

# DETERMINING THE VALIDITY AND RELIABILITY OF ENTREPRENEURIAL EMOTION

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## ABSTRACT

*The involvement of students in entrepreneurship is influenced by their emotions, especially in the early stages of business start-ups. The study aims to measure the entrepreneurial emotion among university students in Higher Learning Institutions. However, entrepreneurial emotion construct is still underdeveloped especially for students who are exposed in formal entrepreneurship education. Hence, this study intends to explore and determine the dimensionality of items measuring the constructs of entrepreneurial emotion. A total of 200 sets of questionnaires were distributed to final year students, but only 170 students had answered them. This entrepreneurial emotional instrument is found to have high reliability and good construct validity. The finding of explanatory factor analysis discovered two components of entrepreneurial emotion with 74.05% of total variance explained in this study. This study contributes to the measurement of entrepreneurial emotional construct especially in entrepreneurial learning. This allows the study to become more comprehensive and vibrant in terms of predicting behaviors or making decisions, especially in choosing entrepreneur as a career.*

**Keywords:** Entrepreneurial Emotion, Factor Analysis, Higher Learning Institutions, Instrument.

## INTRODUCTION

Higher Learning Institutions (HLIs) play important roles to ensure entrepreneurship education being capable of developing competencies of potential entrepreneurs to choose entrepreneurship as a career choice. Entrepreneurship has been identified as a potential catalyst to develop economic growth and maintain competitiveness in the era of globalization (Dumitrache & Raileanu, 2014; Norasmah et al., 2012). Moreover, with the emergence of the Fourth Industrial Revolution, it will generate more outputs with improved input consolidations and new ideas in producing technological innovations and new business models. The implementation of entrepreneurship education in HEIs is realized through the development of entrepreneurship curriculum as well as formal or informal teaching and learning activities. This is not surprising since entrepreneurship courses have become more significant in higher learning programs, even in the areas of studies that are not directly related to business

Several previous studies showed that entrepreneurship education can improve students' desires to become entrepreneurs (Ilyas et al., 2015; Jiang & Wang 2014) and contrary results (Martin et al., 2013; Hessel et al., 2010). It may be associated with students' emotional instability in making decisions such as choosing an entrepreneurial career. Furthermore, emotion is a critical factor in entrepreneurship process. This is supported by Cacciotti et al.(2016) who

claimed that individual emotion affects entrepreneurial process, whereby entrepreneurs experience anxiety at various points throughout the entrepreneurship process.

Moreover, emotion studies in entrepreneurial learning are still novel, and nowadays, the study is receiving more attention from researchers in entrepreneurship and education disciplines across the country. This is supported by Hayton & Chalakova (2012) who mentioned that research has recently begun to think about how people “*Feel*”, contrasted with how or what they “*Think*”. Hence, the students’ reactions to entrepreneurship education is important because their emotions can affect their judgments and decision making, especially in choosing entrepreneur as a career. However, entrepreneurial emotion construct is still underdeveloped especially in entrepreneurial learning. Furthermore, most of the research tools used previously were taken in psychology. For the purpose of this study, the researchers have integrated items that have been built on psychology and entrepreneurship. Therefore, this study aims to explore and determine the dimensionality of items measuring the constructs of entrepreneurial emotions.

## LITERATURE REVIEW

Entrepreneurial emotions refer to affections, emotions, feelings or moods (Cardon et al., 2012). They added that entrepreneurship creates a great emotion in terms of time strain, ambiguity and the extent of personal feeling. Until now, there is still no definition of emotion that is acceptable to all disciplines, particularly entrepreneurship (Welpel et al., 2012). Most of the emotional definitions constructed by previous pioneers were psychology (Joseph & Newman, 2010). However, Welpel et al. (2012) suggested an emotional definition based on an entrepreneurial perspective, “*Emotions are seen as a person's current psychological situations*”. The situation is distinguished between emotional episodes, which refers to the current emotional reaction like anger, sadness, and emotional dispositions, referring to general characteristics, such as sensitivity. In this study, entrepreneurial emotion refers to the anticipation of a student's emotion on starting a business after the exposure to formal entrepreneurship education.

According to Baron (2008) and Biniari (2011), emotions have positive effects on entrepreneurship fields. Some of the past studies have shown positive emotions overcoming stress (Carver & Scheier, 2000); enhancing creativity and heuristic processing (Baron, 2008) and also making decisions (Foo, 2011). When someone feels happy or remembers feeling happy, they assess their situations as their own actions. Interestingly, individuals feeling irate or frightful evaluate their circumstances as not being under their control (Lerner & Keltner, 2001). This is supported by Zampetakis et al. (2016) who anticipated that emotions will affect actions to be taken today, and also about the future. In this context, the researchers used emotional-as-feedback theory. This theory occurs when individuals imagine a situation emotionally, and they will feel whether the future situations are according to their desires or not (Baumgartner et al., 2008). This is in line with the entrepreneurial exposure to students who have basically learned about entrepreneurial activity. Therefore, their anticipated emotions are important in making an entrepreneurial action and engaging in business.

## METHODOLOGY

This study is a quantitative research using questionnaires as the main instrument. A structured questionnaire was developed for data collection to measure entrepreneurial emotion. It consists of 12 items and a seven-point-interval scale. The interval scale is used to determine how strongly agree or disagree a respondent was, with the statements on the scale. In this study, the

researchers have built the items of entrepreneurial emotion based on previous studies by Zampetakis et al. (2016) and Foo (2011).

For this study, the researchers used recommendation by Hair et al. (2014) to determine the appropriate sample size based on loading factor. They stated that the loading factor setting was appropriate if the sample size exceeded 100 people or larger. So, a total of 200 sets of questionnaires were distributed to final year students, but only 170 students answered the completed questionnaire. However, the amount is sufficient to run a factor analysis. The data gathered through questionnaire were analyzed using the Statistical Package for Social Science (SPSS) version 22.

## RESULTS AND DISCUSSION

The validity and reliability of entrepreneurial emotional instruments have been obtained through content validity, face validity and reliability (Cronbach's Alpha). To further enhance the validity and reliability of this instrument, factor analysis was conducted to determine the construct validity of each item that has been built. Then, the reliability of each construct is determined to ensure the instrument is consistent and only measures what is to be measured.

Content validity is important to obtain the agreement of the experts on the concepts and contents of the items selected in the draft of entrepreneurial emotion instruments. The researchers have obtained the consent of several experts according to their respective fields, namely from entrepreneurship (3 persons), entrepreneurship education (2 persons), two persons from entrepreneurship development center and an official from the ministry. Based on the content validity index for each item (I-CVI), the value of the validity obtained is 0.91 and this indicates a good validity when its value exceeds 0.90 (Stewart & Haswell, 2013). The experts had also made face validity over the draft instrument. Overall, the content items have been accepted by experts and based on their recommendations, the researchers have improved some statements that could further strengthen this questionnaire. Besides that, the researchers also gave the draft questionnaires to the ten final year students to make the face validity. The purpose of face validity is to check whether the questionnaire items are easily understood similarly by any respondents.

Before beginning the procedures to establish or extract factors, several tests need to be done to determine the suitability of the sample data for exploratory factor analysis. Among the tests were the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of sphericity. Kaiser-Meyer-Olkin (KMO) is conducted to measure the suitability of sample data, while Bartlett's Test of Sphericity is executed prior to extraction or factor formation to ensure the suitability of data for exploratory factor analysis. In this study, the value of Kaiser-Meyer-Olkin (KMO) is 0.913 and Bartlett's test of Sphericity was also significant ( $p < 0.05$ ). Therefore, the sample is appropriate and can be analyzed further because the value of KMO is close to 1.0 and the significant value is close to 0.0. Table 1 shows the value of KMO and Bartlett's test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.913
Bartlett's Test of Sphericity	Approx. Chi-Square	1692.736
	Df	66
	Sig	0.000

The total variance explained was also examined as an item extraction process to reduce it to controlled numbers before further analysis. In this process, items with eigenvalues exceeding 1.0 are extracted into different components (Hair et al., 2014). Based on Table 2, the output reveals that the EFA has produced two dimensions or a construct of entrepreneurial emotion component with eigenvalue 6.662 for component number 1 and 2.264 for component number 2. This indicates that these items are grouped into two components and will be considered for further analysis. Table 2 also shows that the total variance explained is 74.051%. In this study, the items with loading factor of 0.6 will be maintained as it indicates the usefulness of the item in measuring a certain construct. As a result, the component matrix shows that all 12 items have a loading factor above 0.6. Therefore, all items will be considered for further analysis under two components of entrepreneurial emotion construct.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.622	55.183	55.183	6.622	55.183	55.183	5.062	42.183	42.183
2	2.264	18.868	74.051	2.264	18.868	74.051	3.824	31.868	74.051
3	0.716	5.969	80.020						

The value of Cronbach's Alpha is used to measure the reliability items. Based on Sekaran & Roger (2016), a Cronbach's Alpha from 0.6 or higher provides a measure of reliable internal consistency. In this study, there are 7 items in component 1, namely negative emotions and 5 items in component 2, namely positive emotions that constitute the entrepreneurial emotion construct. The value of Cronbach's Alpha for each component is calculated and has high reliability standards such as 0.937 (component 1) and 0.908 (component 2). The results indicated that the two components have exceeded the required value of 0.6. Therefore, the components extracted with those items are reliable and appropriate to measure entrepreneurial emotions.

## CONCLUSION

Emotion is within a person, it does not solely affect the process of entrepreneurship, yet it also affects an individual who is doing business. Emotions are expected to have greater cognitive influences in assessing unpredictable and expected situations (Baron, 2008). In this regard, more attention should be given in entrepreneurship education especially the anticipated emotions among students, especially the potential entrepreneurs in Higher Learning Institutions. This is because they have been exposed to entrepreneurial learning and that situation will affect their emotions of whether or not to start a business. It is important to identify the emotions of the students, whether they encourage or become a barrier for them to start a business, following the many entrepreneurship programmes and activities undertaken by the university to cultivate entrepreneurship tendency for them.

This study contributes to the measurement of entrepreneurial emotional construct especially in the context of students in Higher Learning Institutions. This entrepreneurial emotional instrument is found to have high reliability and good construct validity. The results of EFA produce an extract structure into two components, namely positive emotions and negative emotions. The two components can be measured through 12 items that show a high value of Cronbach's Alpha. The future studies can validate the scale by studying the entrepreneurial

emotions based on positive and negative components simultaneously. This can make the study become more comprehensive and vibrant in terms of the prediction of behavior or decision making especially in choosing entrepreneur as a career.

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