



Perceptions regarding Entrepreneurship in an Emerging and Culturally Diverse Economy: A South African Survey

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Working Paper Number 95

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September 11, 2008

Abstract

Of all the developing countries that participated in the Global Entrepreneurship Monitor survey, South Africa was ranked the lowest, in terms of entrepreneurial activity. It is clear that South Africa is not producing a sufficiently entrepreneurial economy and this needs to be addressed so as to create employment, expand markets, increase production and revitalise communities. This paper examines the entrepreneurial traits of a diverse group of young adults in South Africa. It looks at their attitudes towards and perceptions of entrepreneurship, entrepreneurial opportunities and the broader environment.

KEYWORDS: Entrepreneurial perception and attitudes

1 Introduction

South Africa has one of the highest unemployment rates recorded internationally – 28% according to the strict definition in 2007. Given this high unemployment rate one would expect a large informal sector to absorb this surplus labour, but South Africa has a surprisingly small informal sector (Kingdon and Knight, 2004). There are a number of possible explanations for this phenomenon; a reoccurring explanation is the assertion that South Africans lack an entrepreneurial spirit. The South African government has implemented various strategies to encourage entrepreneurs and small businesses without much success (Luiz, 2002). Of all the developing countries that participated in the Global Entrepreneurship Monitor (GEM) 2005 survey, South Africa was ranked the lowest, in terms of entrepreneurial activity (von Broembsen, Wood and Herrington, 2005). It is clear that South Africa is not producing a sufficiently entrepreneurial economy and this needs to be addressed.

This paper examines the entrepreneurial traits of a diverse group of young adults university students in South Africa. It looks at their attitudes towards and perceptions of entrepreneurship, entrepreneurial opportunities and the broader environment. It places their responses in the broader socio-economic context and discusses the implications for policy.

2 Entrepreneurship Studies and South Africa

The challenges facing South Africa are immense: it is newly democratic, highly inegalitarian country, with enormous socio-economic ills. Jobs are not being created in the South African labour market at a fast enough rate and there is an expectation from school-leavers that they must find work in the corporate world with scant attention given to creating their own businesses. Small, Medium and Micro Enterprises (SMMEs) are an important source of employment and economic growth in most

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countries and South Africa is lagging behind on this front. SMMEs make up 95% of all corporations in Asia, employ up to 80% of the labour force and constitute almost 60% of Gross Domestic Product (GDP). In South Africa, SMMEs employ 47% of the economically active population and constitute close to 45% of GDP. According to the GEM international survey on entrepreneurial activity, only 5.1% of the adult population in South Africa are involved in entrepreneurial ventures (and this has actually fallen slightly over the past few years), compared to an average of over 14% for other developing countries (Foxcroft *et al.*, 2002; Von Broembsen *et al.*, 2005).

So what is entrepreneurship? The research on entrepreneurship is rich and complex. Indeed merely defining entrepreneurship has spawned a mass of literature (see Kuratko and Hodgetts, 2001; Leff, 1979; Morrison, 2000; Schumpeter, 1934). There are broadly two distinct approaches to defining this concept. The first approach focuses on the entrepreneurial process whilst the second approach emphasises the characteristics of the entrepreneur (see Carton, Hofer and Meeks, 1998). Neither of these approaches is particularly satisfactory because it is clear that they should not be mutually exclusive. Rather, the concept should be defined using both approaches, that is, a combination of the entrepreneurial process and the characteristics embedded within the entrepreneur and the society; an approach adopted in this paper.

We use an eclectic approach and explore perceptions amongst young South African adults both regarding the process of entrepreneurship and the traits of the entrepreneurially inclined. As regards the characteristics of the entrepreneurs, we follow the literature which finds the following traits most pervasive: desire to be independent, locus of control, creativity, risk-taking propensity, need for achievement, and credible role models (Carton *et al.*, 1998). We examine attitudes towards entrepreneurship and entrepreneurs and juxtapose the findings with those in the international literature. The survey explores their perceptions of entrepreneurial opportunities and the broader entrepreneurial environment in South Africa. We analyse responses against individual and socio-cultural criteria such as race, gender, family history and other background information.

3 Entrepreneurship amongst South African students

A study by Simmons (1998) in the United Kingdom found that almost 50% of final-year undergraduates think that they may start up their own business in the future. Similarly leading business schools report that 40% of their post-graduate students start their own venture within 10 years of graduating. In South Africa there is little, if any, comparable research despite the obvious need for this research. Burger, Mahadea and O'Neill (2004) and Louw *et al.* (2003) represent some of the few studies that examine the entrepreneurial traits of South Africans. In terms of the factors investigated, these studies are limited. We adopt a larger list of criteria in this study.

The survey was conducted amongst 609 university students at the University of the Witwatersrand in the economic hub of Johannesburg. Overall permission to perform this survey was granted by the University's Senate Ethics Committee. A survey instrument was drawn up based on a National Science Foundation Innovation Project at South Dakota universities. The physical questionnaires were administered to students in their lecture venues at the conclusion of their lectures. Participation was voluntary and completely anonymous. Students completed the questionnaire in approximately 20 minutes and the results were then electronically scanned using technology at the University of the Witwatersrand. Classes were selected from various faculties to ensure a representation across core disciplinary majors. Nonetheless, sample selection issues are always present in these types of studies. We therefore had to pay special attention to the validity and reliability of the instrument. The validity refers to the extent that an instrument is able to measure what it is supposed to measure (Leedy and Ormrod, 2001).

The validity of the study was established by examining the issues surrounding content and construct validity more closely. This was addressed by basing the questionnaire design on the literature review and contextualising the study in the perspective of prior work. Furthermore, the

sample selected demonstrated a diversity of backgrounds: race, gender, family history, income status, etc., which is discussed below. Construct validity was maintained by ensuring that the wording and instructions of the questionnaire were clear and understandable.

To ensure the reliability of the study, a structured questionnaire was designed and a pilot study was conducted to ensure clarity, understandability and relevancy of the questionnaire. It also entailed the use of a standardised protocol in terms of the administration of the questionnaire.

Table 1 lists the characteristics of the respondents in the survey with regards to gender, race, degree of study, parent characteristics and personal money experience. 52% of the sample were male, 48% female. Africans made up 54.7% of the sample, followed by Whites at 31.4%, Asians at 11.3% and Coloureds at 2.5%. As one would expect at a tertiary institution, 61% of respondents had parents with tertiary education, 16% with matric, 13% with some high school, 6% only primary school and 4% with no education. Parental income was fairly evenly distributed: a third had monthly income in excess of R20,000; 20% R10,001- R20,000; 15% R5,001 – R10,000; 13% R2,000-R5,000; and 19% less than R2,000. Furthermore, 43% of their parents own their own businesses. 78% of respondents received pocket money whilst at school, 43% had a job whilst at school, and 48% had a job whilst at university.

INSERT TABLE 1 HERE

In Table 2 we present summary statistics on all the perception questions provided in the survey.¹ Students were asked to evaluate the perceptions given in the table on a Likert-type scale of 1 to 5, where 1 is “strongly agree” and 5 is “strongly disagree”. The analysis focuses on the mean response to each question for each type of respondent. We test whether the mean is statistically significantly different from a value of 3 which represents a response of “neutral” on the Likert-type scale at the 5% and 10% levels. In addition, we test whether the mean of the response for each group is statistically different from the mean response of the other groups for each question.

INSERT TABLE 2

A preliminary review of these tables reveals the following. On the perception side, students agree that entrepreneurship is an honorable profession and that they play an important Schumpeterian role by promoting new innovations, technologies and products. They have a positive attitude towards entrepreneurship and have considered it as a career option. They see themselves as risk-takers and perceive entrepreneurship to be a useful way to make money. In contrast and almost in contradiction, students seem to think that a large company offers better career prospects. One way of reconciling this is that students may think that although being an entrepreneur may yield better income and is a good profession, they feel it may be limiting in terms of future personal growth and opportunities. They seem to recognise the more immediate benefits but are not thinking in a big enough way to see how it could develop into something much larger in the future. A worrying aspect is that they argue that entrepreneurs will do anything for profit which implies the willingness to do something illegal if need be, a level of expediency, and ignores the potential for social entrepreneurship.

They agree that there are many entrepreneurial opportunities in their field. In general, they are positive about their ability to start a business and they do *not* agree that all the good ideas have already been taken. On the contrary, they are on the lookout for business opportunities and have ideas about possible ventures. Respondents feel quite strongly that it is necessary to have contacts to start a business. This is a particularly strong feature of the South African economy both under the previous dispensation of white business networks and the current dispensation of black business networks and empowerment.

While they maintain that South Africa is a good country in which to start a business, they are neutral as to whether their local community supports the idea. More importantly, they demonstrate that while they are positive about entrepreneurship, they do not have enough information on how to start a business. For example, they are not aware of government programmes supporting small business start-ups nor do they know how to gain access to assistance.

¹ See Appendix A for a list of question numbers and their assigned variables. Due to space constraints, these are not always included in the tables in this section.

3.1 Perceptions of entrepreneurship broken down by race and gender

Table 3 breaks down the summary statistics into gender groups. A hypothesis test is performed to determine whether male and female perceptions are statistically significantly different from each other at the 5% and 10% levels.

INSERT TABLE 3 HERE

Men seem more inclined to want to start their own businesses as soon as possible than women and are more disposed to consider entrepreneurship as a career option. Men are less prone to find entrepreneurship risky and are also more likely to consider themselves to be risk-takers. Men agree that owning their own business offers great financial potential whilst women are more neutral on the matter.

Men are less certain than women that working for a large company provides better career opportunities and are a lot more certain that they have many good ideas for possible business ventures. Men also perceive more opportunities in their field of study than women and appear more alert to business opportunities. Men are slightly more positive than women regarding their access to assistance as well as being aware of programmes that help people start businesses. There is therefore a distinct gender dimension to entrepreneurship with men being more positively inclined than women, although both genders are in favour of entrepreneurship.

Perceptions can also be broken down by race as shown in Table 4.² Significance is slightly more complicated here as two-way tests are conducted across the four groups. In Table 4, we indicate only if a mean is different at the 5% level.

INSERT TABLE 4 HERE

The racial results reveal surprising and perhaps counter-intuitive trends. Intuitively one may have expected Asians to be the most positively inclined towards entrepreneurship and Africans the least positively inclined given the fact that the question on parents reveals that Asians have the most entrepreneurially active parents and Africans the least. Yet African students think they are more likely to start their own business, followed by Coloureds and White, and Asian students are least likely. Some follow-up interviews revealed that Africans aspire towards new African role models – billionaires that have emerged in the post-apartheid era of Black Economic Empowerment (BEE) programmes.

Asians had a more hard-nosed attitude having seen how their parents worked long hours and sacrificed to achieve what they had. Asians also a more conservative view of risk. Coloured and African students are more likely to consider themselves to be risk-takers than the other two groups but all groups think they are risk-takers. Only African students feel that entrepreneurship is an excellent and fast way of generating high incomes. Coloured and African students are convinced that entrepreneurs will do almost anything to make a profit, whilst the other two groups are neutral on the matter. African students believe most strongly that one needs connections in order to start a business, which again, through further probing, reveals perceptions regarding BEE and the apartheid favouritism.

White students are most likely to think that tertiary education is not necessary in order to be a successful entrepreneur; African students are least likely to think that. All races believe that there are many opportunities in their major field of study and African students are the most positive about this.

African, Coloured and Asian students feel that it is too expensive to start one's own business. But African students are much more aware than White, Coloured and Asian students of state programmes that provide assistance to small business starters and they also feel more positive about the investment climate in South Africa.

² Given South Africa's history of exclusionary racial estates which also applied to economic and educational opportunities, it makes sense for us to test these perceptions using the official racial classification of White, African/Black, Asian and Coloured. This was the classification employed under apartheid and it is being used by the current government to promote a form of Affirmative Action.

3.2 Perceptions of entrepreneurship broken down by degree of study, parental background, and work experience

One may consider that students in different degree programmes have differing perceptions of entrepreneurship. To establish whether this is the case we break down the results into degree of study. Table 5 lists the means for the forty variables by degree of study. Once again significance is more complicated and we will only note if students differ at the 5% level.

INSERT TABLE 5 HERE

MBA students differ markedly from the rest of the students. This may have something to do with their age and race as well as the fact that, unlike the majority of undergraduate students, MBA students have already obtained professional work experience. Most of the MBA students are White and considerably older. Certainly the MBA students seem to have stronger opinions than the undergraduates and are most likely to think that they will start their own businesses followed by Commerce students. MBA students are the most open-minded about what constitutes entrepreneurship: they need not be inventors, and businesses can be bought or franchised and still be entrepreneurial. MBA students are also least likely to agree that entrepreneurs will do anything for a profit.

Generally, all students were not exposed to entrepreneurship ideas either at high school or at university, with MBA students having the least exposure at high school and the most exposure at university. For MBA students, the low exposure to entrepreneurship at school-level may have been due to the curriculum focus, during the period they attended school. High school counsellors may have changed their approach in the more recent past, giving the topic of entrepreneurship more of a focus in the curriculum covered at school. At university level, the nature of the MBA degree results in more exposure, as one would expect.

We also compared the perceptions of students whose parents own businesses to those who do not, parents who are educated to those who are not, and compared students who did and did not earn pocket money while they were in school.³ Students whose parents own businesses do not differ greatly from those whose parents do not. Both groups are equally likely to start their own businesses, although students whose parents own businesses are more likely to have seriously considered the option.

As regards parental education, students differ significantly on only a few variables. The more educated the parents, the less likely students are to start their own businesses (although, on average, all groups agree that they will do so). Students whose parents have tertiary education seem more flexible with respect to their definition of entrepreneurship, but are least likely to agree that entrepreneurs are almost always inventors. They are also the least likely to believe that entrepreneurs will do anything to make a profit.

There is no consistent difference in student perceptions when analysing responses related to parents' level of education. Although there are significant differences for various questions and groups, there does not appear to be much of a pattern. One is tempted to conclude that parental education may not greatly influence how university students perceive entrepreneurship.

Students who did not receive pocket money are more likely to consider themselves to be risk-takers, perhaps out of necessity. Those with pocket money are more inclined to think that entrepreneurship is an honourable profession.

Table 6 characterises the parents' incomes in order to determine whether income has an effect on entrepreneurship perceptions.

INSERT TABLE 6 HERE

Students from both the poorest and richest households are most likely to think that they will start their own businesses. As we discussed above, it may be that poorer students are thinking about more basic enterprises whilst richer students are thinking about innovative start-ups. Yet poorer

³We do not present these results because of space constraints, but the results are available from the author.

students are more inclined to think that business owners will do anything to make a profit while believing that it is not necessarily true that they may earn more money working for a company.

Students in the lowest two income groups are least likely to feel that it is too risky to start their own business and are correspondingly most likely to believe that they are risk-takers. Interestingly, students in the highest two income groups are least likely to believe that entrepreneurship is a financially viable option while students in the lowest two income groups are most likely to believe this.

However, all the students, except those in the highest income group would prefer to work for a large company, believing that there would be better career opportunities. Only the highest income group disagreed with that statement. This suggests that poorer students may see entrepreneurship as a necessity, perhaps indicating some doubt about their ability to find a job working for a company. On the other hand, the richest students may have more confidence about finding jobs in large companies and may see entrepreneurship as more of a risky choice. Students from these differing income groups may have different perceptions about what constitutes owning their own business. Richer students are thus less likely to believe that owning a franchise or buying a business is not entrepreneurship.

The results obtained from breaking down students' responses by income group are closely related to those broken down by race group when acknowledging that students from the wealthiest income groups are likely to be White while those from the poorest group are likely to be Black. Overall, students from the poorest two groups appear to be the most positive about starting their own businesses and also appear to have access to more information.

Table 7 shows the differences between students who had a part-time job whilst at school or at university and those who did not as well as the difference between students who took business related subjects and those who did not.

INSERT TABLE 7 HERE

Students with early exposure to financial responsibility are more likely to think that they will start their own businesses. They are also more flexible on what constitutes an entrepreneur as well as slightly less inclined to think that entrepreneurs would do anything for a profit. It thus comes as no surprise that these are also the students who are more likely to have considered entrepreneurship as a career option and are more likely to consider themselves to be risk-takers. They are more convinced that entrepreneurship is an honourable profession and less likely to believe that their career prospects are better at a large company. They are also more prone to believe that they have many ideas for business ventures.

Students with part-time jobs at university are also generally more positive about entrepreneurship than those without jobs and are less likely to think that a tertiary education is necessary to be an entrepreneur.

Generally, students who did not take any business classes seem more optimistic about entrepreneurship. Probing revealed that the perceptions of these students had an element of romanticism; many students were unaware of what entrepreneurial success and commitment really requires. They also seem less inclined to believe that they would have better career prospects working for another company. The reason may be that business classes bias students away from entrepreneurship given that there is not much focus on entrepreneurial content and tend to train students for the existing labour market that is dominated by larger corporations.

4 Conclusion

The results extracted from this sample of over 600 South African students generally reveal that students have a very positive attitude towards entrepreneurship. Over 83% of our respondents view entrepreneurship as an honourable profession and respect people who are entrepreneurs. More than half intend starting their own business as soon as possible and see themselves as risk-takers. However,

when we delve further into these results, we see that there are distinct gender and racial differences with men generally more positively disposed towards entrepreneurship whilst Africans are the most positive and Asians the least positive. Degree of study, parental income, student work and financial experience all appear to affect perceptions of entrepreneurship.

Given these generally favourable results, we are left with the puzzling question as to why South Africa performs so poorly on international entrepreneurship rankings? One explanation could be that our sample of university students is automatically more entrepreneurial than less qualified South Africans. However, this contradicts available evidence that university students tend to end up in large companies. Indeed, over 40% of our sample admits that they would prefer to work in large companies because of better career prospects with a further third being neutral, and less than 28% disagreeing with the desire to work for a large company. It could be that currently students have a more idealistic view (as one would expect at that age), but when they enter the 'real' world then the realities become enmeshed with risk aversion and overshadow these perceptions, rendering entrepreneurial activities largely defunct. A longitudinal study which follows these respondents over time as they leave university and enter the workforce would yield useful insights as to how their perceptions change and how their perceptions match up with their actual employment choices.

References

- [1] Burger, L. Mahadea, D. and O'Neill, C. (2004). Perceptions of entrepreneurship as a career option in South Africa: An exploratory study among grade 12 learners. *South African Journal of Economic and Management Sciences*. 7(2): 187-205.
- [2] Carton, R.B. Hofer, C.W. and Meeks, M.D. (1998). *The Entrepreneur and Entrepreneurship: Operational Definitions of Their Role in Society*. <http://sbaer.uca.edu/research/1998/ICSB/k004.htm>.
- [3] Foxcroft, M. Wood, E. Kew, J. Herrington, M. and Segal, N. (2002). *Global Entrepreneurship Monitor 2002: The South African Report*. Cape Town: GEM.
- [4] Kingdon, G.G. and Knight, J. (2004). Unemployment in South Africa: The Nature of the Beast. *World Development*. 32(3): 391-408.
- [5] Kuratko, D. F. and Hodgetts, R. M. (2001). *Entrepreneurship, a Contemporary Approach*, 5th edition. Orlando: Harcourt Publishers.
- [6] Leedy, P.D. and Ormrod, J.E. (2001). *Practical Research: Planning and Design*, 7th edition. Upper Saddle River: Merrill Prentice Hall.
- [7] Leff, N. H. (1979). Entrepreneurship and Economic Development: The Problem Revisited. *Journal of Economic Literature*. XVII: 46-64.
- [8] Louw, L. Van Eeden, S.M. Bosch, J.K. and Venter, D.J.L. (2003). Entrepreneurial traits of undergraduate students at selected South African tertiary institutions. *International Journal of Entrepreneurial Behaviour and Research*. 9(1): 5-26.
- [9] Luiz, J. (2002). Small Business Development, Entrepreneurship and Expanding the Business Sector in a Developing Economy: The Case of South Africa. *Journal of Applied Business Research*. 18(2): 53-68.
- [10] Morrison, A. (2000). Entrepreneurship: what triggers it? *International Journal of Entrepreneurial Behaviour and Research*. 6(2): 59-71.

- [11] Schumpeter, J. A. (1934) *The Theory of Economic Development*. USA: Harvard University Press.
- [12] Simmons, C. (1998). *The spirit of the graduate entrepreneur*.
<http://www.soton.ac.uk/~infoserv/pubaff/newrep/vol16/no20stud.html>.
- [13] Von Broembsen, M. Wood, E. and Herrington, M. (2005). *Global Entrepreneurship Monitor 2005: The South African Report*. Cape Town: GEM.

Appendix 1: List of question numbers and their assigned variables

Number	Variable
<i>Perceptions of Entrepreneurship</i>	
1	Wants to start own business
2	Entrepreneurs are almost always inventors
3	Buying a business is not entrepreneurship
4	Owning a franchise is not entrepreneurship
5	Entrepreneurs will do anything for profit
6	Entrepreneurs are largely responsible for new innovations, technologies and products
7	Can earn more money working for someone else
8	Has seriously considered entrepreneurship as career option
9	Academic institutions should encourage students to consider entrepreneurship
10	Too busy with classes to consider starting own business
11	Parents are entrepreneurs
12	Too risky to start own business
13	Is a risk-taker
14	Entrepreneurship is a good way to make lots of money
15	Entrepreneurship is an honourable profession
16	A tertiary education is not necessary to be an entrepreneur
17	Prefers to work for a large company, better career prospects
<i>Entrepreneurial Opportunities</i>	
18	Has many ideas for business ventures
19	Too expensive to start own business
20	There are many entrepreneurial opportunities in student's area of study
21	Entrepreneurial ventures are mainly limited to business ideas
22	Has good understanding of intellectual property
23	Understands equity finance
24	Constantly alert to business opportunities
25	All the good ideas have been taken
26	Need connections to start a business
<i>Campus Entrepreneurship Environment</i>	
27	Students are encouraged to pursue entrepreneurship ventures
28	High school counsellor mentioned entrepreneurship as career option
29	Examples of how science, technology, etc., are key to business are included in class examples
30	Entrepreneurial or business related examples are included in classes
31	Having a mentor would help
32	A small seed grant would encourage entrepreneurship
33	More business sector interaction would encourage entrepreneurship
34	Private sector support for student entrepreneurs would result in more university based business start-ups.
35	A programme to defer student loan payments for student entrepreneurs would encourage more students to pursue a business venture after graduation
<i>South African Entrepreneurship Environment</i>	
36	South Africa is an excellent country to start a business.
37	My local community supports entrepreneurs
38	It would be very difficult to raise the money needed to start a new business in South Africa
39	I know how to have access to the assistance I would need to start a new business.
40	I am aware of programmes the state provides to help people start businesses

Table 1: Student characteristics

Demographic Variables	n	%
<i>Gender</i>		
Male	306	52.4
Female	278	47.6
	584	
<i>Race</i>		
African	324	54.73
White	186	31.42
Asian	67	11.32
Coloured	15	2.53
	592	
<i>Degree</i>		
Commerce and Law	323	54.84
Arts, Humanities, Social Science and Education	108	18.34
Science	58	9.85
Engineering	24	4.07
MBA	76	12.9
	589	
<i>Parents own business</i>		
Yes	243	42.71
No	326	57.29
	569	
<i>Parents education</i>		
Tertiary Education	355	61
Matriculation	95	16.32
High School	77	13.23
Primary School	33	5.67
No Schooling	22	3.78
	582	
<i>Pocket money at school</i>		
Yes	446	77.57
No	129	22.43
	575	
<i>Job while at school</i>		
Yes	247	43.33
No	323	56.67
	570	
<i>Job while at university</i>		
Yes	274	47.82
No	299	52.18
	573	
<i>Study business subjects</i>		
Yes	349	61.55
No	218	38.45
	567	
<i>Parents monthly income</i>		
Less than R2000	106	19.41
R2000-R5000	70	12.82
R5001-R10 000	80	14.65
R10 001 – R20 000	109	19.96
Greater than R20 000	181	33.15
	546	

Table 2: Responses to perception questions – statistical analysis

Variables	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total	Mean	Stdev
<i>Perceptions</i>								
1	190	144	149	93	30	606	2.39*	1.21
2	66	181	133	170	54	604	2.94	1.17
3	33	72	120	234	142	601	3.63*	1.13
4	28	62	118	262	126	596	3.66*	1.07
5	145	166	122	131	35	599	2.57*	1.23
6	112	241	134	93	25	605	2.47*	1.08
7	19	42	160	211	175	607	3.79*	1.03
8	172	191	125	81	37	606	2.38*	1.20
9	260	231	82	24	10	607	1.84*	0.92
10	92	168	136	141	67	604	2.87*	1.25
11	113	112	30	143	207	605	3.36*	1.55
12	22	58	115	214	197	606	3.83*	1.10
13	131	208	166	84	14	603	2.41*	1.05
14	77	152	194	151	31	605	2.85*	1.09
15	257	245	68	21	12	603	1.82*	0.91
16	154	184	105	92	68	603	2.56*	1.32
17	85	158	196	117	48	604	2.81*	1.14
<i>Entrepreneurial Opportunities</i>								
18	127	192	138	114	30	601	2.55*	1.16
19	96	192	152	138	26	604	2.68*	1.12
20	120	209	149	87	36	601	2.52*	1.14
21	33	118	200	188	62	601	3.21*	1.05
22	88	214	178	99	20	599	2.58*	1.03
23	130	210	109	111	43	603	2.55*	1.22
24	71	216	159	132	24	602	2.70*	1.06
25	25	52	125	241	159	602	3.76*	1.07
26	159	242	90	94	20	605	2.30*	1.12
<i>Campus Entrepreneurship Environment</i>								
27	41	128	176	186	71	602	3.20*	1.11
28	52	108	81	196	164	601	3.52*	1.29
29	54	153	141	169	79	596	3.11*	1.19
30	42	159	136	176	81	594	3.16*	1.17
31	185	273	89	37	19	603	2.06*	0.99
32	235	274	70	16	9	604	1.82*	0.85
33	218	298	66	16	5	603	1.83*	0.79
34	211	273	96	18	5	603	1.89*	0.83
35	193	233	126	38	7	597	2.05*	0.95
<i>South African Entrepreneurship Environment</i>								
36	207	227	111	44	16	605	2.07*	1.03
37	52	170	242	104	32	600	2.82*	0.99
38	79	174	181	125	38	597	2.78*	1.11
39	45	179	128	186	59	597	3.06	1.14
40	47	157	99	182	109	594	3.25*	1.25

Notes: * significant at the 5% level, ! significant at the 10% level.

Table 3: Perceptions, by gender

Variable	Mean	
	Male	Female
<i>Perceptions of Entrepreneurship</i>		
Wants to start own business	2.09	2.74
Entrepreneurs are almost always inventors	2.93	2.95
Buying a business is not entrepreneurship	3.60	3.65
Owning a franchise is not entrepreneurship	3.66	3.68
Entrepreneurs will do anything for profit	2.50!	2.67!
Entrepreneurs are largely responsible for new innovations, technologies and products	2.46	2.45
Can earn more money working for someone else	3.91	3.66
Has seriously considered entrepreneurship as career option	2.16	2.61
Academic institutions should encourage students to consider entrepreneurship	1.79	1.86
Too busy with classes to consider starting own business	2.91	2.83
Parents are entrepreneurs	3.43	3.30
Too risky to start own business	3.93	3.74
Is a risk-taker	2.25	2.55
Entrepreneurship is a good way to make lots of money	2.69	3.00
Entrepreneurship is an honorable profession	1.81	1.77
A tertiary education is not necessary to be an entrepreneur	2.58	2.54
Prefers to work for a large company, better career prospects	2.94	2.68
<i>Entrepreneurial Opportunities</i>		
Has many ideas for business ventures	2.28	2.87
Too expensive to start own business	2.69	2.71
There are many entrepreneurial opportunities in student's are of study	2.39	2.66
Entrepreneurial ventures are mainly limited to business ideas	3.18	3.23
Has good understanding of intellectual property	2.39	2.76
Understands equity finance	2.39	2.67
Constantly alert to business opportunities	2.50	2.94
All the good ideas have been taken	3.76	3.78
Need connections to start a business	2.18	2.42
<i>Campus Entrepreneurship Environment</i>		
Students are encouraged to pursue entrepreneurship ventures	3.22	3.17
High school counsellor mentioned entrepreneurship as career option	3.59	3.45
Examples of how science, technology, etc., are key to business are included in class examples	3.08	3.16
Entrepreneurial or business related examples are included in classes	3.26	3.07
Having a mentor would help	1.97!	2.13!
A small seed grant would encourage entrepreneurship	1.72	1.89
More business sector interaction would encourage entrepreneurship	1.75!	1.87!
Private sector support for student entrepreneurs would result in more university based business start-ups	1.86	1.92
A programme to defer student loan payments for student entrepreneurs would encourage more students to pursue a business venture after graduation	1.95!	2.09!
<i>South African Entrepreneurship Environment</i>		
South Africa is an excellent country to start a business	1.93	2.18
My local community supports entrepreneurs	2.85	2.81
It would be very difficult to raise the money needed to start a new business in South Africa	2.69!	2.86!
I know how to have access to the assistance I would need to start a new business	2.89	3.22
I am aware of programmes the state provides to help people start businesses	3.09	3.41

Notes: Means in bold denote significance at the 5% level, ! denotes significance at the 10% level.

Table 4: Perceptions, by race

Variable	Mean			
	African	White	Asian	Coloured
<i>Perceptions of Entrepreneurship</i>				
Wants to start own business	2.16	2.60	2.94	2.33
Entrepreneurs are almost always inventors	2.67	3.33	3.13	3.00
Buying a business is not entrepreneurship	3.48	3.89	3.73	3.47
Owning a franchise is not entrepreneurship	3.60	3.68*	4.00*	4.00*
Entrepreneurs will do anything for profit	2.26	3.02*	2.97!	2.20*!
Entrepreneurs are largely responsible for new innovations, technologies and products	2.39	2.55	2.54	2.47
Can earn more money working for someone else	3.92	3.65	3.61	3.67
Has seriously considered entrepreneurship as career option	2.39	2.22*	2.72*	2.53
Academic institutions should encourage students to consider entrepreneurship	1.76	1.83*	2.12*	2.20
Too busy with classes to consider starting own business	3.01	2.77	2.64	2.80
Parents are entrepreneurs	3.59	3.12	2.82!	3.80!
Too risky to start own business	4.02	3.68	3.42	3.73
Is a risk-taker	2.19	2.68*	2.66	2.13*
Entrepreneurship is a good way to make lots of money	2.60	3.15	3.03	3.13
Entrepreneurship is an honorable profession	1.87	1.63*	1.92*	1.67
A tertiary education is not necessary to be an entrepreneur	2.80	2.24	2.40	2.53
Prefers to work for a large company, better career prospects	2.68	3.14*	2.61*	2.53*
<i>Entrepreneurial Opportunities</i>				
Has many ideas for business ventures	2.39	2.77	2.76	2.67
Too expensive to start own business	2.50	3.01	2.82	2.67
There are many entrepreneurial opportunities in student's area of study	2.36	2.69	2.66	2.73
Entrepreneurial ventures are mainly limited to business ideas	3.06	3.45	3.24	3.00
Has good understanding of intellectual property	2.61	2.48	2.64	2.53
Understands equity finance	2.56	2.51	2.35	2.60
Constantly alert to business opportunities	2.68	2.66*	2.95*	2.80
All the good ideas have been taken	3.70	3.87	3.73	3.80
Need connections to start a business	2.08	2.44*	2.93*!	2.33!
<i>Campus Entrepreneurship Environment</i>				
Students are encouraged to pursue entrepreneurship ventures	3.19	3.15	3.28358 2	3.40
High school counsellor mentioned entrepreneurship as career option	3.35	3.87*	3.40*	3.27
Examples of how science, technology, etc., are key to business are included in class examples	3.06	3.22	3.04	3.47
Entrepreneurial or business related examples are included in classes	3.09	3.24	3.22	3.73
Having a mentor would help	1.99	2.06	2.30	2.40
A small seed grant would encourage entrepreneurship	1.79	1.82	1.94	1.67
More business sector interaction would encourage entrepreneurship	1.75	1.86	2.01	1.80
Private sector support for student entrepreneurs would result in more university based business start-ups.	1.86	1.83	2.18	2.07
A program to defer student loan payments for student entrepreneurs would encourage more students to pursue a business venture after graduation	1.97	2.04*	2.35*	2.27
<i>South African Entrepreneurship Environment</i>				
South Africa is an excellent country to start a business	1.99	2.12	2.21	2.33
My local community supports entrepreneurs	2.86	2.78	2.93	2.93
It would be very difficult to raise the money needed to start a new business in South Africa	2.81	2.76	2.81	2.60
I know how to have access to the assistance I would need to start a new business	3.04	3.05*	3.01!	3.60*!
I am aware of programmes the state provides to help people start businesses	2.83	3.82	3.59	3.87

Notes: A difference between African and White, Asian or Coloured is shown by numbers highlighted in bold, * indicates a difference between White and Asian or Coloured and ! indicates a difference between Asian and Coloured. Caution should be used when interpreting statistics involving the Coloured group as there are so few observations.

Table 5: Perceptions, by Degree of Study

	Mean				
Variables	Commerce	Art	Science	Engineering	MBA
<i>Perceptions of Entrepreneurship</i>					
1	2.39	2.44	2.57	2.46	2.26
2	2.90	2.75*	3.07	2.83#	3.37*#
3	3.58	3.66	3.52	3.67	3.86
4	3.71	3.55	3.55	3.79	3.75
5	2.43	2.50*	2.71!	2.42#	3.16*!#
6	2.41	2.47	2.66!	2.08!#	2.68#
7	3.75	3.73	3.76	4.04	3.97
8	2.45	2.35*	2.57!	2.67#	1.91*!#
9	1.88	1.94*	1.88!	1.92#	1.53*!#
10	2.83	2.66*	3.02	2.96	3.18*
11	3.41	3.26	3.14	3.50	3.41
12	3.88	3.63	3.84	3.88	3.87
13	2.32	2.46	2.58	2.46	2.59
14	2.81	2.64*	3.00*	2.75	3.17*
15	1.86	1.72	1.95!	1.87	1.64!
16	2.73	2.57*	2.60!	2.25	2.00*!
17	2.71	2.67*	2.64!	2.67#	3.47*!#
<i>Entrepreneurial Opportunities</i>					
18	2.53	2.55	2.70	2.33	2.68
19	2.62	2.63*	2.66!	2.42#	3.14*!#
20	2.39	2.70*	2.81!	2.04*!#	2.74#
21	3.17	3.11*	3.16	3.30	3.50*
22	2.61	2.65	2.36	2.63	2.50
23	2.29	3.07*	3.10!	3.46#	2.14*!#
24	2.78	2.71	2.81!	2.67	2.42!
25	3.68	3.75*	3.86	3.71	4.08*
26	2.31	2.27	2.40	2.33	2.22
<i>South African Entrepreneurship Environment</i>					
36	2.10	2.23*	2.03!	2.25#	1.70*!#
37	2.88	2.78	2.86	2.92	2.68
38	2.84	2.63	2.78	3.00	2.73
39	3.05	3.10	3.28	3.04	2.90
40	3.16	3.13*	3.41	3.46	3.66*

Notes: A mean in bold indicates a difference between Commerce and any of the other four, a * indicates a difference between Arts and any of the remaining three, a ! indicates a difference between Science and any of the remaining two, and # indicates a difference between engineering and an MBA.

Table 6: Perceptions, by Parental Income

Variables	Mean				
	<R2000	R2001- R5000	R5001- R10 000	R10 001 – R20 000	>R20 000
<i>Perceptions of Entrepreneurship</i>					
1	2.08	2.43	2.43	2.70#	2.317#
2	2.56	2.62*	2.84!	3.34*!	3.14*
3	3.38	3.43*	3.56!	3.72!	3.80*
4	3.46	3.69	3.74	3.65	3.78
5	2.12	2.04*	2.68*	2.81*	2.83*
6	2.25	2.47	2.35!	2.67!	2.51
7	3.99	3.84	3.68	3.86	3.72
8	2.38	2.66*	2.41	2.53#	2.19*#
9	1.79	1.81	1.71	1.93	1.79
10	3.08	3.06	2.97	2.72	2.82
11	3.98	3.65*	3.13*	3.30	3.12*
12	4.15	4.04*	3.75	3.62*	3.78
13	2.07	2.10*	2.38!	2.69*!	2.56
14	2.49	2.449*	2.90*	3.04*	3.01
15	1.89	1.80	1.95!	1.89#	1.63!#
16	2.89	2.83*	2.65!	2.53	2.28*!
17	2.59	2.60*	2.84	2.78	3.03*
<i>Entrepreneurial Opportunities</i>					
18	2.38	2.41	2.56	2.86#	2.50#
19	2.32	2.71	2.45!	2.57#	3.01!#
20	2.18	2.61	2.54	2.55	2.59
21	2.88	2.91*	3.44*	3.22	3.33*
22	2.75	2.72*	2.58	2.55	2.40*
23	2.64	2.43	2.79!	2.53	2.39!
24	2.71	2.61	2.69	2.90#	2.59#
25	3.48	4.10*	3.80	3.69*	3.92
26	1.98	2.30	2.30	2.41	2.34
35	1.95	2.00	2.15	1.97	2.05
<i>South African Entrepreneurship Environment</i>					
36	2.01	2.03	2.13	2.18	1.98
37	2.89	2.73	2.80	2.91	2.72
38	2.75	2.77	2.84	2.73	2.87
39	3.03	2.94*	3.06	3.36*#	2.88#
40	2.84	2.85*	3.32*	3.33*	3.51*

Notes: A mean in bold indicates a difference between an income of less than R2000 and any of the other four, * indicates a difference between an income of between R2001 and R5000 and any of the remaining three, ! indicates a difference between an income between R5001 and R10 000 and any of the remaining two, and # indicates a difference between an income between R10 001 and R20 000 and an income greater than R20 000.

Table 7: Perceptions, by Job Background and Access to Business Courses

Variables	Mean					
	School job Yes	No	University job Yes	No	Business subjects Yes	No
<i>Perceptions of Entrepreneurship</i>						
1	2.21	2.57	2.31	2.51	2.47	2.36
2	2.94	2.97	3.09	2.83	2.92	3.01
3	3.73	3.54	3.71	3.55	3.59	3.70
4	3.74	3.60	3.74	3.61	3.67	3.68
5	2.75	2.48	2.76	2.44	2.49	2.71
6	2.40	2.48	2.46	2.46	2.48	2.45
7	3.87	3.73	3.79	3.80 ²⁰¹³	3.76	3.83
8	2.15	2.54	2.25	2.51	2.46	2.31
9	1.79	1.86	1.82	1.86	1.91	1.73
10	3.08	2.70	2.97	2.77	2.83	2.92
11	3.29	3.42	3.26	3.47	3.32	3.44
12	3.91	3.79	3.77	3.87	3.86	3.76
13	2.30	2.49	2.44	2.37	2.36	2.52
14	2.87	2.85	2.92	2.81	2.84	2.88
15	1.61	1.93	1.73	1.83	1.83	1.75
16	2.49	2.63	2.40	2.71	2.71	2.34
17	3.06	2.67	3.02	2.65	2.66	3.06
<i>Entrepreneurial Opportunities</i>						
18	2.37	2.68	2.57	2.55	2.55	2.59
19	2.77	2.63	2.79	2.60	2.58	2.84
20	2.44	2.59	2.60	2.44	2.44	2.60
21	3.28	3.14	3.20	3.20	3.23	3.18
22	2.50	2.59	2.50	2.61	2.60	2.53
23	2.35	2.65	2.47	2.58	2.36	2.77
24	2.55	2.84	2.62	2.79	2.77	2.67
25	3.87	3.70	3.76	3.78	3.67	3.89
26	2.38	2.26	2.23	2.40	2.27	2.32
35	1.95	2.06	1.95	2.09	1.99	2.12
<i>South African Entrepreneurship Environment</i>						
36	1.90	2.16	1.98	2.12	2.09	2.05
37	2.68	2.94	2.70	2.95	2.80	2.87
38	2.77	2.82	2.74	2.86	2.79	2.83
39	2.94	3.13	3.04	3.03	3.02	3.14
40	3.34	3.16	3.30	3.19	3.22	3.31