

INVESTIGATING GENERATION Y STUDENTS' ENTREPRENEURIAL AUTONOMY: A COMPARISON OF GENDER AND RACE

H.A. Koloba

University of the Free State, South Africa

E-mail: kolobaha@ufs.ac.za

—Abstract —

There is consensus among researchers of entrepreneurship that autonomy is an important component of entrepreneurial orientation. Autonomy affords entrepreneurs the free will and flexibility to develop and perform entrepreneurial initiatives. South Africa is experiencing comparatively lower entrepreneurial activity among young people compared to countries at similar levels of development. This study was conducted to investigate the perceptions of entrepreneurial autonomy among Generation Y university students. A questionnaire was administered among Generation Y university students at two universities in the Vaal Triangle area of the Gauteng province, South Africa. A t-test was used to compare perceptions of entrepreneurial autonomy between male and female students. ANOVA was used to compare the perceptions of entrepreneurial autonomy among students from different races. Significant differences were found in three of the six items of autonomy between males and females. No significant differences were found among Black and White students. However, it was encouraging to note that students perceived themselves as possessing autonomy traits. Therefore, it is recommended that Generation Y students should be supported in terms of entrepreneurial ambitions as future entrepreneurs will emerge from this cohort.

Key Words: *Autonomy; generation Y; gender, race*

JEL Classification: J6

1. INTRODUCTION

The phenomenon of entrepreneurship has been studied intensively and consensus among authors is that entrepreneurship is important for economies of countries. In line with this, entrepreneurship research has identified a number of personal characteristics that are regarded as instrumental in motivating entrepreneurial behaviour (Fuad and Bohari, 2011). Therefore, it could be argued that entrepreneurs distinguish themselves from the rest by the common and shared characteristics they possess. This line of reasoning is supported by the fact that personal characteristics play an important role in new venture creation (Raus and Frese, 2007). While it is acknowledged that every individual has the potential and freedom to pursue a career as an entrepreneur (Kuratko and Hodgetts, 2007), certain attitudes and behaviours are essential in anchoring an entrepreneur in thought and action (Timmons and Spinelli, 2004). For example, entrepreneurs are characterised by an incentive structure based on individual responsibility and effort and a strong work ethic (Beugelsdijk and Noorderhaven, 2005). Similarly, entrepreneurs generally are known to be innovative, risk takers and self-confident (Gürol and Atsan, 2006) while being simultaneously creative, committed and having high energy levels (Roodt, 2005). In addition, some studies have suggested that high levels of self-confidence are a standard characteristic of entrepreneurs (Mueller and Thomas, 2001; Raposo et al., 2008).

2. LITERATURE REVIEW

Entrepreneurs are individuals with distinctive values, attitudes and needs, which steer them and differentiate them from non-entrepreneurs (Koh, 1996). Entrepreneurs drive innovation; they expedite structural changes in the economy and force existing businesses to shape up, which leads to high productivity (Raposo and Do Paco, 2011). At the heart of entrepreneurship lies the wish to achieve, the zeal to create, the longing for free will, the drive for independence and the embodiment of entrepreneurial visions and dreams through determined hard work (Ma and Tan, 2006). Therefore, autonomy together with innovativeness, risk taking, pro-activeness and competitive aggressiveness, is viewed as useful for characterising and distinguishing entrepreneurial orientation (Lumpkin and Dess, 1996). Entrepreneurs are considered the most important prerequisite for economic development of a country (O'Neill and Viljoen, 2001). Furthermore, many countries have emphasised entrepreneurship as a way of boosting economic growth and job creation (Lee, et al., 2006), and South Africa is no exception. More entrepreneurs are needed to grow the economy and create

jobs, particularly among the youth. However, there is a shortage of studies investigating how autonomy contributes to the entrepreneurial value-creation process (Lumpkin et al., 2009). In light of this, there is a need to investigate and continuously research entrepreneurial attributes of the Generation Y cohort as not all efforts to characterise entrepreneurs have led to any consensus (Lumpkin and Dess, 1996; Nieman and Nieuwenhuizen, 2009).

2.1 Autonomy

In order to understand the concept of autonomy it will be sensible to provide different perspectives as articulated by different researchers. Autonomy is defined as the degree to which one may make important decisions without the consent of others (Brock, 2003). It refers to the desire of the individual to control and be independent (Raposo et al., 2008). Janz and Prasarnphanich (2005) describe autonomy as the extent to which an individual or group has the freedom and discretion to determine what actions are required and how best to accomplish them. From an entrepreneurial perspective, Lumpkin and Dess, 2001 define autonomy as an independent action by an individual or team, intended to bring forth a business concept or vision and carry it through to conclusion. Reflecting on this, it is evident that entrepreneurs value their own decision-making abilities and dislike receiving orders (Krauss et al., 2005). Among many reasons that lead to the need for autonomy are high evaluation of independence, frustration with previous jobs, authoritarian leadership style and the desire to do what one likes the most (Raposo et al., 2008). However, despite autonomy being a dominant entrepreneurial motivation, it is also a dominant source of satisfaction among entrepreneurs (Van Gelderen, 2010). In the context of this study, autonomy is defined as the students' decision to act independently and show intentions to operate a business sometime in the future.

There is a view suggesting that individuals who possess a high need for autonomy normally attach significant esteem to individualism and freedom and are opposed to rules, procedures and social regulations (Raposo et al., 2008). In line with this, there is wide-ranging consensus among researchers of entrepreneurship that autonomy is an important component of entrepreneurial orientation (Lumpkin et al., 2009; Certo et al., 2009). This supports the view that entrepreneurial orientation is enacted through five dimensions, namely autonomy, innovativeness, risk taking, pro-activeness and competitive aggressiveness. These dimensions are important for entrepreneurial behaviour and they are a useful angle through which to view entrepreneurial processes (Certo et al., 2009). This is not surprising since

an individual who is self-reliant, self-confident, with strong determination and perseverance to initiate and grow enterprises will be entrepreneurially oriented (Mueller and Thomas, 2001). The afore-mentioned views confirm that there is a strong association between autonomy and entrepreneurship due to the decisional freedom it entails (Van Gelderen, 2010).

One important trait of entrepreneurs is that they find it hard to work in a restrictive environment (Cromie, 2000). Therefore, autonomy tends to be a significant component of entrepreneurial orientation because it affords entrepreneurs the free will and flexibility to develop and perform entrepreneurial initiatives (Lumpkin et al., 2009). Furthermore, it is argued that the key element that drives individuals towards self-employment is the desire to run their own businesses instead of working for someone else (Van Gelderen and Jansen, 2006). For example, in their study, Van Gelderen and Jansen (2006) found that 167 out of 193 interviewees regarded autonomy as important. Similarly, Beugelsdijk and Noorderhaven (2005) conducted a study to identify the distinguishing characteristics of entrepreneurs in 13 countries. They found that the self-employed attach more value to individual freedom and responsibility. However, one should be mindful of the fact that autonomy extends beyond decisional freedom as one needs to be aware of one's dreams and aims and act on them (Van Gelderen, 2010).

Lee and Peterson (2000:406) who commented, "the catalyst driving entrepreneurial activity is the independent spirit and freedom necessary to create new ventures", affirm the relationship between autonomy and entrepreneurial orientation. In a study among entrepreneurs in the Northern province of South Africa, Mitchell (2004) found that among other factors, the need for independence was an important motivational factor. Similarly, in a study conducted to explain entrepreneurial intentions of university students in the United States, China and Spain, Pruett et al. (2009) found that all students ranked independence and decision-making autonomy as the most important motives to start a business.

Therefore, it is essential that the spirit of autonomy be encouraged among Generation Y students since with an entrepreneurial personality profile and greater willingness to try they are likely to be good contenders to increase the number of future business start-ups (Schmitt Rodermund and Vondracek, 2002). For this reason, knowledge of entrepreneurial characteristics of Generation Y students is important.

Future entrepreneurs will emerge from the Generation Y cohort since this generation makes up a considerable pool of prospective entrepreneurs (Tremblay et al., 2009). Generation Y students are generally classified as self-reliant and independent, they are technologically well informed and entrepreneurial (Martin, 2005). There have been many studies on youth entrepreneurship but very few have focused on Generation Y entrepreneurship autonomy (Tremblay et al., 2009).

Furthermore, South Africa is experiencing comparatively lower entrepreneurial activity among young people. According to Herrington and Kew (2016), the percentage of South Africa's youth aged between 18 and 24 who are engaged in early-stage entrepreneurial activity is significantly lower than the average for Africa, which is 2.4 times the South African figure. In addition, the total early-stage entrepreneurial activity (TEA) in the 25 to 34 year age group is lower than the average for efficiency-driven economies, which stands at 18 percent. Another disturbing fact is that while the other three population groups, namely White, Indian and Coloured have increased their early-stage entrepreneurship involvement, the involvement of Black Africans has declined from a high of 85 percent in 2013 and 2014 to a low of 68 percent in 2015 (Herrington and Kew, 2016). In South Africa, there is also a widening gap between male and female participants in entrepreneurial activity since the ratio of female to male TEA is significantly lower than the average for both the Africa and efficiency-driven economies. For example, in 2014, women entrepreneurs were 2.6 times more likely to be motivated by opportunity rather than necessity and the number has declined to only 1.6 times in 2015. In view of this, this study sought to understand autonomy of Generation Y students from an entrepreneurial perspective.

Based on the review of literature the following hypotheses are formulated:

- H1: There are significant differences between male and female Generation Y students regarding entrepreneurial autonomy.
- H2: There are significant differences among Generation Y races regarding entrepreneurial autonomy.

3. METHODOLOGY

A quantitative approach using a structured questionnaire was used to collect data for this study. A quantitative approach is systematic and objective and seeks to

quantify data by applying some form of statistical analysis (Malhotra, 2010). An extensive literature search on autonomy was conducted.

3.1 Sample and sampling techniques

The sample comprised Generation Y students from two higher education institutions in the Vaal Triangle area of the Gauteng province, South Africa. Senior undergraduate and postgraduate Generation Y students were requested to participate in the survey. Senior students were selected because they are assumed to have more knowledge and are more experienced and mature than first year students.

Furthermore, they are in a better position than their first year counterparts to make informed decisions regarding their careers. A non-probability convenience sampling method was used to select the students. The two institutions were selected based on accessibility and cost-effectiveness.

3.2 Instrument and procedure

A questionnaire was designed after taking items from a study by Parnell et al., (2003) whose aim was to determine the entrepreneurial and managerial orientation of American and Chinese management students. Some of the items used were adapted to fit the South African context. This included changing some of the words used. Section A of the questionnaire required students to supply information regarding their age, gender, race and year of study. Section B comprised items investigating students' perceptions regarding autonomy from an entrepreneurial perspective. The items in Section B were scored on a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). The researcher conducted the fieldwork. The questionnaires were distributed among participating students to complete. In some instances the questionnaires were completed face to face thereby ensuring a high response rate.

Cronbach's alpha was used to test the reliability of the scale. Coefficient alpha values were computed on the autonomy construct. A coefficient value of 0.60 is regarded as acceptable (Malhotra, 2010). An overall Cronbach alpha coefficient value for the autonomy construct was 0.87 indicating a meritorious reliability. Content and face validity of the questionnaire were established by requesting three experienced researchers to review the questionnaire. The study also checked for convergent validity of the measurement instrument. As presented in Table 2, an individual item loading for the construct ranged from 0.639 to 0.887, therefore,

above the recommended 0.5 (Anderson and Gerbing, 1988) indicating acceptable item convergence.

3.3 Data analysis

The Statistical Package for Social Sciences (SPSS) version 23 was used to analyse the data. Descriptive statistics were used to establish the sample composition. T-tests were used to establish whether there were any statistically significant differences between males and females in terms of autonomy. ANOVA was used to determine whether there were any statistically significant differences among different races regarding autonomy.

3.4 Ethical considerations

A number of ethical considerations were adhered to. Permission was obtained from the two institutions and the necessary arrangements were made to administer the questionnaire. A letter explaining the purpose of the study accompanied the questionnaire. Participants were informed that participation was voluntary and they could withdraw at any time without repercussions. They were assured that information would be treated with the strictest confidence and that they would remain anonymous at all times, therefore, they did not have to provide their names.

4. RESULTS

4.1 Demographic profile of the sample

Of the 347 Generation Y students who participated, 59.7 percent of them were female and 40.3 percent were male. Majority of participants were Black, constituting 79.5 percent. Table 1 presents the descriptive statistics of participants.

Table 1: Descriptive statistics of participants

Variables	Frequency	Percentage
Gender		
Male	140	40.3
Female	207	59.7
Age group		
18 years	8	2.3
19-21 years	248	71.5
22-24 years	73	21
25 and older	18	5.2

Race		
Black	276	79.5
White	61	17.6
Coloured	5	1.4
Indian	5	1.4
Year of study		
Second year	163	47
Third year	144	41.5
Postgraduate	40	11.5

4.2 Exploratory factor analysis

An exploratory factor analysis was conducted on the data obtained in Section B of the questionnaire. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to test the amount of variance that could be explained by the factor (Brace et al., 2009). According to the KMO index, a value close to one indicates that patterns of relationship are close and that reliable factors are yielded. The Bartlett’s test of sphericity was used to determine if the data were factorable. The Bartlett test of sphericity method indicates that when the *p*-value is less than 0.05 significant level then factor analysis would be considered appropriate.

The KMO measure of sampling adequacy value of 0.842 indicated that the data were appropriate for analysis and the Bartlett’s test of sphericity was significant at 0.000 supporting the factorability of the correlation matrix. One factor with an eigenvalue of more than one was extracted. Principal component analysis was used to determine the loadings on the autonomy construct. Items loaded and there were no cross loadings. The item “*I have a strong desire to own my own business*” had the highest loading on the construct. The cumulative variance explained was 58.730 percent. The Cronbach’s alpha value for the autonomy construct was 0.87, exceeding the recommended value of 0.6 (Malhotra, 2010). The final factor structure is presented in Table 2.

Table 2: Scale reliability

Research constructs		Descriptive statistics		Cronbach's test		Factor loading
		Mean	SD	Item-total	α value	
Autonomy	AUTO1	4.15	0.65	0.843	0.87	.887
	AUTO2			0.830		.858
	AUTO3			0.851		.800
	AUTO4			0.801		.722
	AUTO5			0.795		.657
	AUTO6			0.818		.639

AUTO 1 to AUTO 6 = Autonomy items

4.3 Comparison between Generation Y males and females regarding their autonomy

The first hypothesis postulated that there are significant differences between male and female Generation Y students regarding entrepreneurial autonomy. A t-test was conducted to ascertain whether there were any significant differences between males and females' perceptions regarding their autonomy. Significant differences were found on three of the six items of autonomy between male and female participants. The three items in which significant differences were noted were the following: "*I consider myself to be entrepreneurial*"; "*I plan on opening my own business at some point in the future*" and "*I have a strong desire to own my own business*". Consistent with the findings of Herrington et al. (2008), the mean scores of the six items of autonomy indicated that males tend to be more entrepreneurial than females. In light of this finding, the hypothesis is not accepted, nor rejected. In spite of this, it was interesting to note that both groups of students showed autonomous behaviour. Table 3 provides the differences between Generation Y males and females regarding their autonomy perceptions.

Table 3: Differences between Generation Y males and females regarding their autonomy t-test for equality of means

		<i>t</i>	df	Sig. (2-tailed)
I consider myself to be entrepreneurial	Equal variances assumed	-2.583	343	0.10**
	Equal variances not assumed	-2.630	313.860	.009*
I desire to be self-employed	Equal variances assumed	-1.473	340	.142
	Equal variances not assumed	-1.488	304.224	.138
I own (or plan to own) my own business	Equal variances assumed	-2.088	343	0.38*
	Equal variances not assumed	-2.121	311.224	0.35
I plan on opening my own business at some point in the future	Equal variances assumed	-1.580	343	.115
	Equal variances not assumed	-1.639	328.710	.102
I have a strong desire to own my own business	Equal variances assumed	-3.078	343	.002*
	Equal variances not assumed	-3.225	335.364	.001
I aspire to be my own boss	Equal variances assumed	-1.350	343	.178
	Equal variances not assumed	-1.381	317.926	.168

* Significant $p < 0.05$

** Significant $p < 0.10$

4.4 Comparisons of the perceptions of different races regarding their autonomy

The second hypothesis postulated that there are significant differences among Generation Y race groups regarding entrepreneurial autonomy. In order to ascertain whether there were any significant differences among different races, ANOVA was conducted to compare participants on the autonomy construct. Due to their small number, Coloured and Indian participants were excluded from the analysis. There were no statistically significant differences at the $p < 0.05$ level between Black and White Generation Y students in terms of autonomy. Therefore, *post hoc* tests were not conducted. This finding suggests that Black and White Generation Y students share similar views regarding entrepreneurial autonomy. The hypothesis, therefore, is rejected. This finding is in contrast with Farrington et al.'s (2012) findings, among university students in three universities in South Africa; they found significant differences between Blacks and other race groups in terms of entrepreneurial aspirations. Table 4 provides the differences between Generation Y Black and White groups in terms of autonomy.

Table 4: Differences between Generation Y Black and White South African ethnic groups regarding their autonomy
 - *t*-test for equality of means

		<i>t</i>	df	Sig. (2-tailed)
I consider myself to be entrepreneurial	Equal variances assumed	-1.441	334	.150
	Equal variances not assumed	-1.580	98.878	.117
I desire to be self-employed	Equal variances assumed	.662	331	.508
	Equal variances not assumed	.662	86.917	.509
I own (or plan to own) my own business	Equal variances assumed	-.180	334	.858
	Equal variances not assumed	-.190	94.521	.850
I plan on opening my own business at some point in the future	Equal variances assumed	-1.219	334	.224
	Equal variances not assumed	-1.295	94.982	.198
I have a strong desire to own my own business	Equal variances assumed	-1.595	334	.112
	Equal variances not assumed	-1.548	85.917	.125
I aspire to be my own boss	Equal variances assumed	-.889	334	.375
	Equal variances not assumed	-.891	88.770	.376

* Significant $p < 0.05$

5. DISCUSSIONS

The findings of this study indicated that Generation Y students are in favour of an entrepreneurial autonomous behaviour. This finding confirms Zimmerer and

Scarborough (2008) view that Generation Y students exhibit high levels of awareness in entrepreneurship. Autonomy is an important component of entrepreneurial orientation. The aforementioned finding is significant because entrepreneurial orientation has the potential to lead Generation Y students to behaviour that is associated with entrepreneurial activity (Mueller and Thomas, 2001). Generation Y students who exhibit an entrepreneurial personality profile may increase the number of future business start-ups. Therefore, the understanding of Generation Y students' entrepreneurial orientation is significant as it may lead them to form cohesive student project teams aimed at entrepreneurial activity (Bolton and Lane, 2012).

Being autonomous has the potential to produce self-reliant Generation Y students. In light of the reported low entrepreneurial activity among young people in South Africa (Herrington and Kew, 2016), it is imperative that Generation Y students take the initiative and engage in entrepreneurial activities. If more young people engage in entrepreneurial activities, this will create job opportunities. However, in order for entrepreneurial activity to occur, both opportunities and entrepreneurial capabilities need to be present (Nieman and Nieuwenhuizen, 2009). Entrepreneurial attitudes and behaviours can be acquired, developed, practiced and refined through a combination of experience and academic studies (Timmons and Spinelli, 2004). Previous research has revealed that there is correlation between entrepreneurial orientation and prospects of starting a business (Schmitt-Rodermund and Vondracek, 2002; Frank et al., 2005). Furthermore, businesses that are run by entrepreneurially oriented individuals normally succeed or survive compared to those run by individuals who lack these traits (Lee et al., 2006).

Significant differences were found between males and females on certain items of autonomy. However, both male and female Generation Y students perceive themselves as possessing autonomous characteristics. This augurs well for the future of entrepreneurship in South Africa, given the comparatively lower levels of entrepreneurship involvement among young people (Herrington and Kew, 2016). On the items where significant differences were found, males tend to be more entrepreneurial than females. This is not surprising since the findings of previous studies on entrepreneurial intentions consistently revealed that females are less likely to start businesses compared to their male counterparts (Falk and Leoni, 2009). There were no statistically significant differences between Black and White participants regarding their perceptions on autonomy. This finding is significant, given that the White population in South Africa are more likely to

start businesses compared to the previously disadvantaged Black community (Herrington, et al., 2008; Herrington et al., 2010).

6. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Similar to any other study, limitations exist. One of the limitations of this study is that the focus was on students from two institutions in the Vaal Triangle area of the Gauteng province, South Africa. The views of these students do not necessarily represent those of the student population in the country. Therefore, the generalisation of the findings should be approached with caution. Future studies could expand the scope and incorporate students from other institutions around the country. The study also investigated the perceptions of students on a single factor only, namely autonomy. Entrepreneurial behaviour is not confined to a single factor. Therefore, other factors that may influence the entrepreneurial behaviour of students can be investigated, which may lead to different conclusions. Given the fact that participants in this study regard themselves as being autonomous, it will be interesting to find out why many young people in South Africa do not start businesses. Therefore, in future, research could be expanded to include the inhibiting factors for starting businesses among young people.

7. RECOMMENDATIONS

Based on the findings of this study, a few recommendations are presented. In light of the fact that Generation Y female students manifested autonomous traits, it is recommended that they should be supported to start their own businesses. This could be achieved through financial support and mentoring programmes that will focus entirely on Generation Y female entrepreneurs. Moreover, the Generation Y student population should be encouraged to consider entrepreneurship as a career option. This could be achieved through the introduction of entrepreneurship modules across different fields of study at universities. Today's world requires that education should not produce graduates who look to others to take responsibility (Van Gelderen, 2010). Entrepreneurship education is known to produce responsible young people who may become entrepreneurs (Raposo and Do Paco, 2011). Despite the fact that no significant differences were found among different races, it is recommended that more resources should be invested in areas where they are mostly needed. For example, government and the private sector can open business incubators in those areas to encourage and support would-be-entrepreneurs.

8. CONCLUSIONS

The importance of entrepreneurship in South Africa cannot be overemphasised. The country is in need of young people with the much-needed attitudes, aptitudes, values, perceptions and ambitions to identify business opportunities. This is significant as South Africa can deal with unemployment effectively and revitalise the economy through the unearthing of new entrepreneurs who take risks, break new ground and innovate (Co and Mitchell, 2006). South Africa needs innovation and high productivity in order to be competitive. Therefore, it is imperative that Generation Y students are given the necessary support and guidance to identify business opportunities that will enable them to establish successful businesses.

BIBLIOGRAPHY

Anderson, J.C. and Gerbing, D.W. (1988), "Structural Equation Modelling in Practice: A Review and Recommended Two-step Approach", *Psychological Bulletin*, Vol. 103, No. 3, pp.411-423.

Beugelsdijk, S. and Noorderhaven, N. (2005), "Personality Characteristics of Self-employed: An Empirical Study", *Small Business Economics*, Vol. 24, No. 2, pp.159-167.

Bolton, D.L. and Lane, M.D. (2012), "Individual Entrepreneurial Orientation: Development of a measurement instrument", *Education and Training*, Vol. 54, No. 2/3, pp.219-233.

Brace, N., Kemp, R. and Snelgar, R. (2009), *SPSS for Psychologists*, 4th ed, New York: Palgrave McMillan.

Brock, D.M. (2003), "Autonomy of Individuals and Organisations: Towards a Strategy Research Agenda", *International Journal of Business and Economics*, Vol. 2, No. 1, pp.57-73.

Certo, S.T., Moss, T.W. and Short, J.C. (2009), "Entrepreneurial Orientation: An Applied Perspective", *Business Horizons*, Vol. 52, No. 4, pp.319-324.

Co, M.J. and Mitchell, B. (2006), "Entrepreneurship Education in South Africa: A Nationwide Survey", *Education and Training*, Vol. 48, No. 5, pp.348-359.

Cromie, S. (2000), "Assessing Entrepreneurial Inclinations: Some Approaches and Empirical Evidence", *European Journal of Work and Organisational Psychology*, Vol. 9, No. 1, pp.7-30.

Falk, M. and Leoni, T. (2009), "Characteristics of Self-employment among University Graduates", *Applied Economics Letters*, Vol. 16, No. 10, pp.1065-1070.

Farrington, S.M., Venter, D.J.L. and Louw, M.J. (2012), "Entrepreneurial Intentions: Demographic Perspective of South African Business Students", *South African Journal of Business Management*, Vol. 43, No. 3, pp. 41-49.

Frank, H., Korunka, C., Lueger, M. and Mugler, J. (2005), "Entrepreneurial Orientation and Education in Austrian Secondary Schools", *Journal of Small Business and Enterprise Development*, Vol. 12, No. 2, pp.259-273.

Fuad, N. and Bohari, A.M. (2011), "Malay Women Entrepreneurs in the Small and Medium Sized ICT- Related Business: A Study on Need for Achievement", *International Journal of Business and Social Science*, Vol. 2, No. 13, [Special Issue - July 2011], pp.272-278.

Gürol, Y. and Atsan, N. (2006), "Entrepreneurship Characteristics amongst University Students. Some Insights for Entrepreneurship Education and Training in Turkey", *Education & Training*, Vol. 48, No.1, pp.25-38.

Herrington, M., Kew, J. and Kew, P. (2008), *Global Entrepreneurship Monitor 2008*, Centre for Innovation and Entrepreneurship, Graduate School of Business: University of Cape Town.

Herrington, M., Kew, J. and Kew, P. (2010), *Global Entrepreneurship Monitor 2010*. Centre for Innovation and Entrepreneurship, Graduate School of Business: University of Cape Town.

Herrington, M. and Kew, P. (2016), *Global Entrepreneurship Monitor South Africa Report. Is South Africa heading for an Economic Meltdown?* Graduate School of Business: University of Cape Town.

Janz, B.D. and Prasarnphanich, P. (2005), "Understanding Knowledge Creation, Transfer, and Application: Investigating Cooperative, Autonomous Systems Development Teams", Paper presented at the 38th Hawaii International conference on Systems Sciences. http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=1385747, accessed 25 July 2016.

Koh, H.C. (1996), "Testing Hypotheses of Entrepreneurial Characteristics. A study of Hong Kong MBA Students", *Journal of Managerial Psychology*, Vol. 11, No. 3, pp.12-25.

- Krauss, S.I., Frese, M., Friedrich, C. and Unger, J.M. (2005), "Entrepreneurship Orientation: a Psychological Model of Success among Southern African Small Business Owners", *European Journal of Work and Organizational Psychology*, Vol.14, No. 3, pp.315-344.
- Kuratko, D.F. and Hodgetts, R.M. (2007), "Entrepreneurship: Theory, Process, Practice", 7th ed. South-Western: Thomson.
- Lee, S.M. and Peterson, S.J. (2000), Culture, Entrepreneurial Orientation, and Global Competitiveness", *Journal of World Business*, Vol.35, No. 4, pp.401-416.
- Lee, S.M., Lim, S.B., Pathak, R.D., Chang, D. and Li, W. (2006), "Influences on Students Attitudes toward Entrepreneurship: A Multi-Country Study", *Entrepreneurship Management*, Vol.2, No. 3, pp.351-366.
- Lumpkin, G.T. and Dess, G.G. (1996), "Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance", *Academy of Management Review*, Vol.21, No. 1, pp.135-172.
- Lumpkin, G.T. and Dess, G.G. (2001), "Linking two Dimensions of Entrepreneurial Orientation to Firm Performance: The Moderating Role of Environment and Industry Life Cycle", *Journal Business Venturing*, Vol. 16, No. 5, pp.429-451.
- Lumpkin, G.T., Cogliser, C. C. and Schneider, D.R. (2009), "Understanding and Measuring Autonomy: An Entrepreneurial Orientation Perspective", *Entrepreneurship Theory and Practice*, Vol. 33, No.1, pp.47-69.
- Ma, H. and Tan, J. (2006), "Key Components and Implications of Entrepreneurship: A 4-P Framework", *Journal of Business Venturing*, Vol.21, No. 5, pp.704-725.
- Malhotra, N. K. (2010), Marketing research. An Applied Orientation, 6th ed, New Jersey. Pearson.
- Martin, C. A. (2005), "From High Maintenance to High Productivity", *Industrial and Commercial Training*, Vol. 37, No. 1, pp.39- 44.
- Mitchell, B.C. (2004), "Motives of Entrepreneurs. A Case of South Africa", *Journal of entrepreneurship*, Vol.13, No. 2, pp.167-183.
- Mueller, S.L. and Thomas, A.S. (2001), Culture and Entrepreneurial Potential: A Nine Country Study of Locus of Control and Innovativeness", *Journal of Business Venturing*, Vol.16, No. 1, pp.51-75.

Nieman, G. and Nieuwenhuizen, C. (2009), *Entrepreneurship. A South African Perspective*, 2nd ed, Pretoria: Van Schaik.

O'Neill, R.C. and Viljoen, L. (2001), "Support for Female Entrepreneurs in South Africa. Improvement or Decline"? *Journal of Family Ecology and Consumer Sciences*, Vol.29, No. 1, pp.37-44.

Parnell, J.A., Shwiff, S., Yalin, L. and Langford. H. (2003), "American and Chinese Entrepreneurial and Managerial Orientations: A Management Education perspective", *International Journal of Management*, V o l . 20, No. 2, pp.125-137.

Pruett, M., Shinnar, R., Toney, B., Llopis, F. and Fox, J. (2009), "Explaining Entrepreneurial Intentions of University Students: A Cross-Cultural Study", *International Journal of Entrepreneurial Behaviour and Research*, Vol.15, No. 6, pp.571-594.

Raposo, M. and Do Paco, A. (2011), "Entrepreneurship Education: Relationship between Education and Entrepreneurial Activity", *Psicothema*, Vol.23, No. 3, pp.453-457.

Raposo, M., Do Paco, A. and Ferreira, J. (2008), "Entrepreneur's Profile: A Taxonomy of Attributes and Motivations of University Students", *Journal of Small Business and Enterprise Development*, Vol.15, No. 2, pp.405- 418.

Raus, A. and Frese, M. (2007), "Let's put the Person back into Entrepreneurship Research: A Meta-Analysis on the relationship between Business Owners' Personality Traits, Business Creation, and Success", *European Journal of Work and Organizational Psychology*, Vol.16, No. 4, pp.353-385.

Roodt, J. (2005), "Self-employment and the Required Skills", *Human Science Research Council. Management Dynamics*, Vol.14, No. 1, pp.18-33.

Schmitt-Rodermund, E. and Vondracek, F.W. (2002), "Occupational Dreams, Choices and Aspirations: Adolescents' entrepreneurial Prospects and Orientations", *Journal of Adolescence*, Vol.25, No. 1, pp.65-78.

Timmons, J.A. and Spinelli, S. (2004), *New Venture Creation, Entrepreneurship for the 21st century*, 6th ed, Boston: McGraw Hill/Irwin.

Tremblay, M., Audet, J. and Gasse, Y. (2009), *Aspiring Entrepreneurs: The Case of Generation Y*", *Southern Journal of Entrepreneurship, Papers and*

Proceedings of the Southern Academy of Entrepreneurship 2009 Annual Conference. Georgia: Columbus.

Van Gelderen, M. (2010), "Autonomy as the guiding aim of Entrepreneurship Education", *Journal of Education and Training*, Vol.52, No. 8/9, pp.710-721.

Van Gelderen, M. and Jansen, P. (2006), "Autonomy as a Start-up Motive", *Journal of Small Business and Enterprise Development*, Vol.13, No. 1, pp.23-32.

Zimmerer, T.W. and Scarborough, N.M. (2008), *Essentials of Entrepreneurship and Small Business Management*, 5th Ed, Upper Saddle River, New Jersey 07458. Pearson Prentice Hall.