great interest, both in entrepreneurship itself and in university students (Valencia-Arias et al., 2016). In recent years, numerous studies have been carried out on entrepreneurship and the phenomenon of entrepreneurial intention. The latter is presented as the central factor to predict the business behavior of university students in studies around this topic. This is how personality traits and the environment have been widely addressed in research on this topic in various contexts (Baaba et al., 2018). In this sense, it is necessary to study the factor of entrepreneurial intention in order to understand the entrepreneurial process of students, since it has been considered the most reflective characteristic of entrepreneurial behavior (Sriyakul & Jermsittiparsert, 2019).

Over time, numerous researchers have been concerned with proposing various models that can predict people's intention to adopt something. The Theory of Planned Behavior (hereinafter TPB) has been widely addressed in the study of the entrepreneurial intention of university students, due to its susceptibility to help understand the entrepreneurial process, particularly in two main currents of research: I. Issues related to personality traits or characteristics such as self-efficacy and II. Issues related to the contributions of the demographic and socioeconomic context (Fragoso et al., 2019). Studies focused on the trend related to personality traits suggest that there is a positive relationship between entrepreneurial intention and the training provided in HEIs and universities (Fragoso et al., 2019; Sriyakul & Jermsittiparsert, 2019; Su et al., 2021).

It should be noted that, when approaching entrepreneurship from the field of psychology, its perspective is presented, considering the possibility of assuming and considering entrepreneurship in psychology as that possibility that allows helping to find a wide range of ideas for the application of this science in line with the needs of society (Martínez et al., 2019).

Based on the above, a space of importance is opened from which the training processes of psychology professionals, as a way to strengthen and consider options in which this area of science can propose as a form of projection, in the same line and as evidenced in the publications that have been identified in this regard, it is important to understand that the teaching and learning processes of skills such as innovation and entrepreneurship must materialize in the training of psychology students. The notion of training for entrepreneurship thus extends beyond simply teaching students how to start a new business, some scholars on the subject speak of creating educational environments that incorporate rich learning experiences that collectively promote factors such as desire, self-sufficiency, the awareness of the opportunity, the adaptability to

change and the risk tolerance to create a new company from individual attitudes, and inculcate, in academic institutions, attributes, intentions, behaviors, knowledge and specific skills that are also useful for all aspects of his life (Ndofirepi, 2020; Valencia-Arias et al., 2021).

Most of the studies on entrepreneurial intention applied in the context of university students are based precisely on the relationship between entrepreneurial education and behaviors focused on personality traits. However, it is important to also consider the context of students in the virtual modality. There is a challenge with e-learning courses and which is to motivate students in entrepreneurship, therefore the entrepreneurship curriculum requires more effort. For this reason, it is interesting to apply a study on the main factors that affect entrepreneurial intention in university students in a differentiated cultural context, within a distance education course, since there are not many studies compared to the traditional ones (focused on the relationship between entrepreneurial intention and student behavior) applied to education in virtual education (Guachimbosa et al., 2019). Taking into account the empirical information available, the objective of this study is to identify the most influential factors in the entrepreneurial intention of university psychology students enrolled in the virtual modality.

## 1.1 Literature review and hypothesis

There is a trend marked by the study of entrepreneurial intention in university students (Reyes-Cruz et al., 2019), since entrepreneurship is considered an alternative to cross borders (Abrigo, 2018; Jiménez-Marín et al., 2021). Therefore, this phenomenon has registered an evolution in the face of the question of what makes an entrepreneur. Many of the aspects cultivated by entrepreneurs have been studied, ranging from personality to economic, social, political, cultural, and educational backgrounds which represent motivations or obstacles for them (García et al., 2016). Much has been said in the literature that future entrepreneurs can be matured in a context of higher education in all areas of knowledge (including psychology), since it has been in this context that most of the factors that influence entrepreneurship have been identified. the decision of a subject to do it or not (Díez-Echavarría et al., 2020; Lee et al., 2005; Jena, 2020). Currently, entrepreneurship education responds to the particular needs of a country to promote entrepreneurship in people from youth through higher education, which must be adapted to the specific needs, capabilities and organizational structures of each territory so that the sociocultural environment can condition the decision to create a company (Tarapuez, 2016).

Seen in a general way, the process of entrepreneurial intention has been developed from various theories that indicate that entrepreneurs form the intention to create a new business influenced by sociocultural factors that, when strengthened, are carried out through an action (Fragoso et al., 2019). The most developed theory in this regard is the one proposed by Ajzen (1991) and the model proposed by Shapero and Sokol (1982), which are explained below.

## 1.1.1 Theory of Planned Behavior

This theory is based on a social cognitive approach in which it is postulated that intention can predict human behavior, indicating the degree of effort that a person plans to carry out to assume that behavior (Ajzen, 1991). The TPB has been considered as the most powerful research model in the study of the individual intentions of entrepreneurial behavior, therefore it has been a solid theoretical base for researchers

to theorize the relationship of attitudes, norms, and control with behavior mediated by intentions. (Sharahiley, 2020).

Bearing this in mind, the TPB considers the role of entrepreneurial intention in three fundamental factors: attitude, that is, a favorable or unfavorable evaluation of entrepreneurial behavior, control of perceived behavior, which implies the ease or difficulty perceived by the student about the realization of entrepreneurial behavior and the subjective norm which, in a few words, refers to the social pressure received by the student to carry out an entrepreneurial behavior or not (Al-Jubari et al., 2019; Fragoso et al., 2019). In this sense, what the author states is that the entrepreneurial intention refers to a planned and intentional process. In this process, beliefs and assumptions take on a context in which they can take on the role of predictors of student entrepreneurship. This establishes the applicability of the TPB in the study of entrepreneurial intention, opening the way to the following hypotheses:

H1: Attitude is positively associated with the entrepreneurial intention of university students in virtual mode.

H2: Subjective norms are positively associated with the entrepreneurial intention of university students in virtual mode.

H3. Perceived behavioral control is positively associated with the entrepreneurial intention of university students in virtual mode.

## 1.1.1.1 Intención emprendedora

The intention to establish a new company in the future is what is broadly defined as entrepreneurial intention. According to Ndofirepi (2020), entrepreneurial intention is a strong sign of entrepreneurial potential. Studies of entrepreneurial intention have generally focused on overlapping with the mainstream literature on entrepreneurship. These may focus on personality traits or personal background. To encourage students and young people to become entrepreneurs, it is necessary to know more about the range of factors associated with entrepreneurial intention in different contexts (Ozaralli & Rivenburgh, 2016). Entrepreneurial behavior has played a predictive role of the personal characteristics of an individual in his entrepreneurial intention; thus, it is appropriate to be studied in relational terms. This introduces the assumption that intention is a good predictor of future behavior. In this sense, the TPB postulates that intention provides a link between antecedents and subsequent behavior (Kautonen et al., 2011). Based on the indirect empirical evidence available in this study, the following hypothesis is proposed:

H4. Entrepreneurial behavior is positively associated with the entrepreneurial intention of university students in the distance education virtual mode.

Control of current behavior has also been shown to be a predictor of an individual's intention (Ajzen, 1991). This factor is affected by people's perceptions of access to the skills, resources and opportunities necessary to influence an intention to start a new business. As Nguyen (2017) explains, when a person feels that they can control situational factors, they can promote the intention to perform the particular behavior. That is, if a student perceives that she has the current ability to carry out entrepreneurial activities, there is a greater probability that she intends to carry out such activities. This opens the way to the following hypothesis:

H5. The control of current behavior is positively associated with the entrepreneurial intention of university students in virtual mode.

#### 1.1.1.2 Attitudes

As Jena (2020) explains, attitudes are habitual ways in which an individual reacts to a situation. They represent the predisposition to respond in a generally favorable or unfavorable way to an idea. Attitudes can be negative, positive or neutral, also latent and more generalized. In this case, it refers to the predisposition to respond positively or negatively to the possibility of creating a new business as an occupation in the future. A more favorable attitude increases the intention to execute an entrepreneurial action, which means that a person who shows high skills (such as high levels of confidence in their ability to create a new company) firmly believes in their own ability to carry out said action (Lechuga et al., 2020). This, of course, is related to entrepreneurial behavior on the part of the students. According to the TPB, attitudes towards a behavior can be explained from the beliefs that the behavior will lead to particular results, which can be positive or negative (Ajzen, 1991; Botsaris & Vamvaka, 2016). Therefore, the following hypothesis is proposed:

H6. Behavioral beliefs are positively associated with the personal attitude of university students in virtual mode.

## 1.1.1.3 Control of perceived behavior

Although intention has been the best predictor of behavior according to the TPB, it is also necessary to consider the environmental factors of individuals. This refers to behavioral control. As explained by Escandon-Barbosa et al. (2021), people develop a behavior because they have the required skills as well as environmental factors (perceived behavior control), in other words, it can be inferred that they are in control of the current situation. In this sense, the control of current behavior refers to the ability of an individual to control himself in the face of his own actions. This influences the perception of behavioral control. Thus, the following hypothesis is proposed:

H7. Control of current behavior is positively associated with control of perceived behavior of university students in virtual mode.

There are also beliefs about the presence of factors that can facilitate or make it more difficult to perform an entrepreneurial behavior and the perceived power of these factors. These beliefs are called control beliefs. In theory, this factor is related to controllability, so a relationship with the control of perceived behavior is deduced (Hamdah et al., 2020). In this way, the following hypothesis is presented:

H8. Control beliefs are positively associated with the control of the perceived behavior of university students in virtual mode.

### 1.1.1.4 Subjective norms

The subjective norm is derived from a set of salient belief components of the TPB that reflect an individual's perceptions based on the opinion of the most important

people in his life and that he could consider as role models, such as family, friends, colleagues, teachers among others. In general, subjective norms account for how an individual perceives himself based on the opinion of those referents that affect self-efficacy beliefs, expectations of results, and, in turn, influence the probability of forming specific control intentions (Santos & Liguori, 2020). The subjective norm can be measured from the normative beliefs. These refer to the beliefs of an individual that can be accepted by those specific important people or groups. This dictates the appropriate behavior in a particular way (Fang et al., 2017), they are also characterized by determining entrepreneurial behavior. Therefore, the following hypothesis is proposed:

H9. Normative beliefs are positively associated with the subjective norms of university students in virtual mode.

## 1.1.2 Entrepreneurial Event Model

According to Al-Jubari et al. (2019), explaining and predicting human behavior is the central purpose for the development of the TPB, as it is for the development of other theories or models of intention. One of them is Shapero and Sokol's (1982) Entrepreneurial Event Model (hereinafter EEM). This model refers to entrepreneurial self-efficacy and has been considered one of the most relevant and used models in the literature on entrepreneurship (Al-Jubari et al., 2019; Sharahiley, 2020).

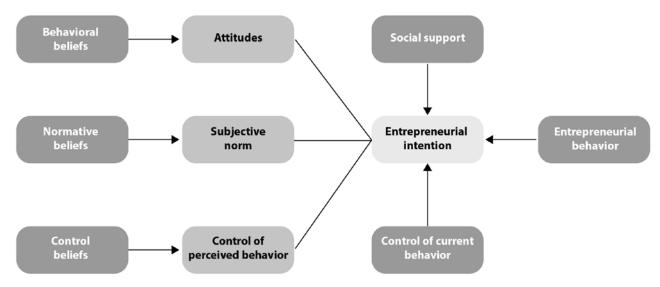
This model contains three key factors that influence the entrepreneurial intention of university students to start a business: Perceived desirability which refers to the degree to which a student wants to start their own business. According to Tarrats-Pons et al. (2015), this refers to the individual's perception of what the most important people and those closest to his life think about the possibility of starting an enterprise, which translates into social support. The propensity to act is the inclination and preferences of students to start their own business considering the appropriate actions and the perceived viability conceived as the level at which a student is confident enough to start their own business and thus become an entrepreneur, in a feasible course of action for him or her (Sharahiley, 2020). This leads to the following hypothesis:

H10: Social support is positively associated with the entrepreneurial intention of university students in virtual mode.

## 1.1.3 Integrated model of TPB and EEM

Empirical evidence of entrepreneurial intentions in this population has found support in both the TPB and the EMM. Some studies have identified that certain elements of the TPB and the EMM overlap with each other, since entrepreneurial intention is the common factor explained by both models in the context of entrepreneurship in university students (Sharahiley, 2020). Some theorists, such as Krueger (1993), have assumed that attitude in the TPB encompasses the notion of perceived desirability in the EMM model, similarly, that subjective norm overlaps with the notion of desirability and feasibility, and that feasibility overlaps with control of perceived behavior. Based on the reviewed literature, the proposed study attempts to integrate the two TPB and EMM models to better understand the development of entrepreneurial intention in university students of the virtual modality. The proposed model can be evidenced in figure 1, based on its hypothetical relationships.

Figure 1
Proposed Model



Note: Own elaboration based on Ajzen (1991); Shapero and Sokol (1982).

## 2. Materials and method

This study has a quantitative approach in which the statistical technique Factorial Analysis (FA) is used in order to simplify the interconnected metrics that allow discovering patterns in a variety of parameters, focused on the entrepreneurial intention of psychology students in the virtual modality. The 178 participants in this study agreed to participate, most of them from the first academic semesters and in the age range of 18 to 42 years. In the first instance, the students surveyed were questioned about individual expectations upon completion of the degree. Most of them state that they are inclined to create a company, continue studying, look for a job or all of them. They also considered a medium level of training in the field of business creation. Table 1 shows the sociodemographic information of the sample, as well as interesting information about the experience creating and/or directing companies and the knowledge they have about the support and training programs in the creation of companies and the motivation on the areas of entrepreneurship.

**Table 1**Sociodemographic information of the sample

| Semester | Percentage | What are your expectations at the end of your degree? | Percentage |
|----------|------------|---|------------|
| 1        | 19 %       | Create company  | 17 %       |
| 2        | 12 %       | Keep studiying  | 16 %       |
| 3        | 10 %       | Keep studying; To look for a job                      | 10 %       |
| 4        | 8 %        | Look for a job  | 7 %        |

| 5   | 5 %        | Keep studying; Create company   | 6 %        |
|---|------------|---|------------|
| 6   | 10 %       | To look for a job; Keep studying  | 5 %        |
| 7   | 9 %        | Create company; Keep studying   | 4 %        |
| 8   | 11 %       | Keep studying; To look for a job; Create company                                  | 3 %        |
| 9   | 10 %       | To look for a job; Create company; Keep studying                                  | 3 %        |
| 10  | 7 %        | Other   | 29 %       |
| Age   | Percentage | How do you consider your level of training in business creation?                  | Percentage |
| 18-22 years   | 10 %       | Medium  | 45 %       |
| 23-27 years   | 9 %        | Low   | 31 %       |
| 28-32 years   | 24 %       | High  | 18 %       |
| 33-37 years   | 17 %       | Null  | 6 %        |
| 38-42 years   | 16 %       | How has your experience<br>been creating and/<br>or running your own<br>company?  | Percentage |
| 43-47 years   | 11 %       | Good  | 65 %       |
| 48-52 years   | 7 %        | bad   | 10 %       |
| Over 52 years old   | 5 %        | Regular   | 24 %       |
| Is it interesting for you to receive training in business creation?   | Percentage | Do you know the support programs for business creation offered by the University? | Percentage |
| Yes   | 92 %       | Yes   | 4 %        |
| No  | 8 %        | No  | 96 %       |
| At some point in your life, have you been through a situation that motivates you to create your own business? | Percentage | Have you ever created<br>and/or managed your own<br>company?                      | Percentage |
| Yes   | 75 %       | yes   | 38 %       |
| No  | 25 %       | No  | 62 %       |
|   |            |   |            |

## 2.1 Instrument

The collection of information was supported by a survey based on the TPB proposed by Ajzen (1991) and the EEM of Shapero and Sokol (1982), to include the perception of desirability. The survey consisted of 28 items measured on the Likert scale

with the following options: 1. Strongly disagree, 2. Disagree, 3. Neither disagree nor agree, 4. Agree, and 5. Strongly agree. Option 0 was also included. Does not know-does not answer. The survey contemplated ten constructs with their respective items and the statistical treatment was carried out using the IBM SPSS Statistics 22 software.

#### 3. Results

This study was carried out from a factorial analysis. Factor analysis seeks to reduce the dimensions of multivariate random variables and identify the factors. According to the authors Härdle and Hlávka (2007), in the statistical field, the purpose of factor analysis is to describe the covariance relationships between many variables in terms of a few underlying but unobservable random quantities, which are recognized as factors. In this sense, from this analysis it is possible to explain the variation of the data, verifying the relationship between the factors and the original variables (Olive, 2017).

The most widely used analysis method to describe the covariance relationships between the latent/factor variables and the original variables is Exploratory Factor Analysis (EFA). The purpose of the EFA is to establish the underlying structure between these variables from correlation structures between them, thus defining the variables that are highly correlated with each other. Similarly, the reduction of variables has been found to be useful, thus explaining a phenomenon such as entrepreneurial intention, in a more detailed way (Méndez & Rondón, 2012).

After using the EFA, a Confirmatory Factor Analysis (CFA) is used. This technique deals with the relationships between observed indicators and latent variables. In this sense, the number of factors that explain the variation and covariation of the indicators is established (Brown & Moore, 2012). Unlike the EFA, the CFA establishes the relationship between indicators and latent dimensions, which ultimately serves as input to formulate specific hypotheses. Thus, in the words of Batista-Foguet et al. (2004), the CFA corrects the deficiencies inherent in the exploratory phase and leads to a better understanding of the hypotheses that must be tested. For this reason, the CFA provides a more parsimonious understanding of the covariation of the variables (Brown & Moore, 2012).

In the first instance, in this study, the EFA is approached from the contribution of the original variables (items) to each of the factors or latent variables (constructs) based on the validity and reliability of the model. In a second instance, the CFA evaluates the degree to which a set of theoretically organized factors fits the data in terms of hypothetical relationships. In this sense, the confidence level is established to evaluate the acceptance or rejection of the hypotheses proposed in the model (Méndez & Rondón, 2012).

## 3.1 Convergent validity

In factor analysis, as has already been mentioned, each construct contains some original variables, therefore it is considered a requirement to demonstrate that these variables or items measure said construct. In this stage, the factors are interpreted from a factor matrix whose objective is to reduce the data. This matrix contains the weights (loads and weights) of each variable, which correspond to the correlations of each of the items on each construct (Méndez & Rondón, 2012; Rubia, 2019). In this sense, the significance of the factor loads is stated as follows: values lower than |0.5| are not significant, values between |0.5| and |0.7| are considered of significant contribution,

and those values higher than |0.7| they are considered relevant and can be satisfactory in empirical research (Méndez & Rondón, 2012). Table 2 shows the values obtained from the factor loadings of each of the items. The results reflect values that are mostly relevant and that represent a significant contribution.

**Table 2** *Factor loads* 

| Construct                     | item | Factorial load | Average factor load |  |
|-------------------------------|------|----------------|---------------------|--|
|                               | INT1 | 0.837          |                     |  |
| Entrepreneurial intention     | INT2 | 0.872          | 0.851               |  |
|                               | INT3 | 0.843          |                     |  |
|                               | CC1  | 0.739          |                     |  |
| Behavioral beliefs            | CC2  | 0.850          | 0.714               |  |
|                               | CC3  | 0.553          |                     |  |
|                               | AP1  | 0.839          |                     |  |
| Personal attitude             | AP2  | 0.884          | 0.864               |  |
|                               | AP3  | 0.870          |                     |  |
|                               | CN1  | 0.847          |                     |  |
| Normative beliefs             | CN2  | 0.914          | 0.901               |  |
|                               | CN3  | 0.943          |                     |  |
|                               | C1   | 0.655          |                     |  |
| Control beliefs               | C2   | 0.787          | 0.718               |  |
|                               | C3   | 0.711          |                     |  |
|                               | CCP1 | 0.615          |                     |  |
| Beliefs of perceived behavior | CCP2 | 0.843          | 0.773               |  |
|                               | CCP3 | 0.862          |                     |  |
| Control of current behavior   | CCA1 | 0.746          | 0.746               |  |
| Control of current behavior   | CCA2 | 0.746          | 0.740               |  |
|                               | CE1  | 0.861          |                     |  |
| Entrepreneurial behavior      | CE2  | 0.756          | 0.822               |  |
|                               | CE3  | 0.848          |                     |  |
| C                             | SS1  | 0.893          | 0.002               |  |
| Social support                | SS2  | 0.893          | 0.893               |  |
|                               | NS1  | 0.899          |                     |  |
| Subjective norm               | NS2  | 0.763          | 0.842               |  |
|                               | NS3  | 0.863          |                     |  |

The positive correlation between the items and their constructs implies an analysis of main components under the assumption of normality of the variables, in order to justify whether the application of a factorial analysis is justifiable or not. In this sense, one of the strategies that can be used to evaluate this assumption is the Kaiser Meyer Olkin (KMO) index and the Bartlett sphericity test. These statistics allow assessing the strength of the relationship between items considering the partial correlations (Acuña

et al., 2017). Thus, these measures are applied and the results are represented based on the criteria established in the measurements. As explained by Arthur-Aidoo et al. (2018), in the factor analysis it is considered that the appropriate values for the KMO index should be equal to or greater than |0.5| considering the latter as the minimum satisfactory limit and being |0.8| a desirable limit value. As can be seen in Table 3, the obtained results are between the minimum desirable limit and close to the limit |0.8|, fulfilling the criteria of this index. Likewise, the results of the Bartlett sphericity test show that the data are interrelated and that, therefore, it is appropriate to carry out a factor analysis, since the values tend to |0.000| as recommended in the literature.

 Table 3

 KMO index and Bartlett's sphericity test

| Construct                     | KMO   | Bartlett |
|-------------------------------|-------|----------|
| Entrepreneurial intention     | 0.709 | 0.000    |
| Behavioral beliefs            | 0.515 | 0.000    |
| Personal attitude             | 0.715 | 0.000    |
| Normative beliefs             | 0.690 | 0.000    |
| Control beliefs               | 0.591 | 0.000    |
| Beliefs of perceived behavior | 0.592 | 0.000    |
| Control of current behavior   | 0.500 | 0.000    |
| Entrepreneurial behavior      | 0.668 | 0.000    |
| Social support                | 0.500 | 0.000    |
| Subjective norm               | 0.655 | 0.000    |

## 3.2 Discriminant validity

Once the positive correlations of the variables have been validated, the absence of statistical correlations between the variables is evaluated to indicate that these tests do not share the same processes (Acuña et al., 2017). In this process, it is assumed that the items must correlate higher among themselves than with other items of other constructs that, according to the literature, do not correlate in the same construct. This test can be performed using different methods. In this study, the method of Anderson and Gerbing (1988) is used, which consists of establishing confidence intervals of 95% between the correlations, considering not obtaining the value |1| as a criterion. Table 4 shows the confidence intervals of this study, which all differ from the value |1|.

Confidence intervals of discriminant validity

| 1  | [0.033;<br>0.340] | [-0.112;<br>0.190] | [-0.026;<br>0.282] | [-0.089;<br>0.213] | [-0.020;<br>0.287] | [-0.018;<br>0.276] | [-0.019;<br>0.274] | [-0.098;<br>0.224] | [-0.093;<br>0.217] | Subjective norm               |
|----|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------------------|
|    | <u> </u>          | [0.291;<br>0.573]  | [0.217;<br>0.491]  | [0.391;<br>0.635]  | [-0.010;<br>0.296] | [0.514;<br>0.724]  | [0.297;<br>0.532]  | [0.306;<br>0.548]  | [0.294;<br>0.562]  | Social support                |
|    |                   | 1                  | [0.432;<br>0.647]  | [0.546;<br>0.753]  | [0.073;<br>0.376]  | [0.417;<br>0.654]  | [0.531;<br>0.735]  | [0.407;<br>0.642]  | [0.526;<br>0.737]  | Entrepreneurial behavior      |
|    |                   |                    | <u> </u>           | [0.459;<br>0.667]  | [-0.020;<br>0.275] | [0.259;<br>0.520]  | [0.443;<br>0.652]  | [0.223;<br>0.482]  | [0.477;<br>0.681]  | Control of current behavior   |
|    |                   |                    |                    | <u> </u>           | [0.059;<br>0.362]  | [0.486;<br>0.710]  | [0.506;<br>0.717]  | [0.338;<br>0.579]  | [0.606;<br>0.782]  | Beliefs of perceived behavior |
|    |                   |                    |                    |                    | 1                  | [0.077;<br>0.372]  | [0.094;<br>0.392]  | [0.220;<br>0.506]  | [0.094;<br>0.381]  | Control beliefs               |
|    |                   |                    |                    |                    |                    | 1                  | [0.344;<br>0.582]  | [0.272;<br>0.530]  | [0.423;<br>0.670]  | Normative beliefs             |
|    |                   |                    |                    |                    |                    |                    | 1                  | [0.470;<br>0.669]  | [0.652;<br>0.812]  | Personal attitude             |
|    |                   |                    |                    |                    |                    |                    |                    | 1                  | [0.416;<br>0.651]  | Behavioral beliefs            |
|    |                   |                    |                    |                    |                    |                    |                    |                    | 1                  | Entrepreneurial intention     |
| SN | SS                | CE                 | CCA                | CCP                | С                  | CN                 | AP                 | cc                 | IE                 | Construct                     |

## 3.3 Reliability

In a factor analysis it is important to consider the measurement as the assignment of a number of items to a construct to identify and conclude the properties of a phenomenon under study according to certain rules and determine the degree of reliability. In this sense, the consistency of an instrument (in this case the survey) with the use of the Likert scale is measured from the internal consistency index. Cronbach's Alpha is the most commonly used statistic to examine the internal consistency or reliability of summed measurement scales. In other words, this statistic measures the degree to which the item responses correlate with each other. In this way, it takes values between |0| and |1|, being the values closest to |1| the most accepted. However, the value that represents the minimum limit is |0.7| (Vaske et al., 2016). As can be seen in Table 5, the study meets the internal consistency criteria.

 Table 5

 Internal consistency

| Construct                     | Cronbach's Alpha |
|-------------------------------|------------------|
| Entrepreneurial intention     | 0.898            |
| Behavioral beliefs            | 0.754            |
| Personal attitude             | 0.904            |
| Normative beliefs             | 0.936            |
| Control beliefs               | 0.737            |
| Beliefs of perceived behavior | 0.830            |
| Control of current behavior   | 0.724            |
| Entrepreneurial behavior      | 0.867            |
| Social support                | 0.903            |
| Subjective norm               | 0.888            |

## 3.4 Hypothesis contrast

To measure the association levels of the hypothetical relationships of the study, Cramer's V statistic is applied in order to determine the strength of association between the variables. According to Idalina (2011), Cramer's V is a nominal association based on the Chi-square that is based on the significance adjustment to factor the sample size and design nominal data. The strength of the association varies between the values |0| and |1|, being the values closest to |1| those of greatest significance. Its interpretation is as follows: values less than |0.3| are considered of low association, values between |0.3| and |0.6| are considered maximum association, therefore the value |0.6| is commonly considered in the literature as the maximum limit (Babu & Sanyal, 2009). As can be seen in Table 6, of the ten proposed hypotheses, eight are validated.

Table 6Hypothesis contrast

| Hypothesis | Variable                         | influences<br>on | Variable                      | Cramer's V<br>statistic |
|------------|----------------------------------|------------------|-------------------------------|-------------------------|
| Н1         | Attitudes                        | à                | Entrepreneurial intention     | 0.551                   |
| Н2         | Subjective norms                 | à                | Entrepreneurial intention     | 0.189                   |
| НЗ         | Control of perceived behavior    | à                | Entrepreneurial intention     | 0.444                   |
| H4         | Entrepreneurial behavior         | à                | Entrepreneurial intention     | 0.444                   |
| Н5         | Control of current be-<br>havior | à                | Entrepreneurial intention     | 0.435                   |
| Н6         | Behavioral beliefs               | à                | Atttitudes                    | 0.421                   |
| Н7         | Control of current be-<br>havior | à                | Control of perceived behavior | 0.408                   |
| Н8         | Control beliefs                  | à                | Control of perceived behavior | 0.546                   |
| Н9         | Normative beliefs                | à                | Subjective norms              | 0.191                   |
| H10        | Social support                   | à                | Entrepreneurial intention     | 0.307                   |

## 4. Discussion of the results

On different occasions, studies of entrepreneurial intention in university students have tended to use the model proposed by Ajzen (1991), on planned behavior. Some studies have even analyzed entrepreneurial intentions and behavior based on a research model that integrates the two TPB and EEM theories (Eid et al., 2019; Sharahiley, 2019), as was the case in this study. The model postulated eight antecedents of the TPB model (behavioral beliefs, personal attitude, normative beliefs, control beliefs, perceived behavioral beliefs, current behavioral control, entrepreneurial behavior, and subjective norm), while one antecedent was postulated from the EEM model (social support) of entrepreneurial intention.

Similar to Sharahiley's (2020) study, attitude had the most significant influence on the entrepreneurial intent of surveyed students. This then indicates that students' personal assessment of becoming an entrepreneur could positively influence their intention to start a business (Ajzen, 1991). The related literature also considers that the control of perceived behavior is an important factor for the entrepreneurial intention of students (Eid et al., 2019). The findings suggest a relevant relationship between the control of perceived behavior and the student's intention, which implies that the perception of being sufficiently independent, conditioned mainly by the perception of being able to control the environment, influences the student's perceived control over the fate of an entrepreneurial project (Shapero & Sokol, 1982). In line with Contreras et al. (2020), the control of current behavior also proves to have a positive influence on the creation of a company by the students surveyed.

Unlike some studies, in this case the subjective norm had no influence on the entrepreneurial intention (Contreras et al., 2020; Eid et al., 2019; Medina et al., 2014; Sharahiley, 2020). Thus, in this case, the students do not feel pressured in one way or another to start a business by the people they consider most important, such as their family, friends, and colleagues. However, it coincides with the study by Krueger et al. (2000), who was unable to establish a positive connection between these two constructs and also suggest that it is possible that the subjective norm is only important in ethnic groups that have strong traditions of entrepreneurial intention.

In these previous studies it has been shown that students who show entrepreneurial attitudes, intention and behavior have a greater vocation to create a company. Therefore, entrepreneurial behavior has a great influence on the entrepreneurial intention of students, as shown in the study by Guachimbosa et al. (2019). The findings in this study coincide and support these works. This allows showing that the integrated model of the TPB and EEM allows obtaining better predictive results than if the two models were applied separately (Medina et al., 2014).

Finally, social support also proves to be a significant factor in the intention to create a company by the interviewed psychology students. This implies that the environment is a key factor in the intention of creating a company or not by these students, facilitating or imposing restrictions on the creation of value and generating economic opportunities (due to government policies and bureaucratic procedures) and human capital (Palma et al., 2015).

At this point and considering what has already been evidenced in relation to the perspective of entrepreneurship, it is necessary to focus on some of these innovative and entrepreneurial proposals that present a panorama of appropriation that psychology professionals have assumed, acquiring technical, theoretical, and procedural positions that allow us to suppose that they are generating a form of recognition of the possibilities of construction. Thus, it is also possible to evidence a series of contributions that for the attention and intervention of different population groups generate actions of particular attention and follow-up to the cases from the support of the different scientific and technological advances that allow responding to the needs of the market. (Martínez et al., 2019).

As expressed by Toledo (2001), the psychological aspects of the individual who wishes start a business are based on the experiences that anticipate an inspiring future, this also has a close relationship with the life project and the situations that the individual wishes to transform, it is there where the possibility of starting a business is constituted as a social determinant that conditions the life and the objectives of the students.

This study contrasts with research processes such as that of Durán-Aponte and Arias-Gómez (2015) that indicate that these work perspectives from the dynamics of entrepreneurial intention give clear and concise indications about the training perspective of future university professionals and its relationship with entrepreneurship, where aspects such as social support, context and individual beliefs should become more important when starting a business.

## 5. Conclusions

The theoretical and conceptual path considered in the review has allowed us to identify, with great propriety, the recognition that, especially from psychology, it has been built and developed on the aspects that involve entrepreneurship and all those aspects that are present from human characteristics. These approaches and contributions clearly do not represent a reflection that shows businesses that are quite visible

or have generated significant recognition from psychology or those who are in training processes in the area.

With this, it is necessary to recognize and consider that the conditions in which entrepreneurship is thought from an area such as psychology are not clear, which determines the consideration of exposing questions that can determine how, within the field of psychology professionals, thought goes more towards the perspective of innovation than towards the idea of entrepreneurship, which suggests considering a possible dynamic in which psychology, as a science, has elements to take advantage in the construction, from innovation, that will generate a relationship with the development of entrepreneurship.

Recognize that professional experience, understood as years of experience and accumulation of experiences as a psychology professional, has a great impact on the development of proposals that are close to entrepreneurial actions, given that they in themselves and after being developed, generate possibilities to make forms of entrepreneurship visible.

Taking as reference the dynamics of association found in the study, it is important to highlight the connection between the theory of the Integrated Model of TPB and EEM with the entrepreneurial intention of the participants, since they propose a path for training in entrepreneurship in the participants.

In the students who are trained under the virtual modality, socio-personal factors that determine their proximity with entrepreneurial intentions are interpreted, this scenario allows us to identify that there is no different association relationship between the study modalities and the entrepreneurial intention, there are other categories such as personal attitudes and social support that affect the student's decision to start a business.

The curriculum that psychology students have under the virtual modality should be oriented towards the strengthening of structures that favor the relationship of the subject with the environment, and not limit the possibilities of entrepreneurship from the accounting or economic vision exclusively, from this study, is important to balance the search for the development of individual and collective entrepreneurial skills with social, cultural and contextual aspects.

Understanding that entrepreneurial behavior is determined by the dynamics of the structure in behavioral beliefs, normative beliefs and control beliefs, training dynamics that promote an entrepreneurial culture in students can be built, and this scenario can be formulated in academic spaces such as the university, the dynamics of the virtual modality, favor this component, taking into account the conditions it offers in the training processes, in addition to the extracurricular scenario that allows for the development of activities related to entrepreneurship that exposes the permanent relationship between students and entrepreneurial intention.

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