


The association between emotional intelligence and entrepreneurship as a career choice: A study on university students in South Africa

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Orientation: To examine the effects of emotional intelligence on the development of entrepreneurial intentions of university students.

Research purpose: To determine whether emotional intelligence is a crucial antecedent of entrepreneurial intention to encourage entrepreneurial behaviour.

Motivation of the study: By identifying all the factors that encourage entrepreneurial behaviour, policymakers and concerned stakeholders are better equipped to improve such behaviour and guarantee its success, thereby alleviating unemployment more effectively.

Research design, approach and method: A positivist paradigm was used and a quantitative design used self-administered questionnaires to assess the respondents' emotional intelligence and their intentions to start businesses. Multiple regressions and correlations were computed to test the hypotheses.

Main findings: The findings revealed that there is a direct association between emotional intelligence and entrepreneurial intention, with the strongest association recorded between regulation of emotion and entrepreneurial intention and the least significant association between use of emotion and entrepreneurial intention.

Practical implications: Although entrepreneurship education is important, it needs to be restructured to incorporate the practical aspects. Furthermore, educators should create a learning environment that could encourage the effective expression and use of emotions to nurture emotional intelligence.

Contribution: This article is of particular value to policymakers and educators looking for ways to improve entrepreneurial effectiveness and implementation as well as scholars contemplating entrepreneurship as a career option.

Introduction

Entrepreneurship can be seen as an emotional process as it provides an emotional context within which to study this topic (Cardon, Foo, Shepherd & Wiklund, 2012). The concept itself has become increasingly popular among academics and policymakers across the globe (Keat, Selvarajah & Meyer, 2011). The level of dynamism in the working environment has led to an upsurge of opportunities for new entrepreneurial initiatives, making self-employment lucrative (Mortan, Ripoll, Carvalho & Bernal, 2014). In principle, implanting entrepreneurial intention in the minds of students helps build future entrepreneurial behaviour (Tiago, Faria, Couto & Tiago, 2015). Furthermore, Malebana and Swanepoel (2015) noted that South Africa needs more entrepreneurial intention studies to guide the development of interventions that could fuel entrepreneurial activity in order to reduce unemployment. As the centrality of emotions in business is becoming more apparent, the focus is slowly shifting to questioning how emotions affect entrepreneurial judgement and behaviour, hence the need to examine emotional intelligence within the context of entrepreneurship and business management at large.

Problem statement

Despite wide acclaim, entrepreneurship is still significantly low in South Africa (Fatoki & Chindoga, 2011; Luiz & Mariotti, 2011; Muofhe & Du Toit, 2011). This is particularly true for the Eastern Cape province (Mkatshwa, 2012). This province is the poorest, despite its investment in tertiary institutions (Pejovic et al., 2012). In actual fact, this province has less entrepreneurial involvement when compared to other provinces (Mkatshwa, 2012). In line with this, studies estimate that the

majority of graduates (who have a considerably high intelligence quotient, commonly referred to as IQ) join the employment-seeking pool as opposed to establishing creative and successful entrepreneurial ventures that could strengthen the economy (Altbeker & Storme, 2013; Farrington, Gray & Sharp, 2011; Fatoki, 2010). Meanwhile, those who have a low IQ are forced into accepting poor educational prospects, menial jobs and a relatively unrewarding economic standing (Zeidner, Matthews & Roberts, 2009).

Moller (2005) suggested that the problem lies with the education curricula, as they fall short in teaching learners how to meet challenges in the world of emotions or how to become more creative, how to solve problems or how to make better decisions. Naturally, educational systems focus on cognitive intelligence, aimed at developing abilities and skills measured by IQ, yet IQ (a measurement of inert intelligence) may very well have little to do with success (Moller, 2005). Critics have argued that consideration needs to be given to alternative life-success factors (Zeidner et al., 2009) such as emotional intelligence, which can be learnt and increased as suggested by Goleman (1995).

This necessitates the need to examine these life-success factors and how they can be influenced to encourage entrepreneurial behaviour. Against this backdrop, questions arise: Should the education system move from being cognitive intelligence-based to being emotional intelligence-based in order to encourage students towards successful entrepreneurship? If so, has emotional intelligence been the missing link in entrepreneurship? While literature has generally identified emotional intelligence as an important contribution to positive life outcomes, there is still a debate on its applicability and relevance to entrepreneurial outcomes. This study therefore bridges that gap by assessing the role that emotional intelligence plays in the development of entrepreneurial intentions by students in a province riddled with lagging entrepreneurial activity.

Objectives of the study

The primary objective of this study was to investigate the association between emotional intelligence and entrepreneurial intent among university students in the Eastern Cape province of South Africa. This was necessitated by the realisation that emotions could actually be a more influential antecedent of entrepreneurship. The secondary objectives focused on the relationships between the four components of emotional intelligence (use of emotion, regulation of emotion, self-emotional appraisal and others' emotional appraisal) and entrepreneurial intent to determine which of the components has high relevance. From these objectives, the following hypotheses were deduced.

Research hypotheses

- H_{01} : There is no association between emotional intelligence and entrepreneurial intention.
- H_{02} : There is no relationship between self-emotional appraisal and entrepreneurial intention.

- H_{03} : There is no relationship between others' emotional appraisal and entrepreneurial intention.
- H_{04} : There is no relationship between regulation of emotion and entrepreneurial intention.
- H_{05} : There is no relationship between use of emotion and entrepreneurial intention.

Literature review

This section gives a brief insight into literature pertaining to emotional intelligence and entrepreneurship as it relates to entrepreneurial intention of university students. In a bid to understand the foundation of the study, the section commenced with a brief overview of the Eastern Cape province.

Background of the Eastern Cape province

The Eastern Cape province covers the southeastern part of South Africa. With a population of approximately 6.9 million inhabitants, the province houses 15% of the country's total population. Despite this, the Eastern Cape contributes a mere 7% to the nation's gross domestic product and is still considered one of the most underperforming provinces (Hamann & Tuinder, 2012; Pejovic et al., 2012). According to Statistics South Africa (2006), this province is one of the least urbanised provinces in South Africa and is faced with significant problems pertaining to unemployment, so much so that many entrepreneurial support structures have been erected to try to rectify this problem.

Entrepreneurship

The vastness with which entrepreneurial importance is articulated might actually seem repetitive and banal, yet it only goes to show the unbridled relevance that entrepreneurship has assumed in the global economy. Entrepreneurship is an important economic construct and global concern (Ghina, 2013; Hafer, 2013; Kuratko, 2005; Sasu & Sasu, 2015; Wiklund, Davidsson, Audretsch & Karlsson, 2011). It is considered the fourth factor of production that combines all the other factors (land, labour, capital) to maximise profit and secure the socio-economic well-being of any nation and the globe at large (Aardt et al., 2016).

Contrary to mass popular opinion, entrepreneurship transcends the traditional interpretations of profit motive to include social and/or corporate motivations (Ahmad & Hoffman, 2007). Based on this, a more suitable view is by Ahmad and Hoffman (2007), who noted that entrepreneurship is established throughout the economy in many different forms, with many different outcomes. They explain how these outcomes are not always related to the creation of financial wealth; for example, they may be related to increasing employment, tackling inequalities or, quite possibly, addressing environmental issues. Sledzik (2013) pointed out that entrepreneurship is fundamentally innovation and the actualisation of innovation.

While it is generally accepted that entrepreneurship brings about positive change, some researchers differ and construe

this to be a common misconception. They conclude that entrepreneurship might, in actual fact, be counterintuitive. Shane (2003) expresses this sentiment by affirming that rationalising entrepreneurial ventures as the key to transforming depressed economies, generating innovation and solving all socio-economic shortfalls is a dangerous myth that has plagued numerous policymakers. Encouraging more people to become entrepreneurs will not enhance economic growth or create jobs. This implies that start-ups in general are not the foundation of economic vitality or job creation.

Additionally, entrepreneurship could inadvertently result in job losses in the medium term through what is termed 'creative destruction', as entrepreneurs aim to increase their productivity. Walker (2012) realised how, apart from creating wealth and innovation, entrepreneurship could also create uncertainty and competition. Carree and Thurik (2003) suggest that the difficulties encountered in trying to define entrepreneurship complicate the measurement of its effect on the economy, while the gains of entrepreneurship are highly dependent on the business environment's receptiveness to innovation and are not necessarily assured (Kritikos, 2014).

Entrepreneurial intention

The entrepreneurship process is an intentional one (Sasu & Sasu, 2015). This means that it is highly dependent on the intention of the individual concerned and, as aforementioned, intention is considered the first step in entrepreneurship. Thus, entrepreneurship could be measured in two ways: actual entrepreneurship and entrepreneurial intention (Pihie & Sani, 2009). Intentions reflect the current attitude an individual holds towards performing certain behaviour (Kuehn, 2008). Millman, Li, Matlay and Wong (2010) noted that entrepreneurial intentions, among other factors, are one of the major themes in entrepreneurship literature. Moreover, as pointed out by Kanonuhwa and Chimucheka (2016), it is rather impossible to determine with surety the number of students who will actually venture into entrepreneurship in the future because of the uncertain nature of what lies ahead; hence the need to study intentions.

As actions are consequential to intentions, it is only natural to examine the factors that guide their enhancement (Kuehn, 2008). Fatoki (2010) suggests directing our focus onto the factors that influence graduates' intentions to start businesses. This illuminates the notion that intentions are pivotal in understanding behaviour. However, despite intention being a consistent predictor of actual behaviour, resulting actual behaviour may deviate from intended behaviour (Kuehn, 2008) and so intention should only be used as a predictive measure.

Emotional intelligence

Emotional intelligence came into prominence against a backdrop of dissatisfaction with conventional theories of intelligence. It was popularised in the 1990s by Salovey and Mayer (1990), who introduced the concept by defining it as

the ability to recognise, evaluate and express emotion, while generating feelings that influence how one thinks. From this definition, it is evident that emotional intelligence combines various constructs that measure different traits and abilities as opposed to being an individual variable (Jensen, Kohn, Rilea, Hannon & Howells, 2007). This intelligence explores our ability to calibrate and adjust our thinking so that cognitive tasks make appropriate use of emotional information (Boren, 2010; Hee & Euna, 2016). This means that emotional intelligence provides innovative ways to understand and evaluate human behaviour (Orziemgbe, Chukwujiokwe & Aondoaver, 2014).

Scholars and practitioners alike have shown interest in emotional intelligence and its implications for fundamental, basic life outcomes (Extremera & Rey, 2016). It has been identified as an important component of social cognition, being measurable across a fairly diverse set of tasks (Mao et al., 2016). According to Zeidner et al. (2009), emotional intelligence represents a strip of uncharted psychological terrain, and its exploration will add much to our comprehension of individual differences pertaining to emotion. However, Stenhouse et al. (2016) take an opposing stance by remarking that it is, in fact, vastly theoretically conceptualised and empirically tested in psychology, and they attribute this as the reason behind the availability of numerous valid and reliable measurement instruments, which mitigate the problems of poorly defined variables. Walter, Humphrey and Cole (2012) pointed out that there is little consensus on the true meaning of emotional intelligence, resulting from the complexity of the construct and no generalised view on its applicability or its existence. Moreover, emotional intelligence has been criticised to measure nothing more than just intelligence and personality (Amelang & Steinmayr, 2006).

The Multifacet Emotional Intelligence Scale, developed by Mayer and Salovey (1997), and the Mayer-Salovey-Caruso Emotional Intelligence Test, developed by Mayer, Caruso and Salovey (1999), have gained prominence in performance-based measures, used in various studies. Self-report measures are primarily assessed by the Self-Reported Emotional Intelligence Scale by Schutte et al. (1998), the Wong and Law Emotional Intelligence Scale (WLEIS) developed by Wong and Law (2002), the Situational Test of Emotional management (MacCann & Roberts, 2008) and the Bar-On Emotional Quotient Inventory (Webb et al., 2013). The choice of measurement test depends on a wide array of factors, but mostly on the definition of emotional intelligence as either a trait or an ability.

The difference between trait emotional intelligence and ability emotional intelligence is predicated by the method used for measuring the constructs and not the elements encompassed within the respective models (Boyle, Saklofske & Matthews, 2015). However, Petrides and Furnham (2001) opine that there is no reason to regard emotional intelligence as either an ability or a trait as both can coexist simultaneously. This implies that, instead of attempting to measure it as either of the two, it would be more valid to use both ability and trait

measures or alternatively develop an independent measure that does not lie within the two restrictions. This viewpoint is backed by Fiori and Antonakis (2012), who conclude that what poses concern when the construct is measured as either a trait or ability is that there is much overlap with existing personality traits, to the extent of becoming redundant. It is imperative to consider the approach that looks at emotional intelligence as an ability as more theoretically apt when compared to the trait approach (Boyle et al., 2015; Fiori & Antonakis, 2012). Nonetheless, Walter et al. (2012) proposed that emotional intelligence should not replace already known predictors of leadership and performance; rather, it should complement them and as such deserves consideration. With this realisation, they suggest that emotional intelligence should have a legitimate place in leadership selection, promotion and development.

Empirical literature

In a study investigating the relationship between emotional intelligence and entrepreneurial performance, Orziemgbe et al. (2014) conducted a regression analysis that showed a relationship between the four variables of emotional intelligence (self-emotional appraisal, others' emotional appraisal, regulation of emotion and use of emotion) and entrepreneurial performance. Although these findings concur with those of numerous authors (Ahmetoglu, Leutner & Premuzic, 2011; Khatoon, 2013; Lackeus, 2014; Leutner, Ahmetoglu, Akhtar & Chamorro-Premuzic, 2014; Ngah & Salleh, 2015; Zampetakis, Beldekos & Moustakis, 2009), with Mortan et al. (2014) contributing that emotional intelligence abilities affect the perceptions of being an entrepreneur as well as entrepreneurial intent, they contrast the findings by Mahmood, Samaneh and Afeter (2012) and Esfandiari and Ekradi (2014), who found a statistically insignificant result and concluded that emotional intelligence was not a significant predictor of entrepreneurial performance.

Chin, Raman, Yeouw and Eze (2012) discovered how both emotional intelligence and spiritual intelligence must be combined to ensure successful entrepreneurship that stands out. Meanwhile, Yusof, Ishak, Zahidi, Abidin and Baker (2014) agreed that the relationship between emotional intelligence and personality characteristics was indeed significant, but generally there is no correlation between emotional intelligence and general intelligence, as discovered by Amelang and Steinmayr (2006). Bahadori (2012) and Zhou, Estrada and Bojica (2014) found that all dimensions of emotional intelligence are relevant and positively related to entrepreneurial behaviour, while Zhou et al. (2014) suggested that appraisal and expression of emotion are not significantly associated with most success criteria. This study therefore examined all the dimensions and their significance to entrepreneurship.

Research methodology

A methodology is a set of tactics and supporting steps that operationalise the chosen science and logic of the investigation

under question (Hallebone & Priest, 2009; Krauss, 2005). It is an outline that highlights situation-specific arguments and choices that involve sampling, data collection and data analysis, and eventually reports the findings (Brynard, Hanekom & Brynard, 2014).

Research paradigm

A paradigm is a commitment to a culture of practices and beliefs about reality and embodies a combination of the philosophy of science and logic of enquiry (Hallebone & Priest, 2009). With this in consideration, Eriksson and Kovalainen (2008) suggested that positivism is the conventional philosophical position of management studies and is closely related to the logic and ways of quantitative research. This study adopted a positivist approach. This approach only considers things to exist if they are directly observable (Lee & Lings, 2008) and their knowledge has a broad or general application (Hallebone & Priest, 2009).

Research design

The researchers adopted a quantitative research approach. A quantitative research design produces results through statistical analysis and summary (Ghauri & Gronhaug, 2005). This design allows the gathering of large sums of data so that the results can be generalised to the whole population (Malebana & Swanepoel, 2015).

Population

The researchers focused on university students in the Eastern Cape province. According to Fatoki (2014), university students are a common study population because they are at the upper levels of their educational background and have unusually proficient cognitive skills. In addition, students are closer to selecting their career paths.

Sampling method

Non-probability sampling was used in selecting a sample for this study. Burns and Burns (2008) defined a non-probability sample as one that is selected in some less random and often deliberate way, without reliance on chance.

Sampling technique

Purposive sampling is a non-probability sampling technique in which the researcher makes specific choices about which participants to include in the sample (Betram & Christiansen, 2014). In this study, the researchers chose that participants must be currently registered university students in the Eastern Cape province.

Determining sample size

According to Betram and Christiansen (2014), when selecting a sample, it has to be large enough to provide adequate results and small enough to be manageable. For the purposes of this study, the sample size was calculated using the Rao

soft sample size calculator. The total population of all the four universities in the Eastern Cape was 64 336. Using a 95% confidence level and a 5% margin of error, the calculation gave a sample size of 385 participants.

Data collection instrument

This study employed the questionnaire as a data collection instrument. Betram and Christiansen (2014) defined a questionnaire as a list of questions to which respondents must give an answer. Furthermore, questionnaires simplify and quantify responses, and people are more inclined to tick boxes than write or type out long answers (Cilliers, Davis & Bezuidenhout, 2014). The items used in the development of the questionnaire were based upon theoretically derived, previously validated instruments. All the constructs were assessed by self-report measures based on multi-item scales, on five-point Likert scales ranging from strongly disagree (1) to strongly agree (5).

Scales

All scales that were used in this study were derived from past studies of a similar nature. Laborde, Allen and Guillen (2016) suggested that short versions of comprehensive questionnaires are instrumental for studies in practical settings where time restrictions prohibit the use of longer versions. Emotional intelligence was assessed using the scale adopted from Wong and Law (2002), popularly known as the WLEIS. This is a self-report, 16-item scale that measures the four major emotional intelligence dimensions. This scale was used as it is in line with the views of Mayer and Salovey concerning emotional intelligence (Carvalho, Guerrero, Chambel & Gonzalez-Rico, 2016). Entrepreneurial intention was measured using the considerably shorter yet validated nine-item scale proposed by Linan and Chen (2007).

Reliability and validity

Betram and Christiansen (2014) define *construct validity* as the extent to which an instrument and data collection methods measure the construct they are intended to measure. An acceptable Cronbach's alpha coefficient ranges from 0.6 to 0.9 (Cant, Gerber-Nel, Nel & Kotze, 2005). The scales were tested and Table 1 shows the results.

Table 1 illustrates reliability analyses, revealing a Cronbach's alpha exceeding 0.6 for all the constructs, indicating acceptable internal consistency. The last two in the table are overall scales of which total scores are calculable.

TABLE 1: Internal consistencies.

Scale	Cronbach's alpha	Items
Self-emotional appraisal	0.797	4
Others' emotional appraisal	0.814	4
Regulation of emotion	0.840	4
Use of emotion	0.855	4
Entrepreneurial intention	0.935	9
Emotional intelligence	0.847	16

Statistical analysis

Both inferential and descriptive statistics were analysed using the Statistical Analysis Software (SPSS) data analysis package. Data was analysed using the Pearson correlation, simple linear regression and multiple regression analysis. The equation for the multiple regression analysis predicting Y is shown below:

$$Y = \beta_0 + \beta_1 X_{1-4} + \beta_2 A + \beta_3 G + \beta_4 YOS + \beta_5 FOS + \beta_6 WE + \beta_7 FB + \beta_8 EE + \beta_9 AF + \varepsilon \quad [\text{Eqn 1}]$$

where Y = entrepreneurial intention, measured on a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree'; X_{1-4} = self-emotional appraisal, others' emotional appraisal, regulation of emotion and use of emotion; A = age of student measured in years; G = gender of student, measured as a dummy variable (1 = male and 0 = female); YOS = year of study of the student; FOS = field of study of the student; WE = whether the student has any work experience, measured as a dummy variable; FB = whether the student comes from an entrepreneurial family background; EE = whether or not the student has received any form of entrepreneurship education, measured as a dummy variable (1 = yes and 0 = no); and AF = whether the student has access to finance to start an entrepreneurial venture, measured as a dummy variable (1 = yes and 0 = no).

Ethical considerations

Ethics are the moral code of conduct that set the standard for attitudes and behaviour (Cilliers et al., 2014). In adherence to the ethical considerations of conducting this study, ethical clearance was obtained from the University of Fort Hare's Ethics Committee prior to carrying out the research. Furthermore, the researchers ensured the fully informed consent of research participants and the confidentiality of research data.

Results

A 100% response rate was achieved. Of the respondents, 51.7% were female, while only 48.3% were male. It can therefore be concluded that an almost equal gender distribution was achieved. However, the results of this study were not dependent on any specific gender. Furthermore, the majority of the respondents (68%) were below the age of 25. This is largely attributed to the nature of the sampled population, which is primarily composed of university students. Only 37.7% of the respondents indicated that they came from an entrepreneurial family background. Given that the target respondents were university students, the majority (56.9%) did not have any work experience. Only 53% of the respondents had received any form of entrepreneurial education.

Pearson's correlation revealed a positive and statistically significant relationship between emotional intelligence and entrepreneurial intention. The results are presented in Tables 2 and 3.

TABLE 2: Correlations.

Variable	Statistical test	E intent	E intel	SEA	OEA	ROE	UOE
E intent	Pearson correlation	1	0.263**	0.198**	0.082	0.366**	0.100
	Significance (two-tailed)	-	0.000	0.000	0.109	0.000	0.052*
	<i>N</i>	383	383	383	383	383	383
E intel	Pearson correlation	0.263**	1	0.694**	0.616**	0.672**	0.732**
	Significance (two-tailed)	0.000	-	0.000	0.000	0.000	0.000
	<i>N</i>	383	385	385	385	385	385

E intent, entrepreneurial intention; E intel, emotional intelligence; SEA, self-emotional intelligence; OEA, others' emotional intelligence; ROE, regulation of emotion; UOE, use of emotion.
 *, Correlation is significant at the 0.1 level (two-tailed); **, Correlation is significant at the 0.01 level (two-tailed).

TABLE 3: Generalisations from the correlations.

Hypothesis	Result
There is no relationship between emotional intelligence and entrepreneurial intention.	Positive relationship Strong at r 0.263
There is no relationship between self-emotional appraisal and entrepreneurial intention.	Positive relationship Strong at r 0.198
There is no relationship between others' emotional appraisal and entrepreneurial intention.	Positive relationship Weak at r 0.082
There is no relationship between regulation of emotion and entrepreneurial intention.	Positive relationship Strong at r 0.366
There is no relationship between use of emotion and entrepreneurial intention.	Positive relationship Weak at r 0.100

Note: The generalisations in Table 3 were derived from the results presented in Table 2.

TABLE 4: Model summary.

Model	<i>R</i>	<i>R</i> -squared	Adjusted <i>R</i> -squared	Standard error of estimate	Durbin-Watson statistic
1	0.375	0.140	0.131	7.91875	1.877

Predictors: (constant) use of emotion, self-emotional intelligence, others'emotional, regulation of emotion; dependent variable: entrepreneurial intention.

These results were further confirmed by the multiple regressions. From the results, the joint hypotheses, that emotional intelligence measures are not related to entrepreneurial intention, were rejected, concluding that there is at least one measure that is significantly related to entrepreneurial intention. Association was established between entrepreneurial intention and others' emotional appraisal, self-emotional appraisal and regulation of emotion. However, the test showed a weak relationship between intention and use of emotion. Of the four components of emotional intelligence, regulation of emotion showed a more prominent association, with a unit increase in regulation of emotion leading to a 1.163 increase in entrepreneurial intention total score. This means that a one-standard deviation increase in the regulation of emotion increases the standard deviation for entrepreneurial intention. In line with these results, Hee and Euna (2016) called for the development of a curriculum of subjects designed to improve emotional intelligence. Teaching emotional intelligence in schools, workplaces and psychiatric centres offers a viable solution to perceived individual, community, national and global needs, as suggested by Zeidner et al. (2009).

A multiple linear regression analysis was projected to determine to what extent a unit increase in the calculated total scores of emotional intelligence sub scales affect the students' intention to be entrepreneurs. The model had an *R*-squared of 0.375, which is in line with survey data and hence the employed explanatory variables controlled significant variation in entrepreneurial intention.

TABLE 5: Analysis of variance.

Model	Statistic	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Significance
1	Regression	1900.692	1	1900.692	28.211	0.000 ^b
	Residual	25669.292	381	67.373	-	-
	Total	27569.984	382	-	-	-

Dependent variable: entrepreneurial intention

^b, predictors: (constant) emotional intelligence.

TABLE 6: Emotional intelligence coefficients.

Model	Variable	Unstandardised coefficients		Standardised coefficients	<i>T</i>	Significance
		Beta	Standard error	Beta		
1	(Constant)	16.955	3.213	-	5.277	0.000
	Emotional intelligence	0.272	0.051	0.263	5.311	0.000

Dependent variable: entrepreneurial intention.

As depicted in Table 4, the *R* value represents the simple correlation and is 0.375, which indicates a high degree of correlation. However, since there were multiple independent variables, namely, use of emotion (UOE), others' emotional appraisal (OEA), regulation of emotion (ROE) and self-emotional appraisal (SEA), the *R*-squared value of 0.140 shows the degree of variation in entrepreneurial intention (dependent variable) that can be explained by the independent variables.

Table 5 shows how well the regression predicts the dependent variable. The table shows a *p*-value of 0.000, which is less than 0.05, showing that the equation significantly predicts the variable.

The results in Table 6 show that as emotional intelligence increased, so did entrepreneurial intention, with a unit increase in emotional intelligence leading to a 0.272 increase in entrepreneurial intention. The results are statistically significant at 1%. Based on this result, the null hypothesis stating that there is no relationship between emotional intelligence and entrepreneurial intention was rejected.

On the other hand, the high *F* value of 15.417, which is statistically significant, provides evidence of the goodness of fit of the model, implying that the coefficients are indeed statistically different from zero. (This means there are some variables that are statistically significant, explaining entrepreneurial intention.)

The results of the study show that those with no entrepreneurship education have on average higher scores of emotional intelligence and entrepreneurial intention. The results from the multiple regression analysis show that gender has a significant impact on intention. The *t*-test

showed that, on average, males have high entrepreneurial intention or are more entrepreneurially inclined than females (score of 34.86 compared to 32.95). On the other hand, females on average had a higher score on emotional intelligence than males, such that females are more emotionally intelligent than males in general. Students with work experience are more emotionally intelligent and have higher entrepreneurial intention than those without. These results emphasise the need for industry exposure for students before they graduate.

The regression analysis and the F -test show that having an entrepreneurial background has a significant impact on entrepreneurial intention. Moreover, the results show that those without an entrepreneurial family background are high in emotional intelligence and entrepreneurial intention. The t -test showed that there are no significant differences in emotional intelligence between individuals with access to finance and those without. However, the results also show that individuals with access to finance generally showed entrepreneurial intent. Students below 25 years of age showed higher emotional intelligence and lower entrepreneurial intent when compared to those above 25. The results show that entrepreneurial intention and emotional intelligence vary as the level of study changes, as the F -tests are high and statistically significant. These results are also cemented by the multiple regression analysis. The post hoc analysis, based on the Tukey mean separation technique, shows that first years have higher entrepreneurial intention and emotional intelligence than second- and third-year students. F -test and multiple regression results show that there are some significant differences between at least two faculties. The Tukey mean separation technique concluded that students from the faculty of management and commerce have higher entrepreneurial intention than science and agriculture students. Furthermore, they also have higher emotional intelligence than students from the social sciences and humanities.

Discussion

Implications of the study

The results carry important implications for the academic arena in a field that has widely used information on individuals' emotional intelligence status to identify potential entrepreneurs. As such, educators should create a learning environment that encourages effective expression and use of emotions to nurture the emotional intelligence of students. Intelligence goes beyond what is learnt in classrooms and one might argue that the conventional education stream suppresses creativity, an essential component of entrepreneurship, and fosters cognitive conformity. With this consideration, the education curricula might need to be readjusted. These findings also carry implications for public policies that promote self-employment in the education sector and youth demographic, with the aim of stimulating business creation and innovation to improve economic performance in lagging provinces and the country at large.

Recommendations for further study

The arguments exposed that it would be interesting to evaluate two other dimensions: on the one hand, to extend the scope of the study to other provinces and, on the other hand, to examine the behaviour of non-university individuals in this area to evaluate not only emotional intelligence in students but also those in the general population who might be interested in entrepreneurship. This is spurred on by the increase in entrepreneurial individuals without any university qualification but only 'street smarts'. As long as the analysis focuses on students enrolled at university, we can never fully gauge emotional intelligence. Furthermore, it might be beneficial to use other measures of emotional intelligence to assess whether the results will replicate or deviate from the current findings. The goal of applying emotional intelligence to entrepreneurship was to try and encourage entrepreneurship that would succeed and influence economic growth, and from the positive results it would be beneficial to conduct further studies in this regard.

Theoretical implications

Adding to the practical implications for educators, government and students, the research findings may also have implications for individuals involved in theory building, research compilation and institutional policymaking. The review of literature on emotion and intelligence illuminated competing theoretical views, which consequently led to contrasting designs and scales of measurement. These contrasts have led to inconclusive generalisations regarding the effectiveness of intelligence, study of emotions and/or emotional intelligence. The study exposed a need for a robust, universally accepted theory upon which to base future studies.

Study reflection

In retrospect, conducting this research has opened up a whole new way of looking at entrepreneurship and the education system as a whole. Instead of looking at entrepreneurship from the traditional cognitive viewpoint, it took a different yet equally interesting stand, by looking at the role of human emotions in the development of reasoning abilities. With that in mind, it provides a framework for further studies to be developed in this area in a unified bid to encourage self-employment and individual perceptive growth. Furthermore, it can be inferred that the results can aid students and other stakeholders in their psychological adaptation, posing the question that emotional intelligence can be improved.

Conclusion

This study concludes that there is a positive association between emotional intelligence and the intention to become an entrepreneur. The study also concludes that there is a positive association between self-emotional appraisal and entrepreneurial intention, that there is a positive association between others' emotional appraisal and entrepreneurial

intention, that there is a positive association between regulation of emotion and entrepreneurial intention, and that there is a positive relationship between the use of emotion and entrepreneurial intention. The findings revealed a direct positive association between emotional intelligence and entrepreneurial intention, with the strongest association recorded between regulation of emotion and entrepreneurial intention and the least significant association being observed between use of emotion and entrepreneurial intention. Thus, it is clear from these findings that there is a positive relationship between dimensions of emotional intelligence and entrepreneurial intention. These findings also carry implications for public policies that promote self-employment, with the aim of stimulating business creation and innovation. The research findings also have implications for individuals involved in theory building, research compilation and institutional policymaking.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

M.K. was responsible for the project conceptualisation and literature review. E.C.R. was responsible for the literature review. T.C. was the project leader. T.C. and M.K. collected data and were responsible for data analysis and interpretation.

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