

https://dspace.org/

Entrepreneurial behaviour of disadvantaged urban youth: a study of the effects of an experiential intervention

Black, Stephen

2016-08-05
http://hdl.handle.net/10539/20832

Downloaded from a DSpace repository. https://dspace.org/

In addition, males' knowledge of business was significantly more than their female counterparts. This was measured by a written test.

As far as the participants in the research as a whole were concerned, the Rotter I-E measurement confirmed that the males were significantly more internally orientated than the females.

A comparison between the entrepreneurs in the student sample and the rest of the participants showed that there was a significant difference in ten out of the fifty variables, particularly on the AMQ measurement as well as post intervention Rotter values. The entrepreneurs also did significantly better on the wricten numeracy test.

In the research sample there were more entrepreneurs on the East Rand than Soweto. Kwa Thema schools did significantly better in their matriculation results in business related subjects, compared with other school groupings.

6.2 ANSWERS TO THE RESEARCH PROBLEMS

The findings on the research problems will now be discussed.

6.2.1 RESEARCH PROBLEM ON THE EFFECT OF THE INTERVENTION ON THE PARTICIPANTS' PERSONALITY VALUES, COMPARED WITH THE CONTROL GROUP

The statistical results in Chapter 5 show that there are significant differences (at the level of 10% or less) between the means of the Experimental and Control Groups in regard to Persistence (factor A), Action Orientation (factor C) and Goal Directedness (factor AA). No significance was shown for factor B (Time Awareness), Aspiration Level (factor D) and Personal Causation (factor E). Personal Excellence (factor BB) did not show a significant shift. As regards factor AM (Achievement Motivation) there was a shift in the values between the Experimental and the Control Groups. This was significantly different at the 12% level (p=0.124).

Unlike previous South African studies on achievement motivation with young black subject populations (Pottas et al. 1980, 1981; Erwee 1981,1986), the research group in the present study was not drawn from first-year university students, but from students in the last year at high school. (A comparison of the statistics between the studies mentioned is given in 6.2.2)

In Chapter 3 the five factors of the AMQ instrument were

analysed. Figure 3.1 summarizes the details on each of the dimensions. Factor A, Persistence, is an index of an individual's perseverence in seeking solutions to problems under adverse circumstances. Setbacks are viewed as presenting new challenges. There was a significant difference between the means of the Experimental and Control Groups, as a result of the intervention.

In the experiential learning exercise, which took the form of the setting-up and running of a micro business as explained previously, each research group was given the challenge to run an actual business venture despite the problems in doing this. These problems occured due to a variety of circumstances such as lack of product sales, or cash flow difficulties, all real life situations since the business run was a venture interacting with the students' neighbourhood environment. The success of the venture as the ultimate objective, was to make a return on the participants' investment of time and money. Although there were many distractions for the students due to their school work, not the least of which was the trial matriculation examination and special revision sessions and tests held during the intervention period, the average attendance figures were good (Group 1:83.1%; Group 2:75.7%; Group 3:83.5%; and Group 4:85.7%, with an

overall 82.2% average attendance). None of the four groups showed a lack of interest in learning or pursuing their self-chosen roles in their ventures. Persistence in meeting the targets set during the intervention is essential, if the venture is going to be successful.

Because of the experiential nature of the intervention, the significant movements on the AMQ measurement that occurred in the Experimental Group compared to the Control Group, are to be expected. This is particularly so in regard to factor A (Persistence), and factor C (Action Orientation) and therefore in Goal Directedness (factor AA).

There was also a positive movement in the means measured on a post- less pre-intervention basis in Awareness of Time (factor B). Under the heading Personal Excellence (factor BB) and Aspiration Level (factor D) there was also a positive movement, but this was not of significance.

The above results may be related to the students' business venture. The Junior Achievement programme (Appendix 1) is a time-pressured one, and the programme is highly structured, in order to meet the objectives of running a mini-company that makes a profit in a short

period of eleven weeks - the "life" of the venture. There is a lot of work to do and activities necessary within the workshop sessions and in the students' own environment. The tutors constantly remind the group of the necessity to meet their own targets (e.g. production, sales, and collection of monies). The reaching of the targets set by the participants themselves acts as a stimulus and a real indication of what can be achieved by one's own effort and working as a team. This increases the students' own personal aspiration, based upon the feed-back from parents of the participants completing the regular Junior Achievement programme.

The encouragement of the Experimental Group to behave in an entrepreneurial fashion is an objective of the Junior Achievement programme. The personal attributes developed are role orientation, motivation and ability to think intuitively and rationally. This may be related to Olson and Bosserman's work (1984). Also reinforcing the concept of the entrepreneurial approach in particular, is the research of Chell (1985), Chell and Haworth (1987) and Timmons et al. (1985). One of the problems that young people have in entering the world outside the classroom is being able to appreciate the interaction of the person and situational influences in the new

circumstances on leaving school. This has been discussed in 2.5.7 and 2.6.1

The only factor out of the five dimensions in the AMQ measurements that showed movement in an unexpected direction was Personal Causation (factor E). The measurement is similar to Rotter's Internal-External Locus of Control measurement. This personality factor has to do with exerting control over life events and reliance on one's own ability to overcome obstacles. The Control Group measurement showed a more positive movement on a pre- to post-intervention basis, than did the Experimental Group. In the case of the I-E measurement (ROTDIF), there was little difference in the pre- and post-values (p=0.960). However, when entrepreneur business owners were compared with the remainder of the participants, this was not the case (Section 6.3.1).

On a gender differentiation measurement, there is a significant movement in the I-E values on a pre- and post-basis. It would appear that the female participants' weighting in the overall values given by the Experimental and the Control Groups have caused factor E on the AMQ and ROTDIF to give measurements which are contrary to expectation. (Section 6.2.7. examines gender differences).

The Achievement Motivation value (AMDIF) as shown in Table 5.2 indicates a significant shift in group means at the 12% levels. The overall value shift that has taken place between the Experimental and Control Groups indicate that the intervention has produced the desired effect, as was expected.

6.2.2 COMPARISON OF DESCRIPTIVE STATISTICS FOR THE ACHIEVEMENT MOTIVATION MEASUREMENT (AM)

To determine the research groups' AM values compared with other similar subject groups, the research of Pottas (1980, 1981) and Erwee (1981, 1986) was reviewed. (Appendix 24 gives the descriptive statistics of the Achievement Motivation Dimensions).

The research participants' mean scores using the AMQ instrument with both Experimental and Control Groups compare favourably with one another, and with the work done by Pottas et al. and Erwee.

Table 6.1 records the comparisons of the results with previous research work.

Table 6.1

COMPARISON OF PREVIOUS RESEARCH WORK ON ACHIEVEMENT MOTIVATION

ACHIEVEMENT MOTIVATION SCORE				
MEAN	STANDARD DEVIATION	n	SUBJECT POPULATION	RESEARCHER
54.4	12.2	251	1st year black University students	Erwee 1981 Erwee 1986
59.9	11.5	745	ditto	Fottas et. al 1980, 1981
58.2	10.2	101	Black matriculants	Present research: Experimental Group
61.8	8.7	91	ditto	Control Group

Table 6.2

COMPARISON OF PREVIOUS RESEARCH WORK WITH LOCUS OF CONTROL INSTRUMENT

LOCUS OF CONTROL SCORE		n	SUBJECT POPULATION	RESEARCHER
MEAN	STANDARD DEVIATION			
10.60	3.55	135	Black university students	Moodley-Rajab & Ramkissoon, 1979
13.44	3.79			
				Present research:
9.87	3.07	92	Black matriculants	Experimental Group
9.81	2.67	101	ditto	Control Group

6.2.3 ROTTER LOCUS OF CONTROL I-E MEASUREMENT RESULTS

The measurement of the Rotter (I-E) scores on the pre- and post-intervention comparing the means of the Experimental and Control Groups (ROTDIF) did not show any significant difference (p=0.960), which is contrary to what the author expected. The possible explanation for this was given in the previous section i.e. the weightings of the female participants have cancelled out the shift in the values given by the male group.

A comparison of the Rotter I-E values as measured before the intervention for the two groups in the present research, with previous values reported by a local study, is given in Table 6.2

The work of Pottas (1981) and Erwee (1981, 1986) on the Rotter instrument has been on the multi-dimensional nature of the construct. In the present study, as with Moodley-Rajab and Ramkissoon (1979), the I-E measurement is considered to be uni-dimensional.

6.2.4 THE KIRTON ADAPTIVE INNOVATIVE MEASUREMENTS

The application of the KAI to the research work of this study did not yield results of significance. No shifts in the value of the dimensions, or in the KAI score can be interpreted as having been due to the intervention. An exhaustive study of the KAI results was not carried out, as is the case with the other constructs used, as the values given for both groups did not seem to be relevant. As pointed out in Section 2.5.8, Kirton's construct has to do with innovation. Although research on the connection between entrepreneurship and innovation has taken place (Hébert and Link 1982; Weber 1930; and Schumpeter 1939), the work done in this field using Kirton's instrument is sparse. The evidence is of few researchers working in the entrepreneurship area (Khaneja 1962; Dewan 1982). It has not been established that the KAI has an application in studies in the small business field.

The results given in Table 5.2 comparing the group means for the Experimental and Control Groups and the difference in the KAI tests, show no significant difference in the three factors SODIF (Sufficiency of Originality), of EFODIF (Efficiency of Operation) or RDIF (Role/Group Conformity), and the KAI score. The SO factor is the one which may indicate an increase in innovation. The p-value is 0.22.

The Experimental Group means show a decrease (same for KAI score) and a positive one in the value for the Control Group, contrary to the author's expectations. No explanation for this can be given.

In Section 5.3.2 a comparison of entrepreneur owners pre- and post- values with the rest of the participants was done with regard to differences in the three KAI factors and the full scale values (Table 5.8). No significant differences were found, which is in line with the above findings.

The analysis of the comparison of the KAI values given by the entrepreneurs who had established their own businesses and the remainder of the participants was reported in the previous chapter (Table 5.9). This was done to find out if a significant difference between the KAI values of the two groups existed. Table 5.9 shows a small variation between V51=1 and V51=0, but this is not significant (p=0.601). The business owners group was small, but nevertheless the result is disappointing. It had been hoped that the KAI instrument may have been of value as a predictor of entrepreneurial personality characteristics in the individual.

Mullany (1993) claims that the use of Kirton's construct

to predict entrepreneruial qualities in an individual based upon innovative characteristics maybe incorrect. His view is that a blend of innovative and adaptive qualities are needed in order to draw together the elements required for a business. An inventor should score well on the KAI regarding the innovative characteristic. Experience has shown that few inventors are able to commercialize their invention unaided. More research is needed to test out Mullany's hypothesis. This is beyond the scope of this study.

The above view could be a likely explanation of the findings using the KAI construct in this work.

In Van Daalen's work with KAI (1989:181) he compared Eastern Cape businessmen with Kirton's (1987) British norm, and Khaneja's (1982) work. The results are noted in Table 6.3.

Van Daalen's first SO dimension was found to be significantly higher ($p<0.01$) for his black business-persons, than Kirton's British group. The EFC and R factors in Van Daalen's research indicate that his research group was more adaptive. The internal consistency of the KAI instrument when administered to other cultural groups may be a problem, Van Daalen reports. Translation of the inventory into a second language may be necessary (Kirton 1987).

Table 6.3

COMPARISON OF PREVIOUS RESEARCH WORK WITH KAI INVENTORY

RESEARCH SUBJECTS	(KAI FULL SCALE VALUES) MEAN	n	RESEARCHER
Black entrepreneurs	89.78	100	Van Daalen
British norm	94.99	562	Kirton
Indian entrepreneurs	97.98	100	Kaneja
South African black undergraduate students	91.20	249	Van Daalen
Present study	93.00	60	Black

Van Daalen (1989:165) reports that the mean KAI score for 243 black South African undergraduate students is 91.2. The values for the black student groups in the present study are 93.43 (Experimental) and 92.36 (Control) for the full scale KAI values. The matriculants' values are of the same order, which indicates a consistency of measurement of the instrument.

6.2.5 RESEARCH PROBLEM ON THE GAIN IN BUSINESS KNOWLEDGE BY THE EXPERIMENTAL COMPARED WITH THE CONTROL GROUP

The model used to teach the business process is based upon systems theory (Appendix 4). The market needs for a business's service or product is noted on the output side of the model. This is demonstrated in the experiential intervention by the market research phase. The need identified is met by the venture's product which the participants sell to customers in their neighbourhood. The generated cash flow is used to pay for wages, raw materials and hire charges for the equipment and premises.

A manufacturing process was used in each of the experiential ventures run by the four groups. The technology and equipment was supplied by the Junior Achievement organisation.

The elements of a production line and its lay-out were illustrated and the theory taught to the students.

The buying of the raw materials, hiring of the equipment as inputs to production, the use of the students' labour (and its cost) as well as the "rental" for use of the premises, are the input elements to the business process.

The profitability of the intervention's mini-company is illustrated by the cost outputs of the venture in comparison with the cost inputs. If the output revenues are higher than the input, a profit is made. All four groups managed to make a profit, pay sales commission and return the share capital to the participants, with a dividend.

At each stage of the development and winding down of the groups' businesses, the systems model was used to reinforce the learnings and to put into a theoretical perspective what had been practised in the running of the micro-business.

The value of the experiential approach to learning was dealt with in Section 2.6. The enterprising behaviours, skills and attributes are illustrated in Figure 2.4. The mini-company learning mode is diagrammatically

represented by Figure 2.5.

The retention rate of a practical approach to learning is discussed in Section 2.6 and illustrated by the learning pyramid, Figure 2.6.

It came as no surprise to the author that the test score statistics showed a highly significant difference in the business knowledge gained by the Experimental Group students compared with the Control Group.

6.2.6 RESEARCH PROBLEM ON THE UNDERSTANDING OF THE ELEMENTS REQUIRED FOR A BUSINESS VENTURE

The gain in the business knowledge of the entrepreneurs in the Experimental Group was illustrated by their appreciation of the elements needed to create a new business. This is a result of the experiential approach used in the intervention in this study. Section 2.6 deals with the benefits of the experiential learning methodology adopted.

The field visits made to determine the nature of the businesses which were established by the participating

students in 1989, are dealt with in Section 6.5.1. The Experimental Group entrepreneurs showed a greater awareness of what is needed to set up their own businesses in comparison with those in the Control Group who attempted the same procedure. It may be assumed that this difference in behaviours between the two groups is probably due to the effect of the intervention on those who participated. This served to reinforce the statistical evidence on the effect of the learnings retained from the intervention phase and the increased business knowledge of those participating in the experiential activity.

6.2.7 RESEARCH PROBLEM ON THE GENDER DIFFERENCES ON ROTTER'S INTERNALITY MEASUREMENT AND BUSINESS KNOWLEDGE, AS A RESULT OF THE INTERVENTION

The investigation of the gender relationship as a result of the intervention, and in the research participants as a whole was dealt with in Chapter 5.

As a result of the intervention, the male participants were found to be more internally orientated than the female participants. This was significant at the 15% level ($p<0.15$). The gender differences between the two

research groups as a result of the intervention are illustrated in Section 5.3.9. The relationship between the post-intervention Rotter score (V29) and gender (V5) is highly significant (p=0.0001). The post I-E value for the males is 8.73 with a ROTDIF (V29-V28) of -0.33. The female I-E score of 10.61 and (ROTDIF) of 0.07 was only of significance at the 26% level (p=0.255). Instead of a decreased score (indicating a greater internality) the I-E value increased for the females in the group.

It was also found that the males in the Experimental Group had gained significantly more knowledge of business in a written test than the female participants in the same group ($p<0.05$).

In the study population as a whole, there is a significant difference in the internality of males compared with females on the Rotter Locus of Control I-E scale. This was shown on the measurement of both the pre as well as the post I-E measurement and was significant at the 5% level ($p<0.05$)

The results of the above do not confirm other studies which only calculate the total I-E score, i.e. the research is based upon a uni-dimensional basis for the locus of control measurement. Moodley-Rajab and

Ramkissoon (1979) and Riordan (1981) found no significant gender differences in their studies. The first research was done with South African students and is a cross-cultural study. In Riordan's work, significant gender differences were obtained with males being more internal than females. Within four ethnic groups (white, Indian, coloured and black) the differences were not significant. Table 6.4 is a resumé of the hypothesis testing. It covers Hypotheses three and four discussed in this section, as well as one and two, discussed previously.

6.3 OTHER SIGNIFICANT OUTCOMES OF THE RESEARCH

6.3.1 THE RELATIONSHIP BETWEEN ENTREPRENEURS WITH OWN BUSINESSES AND THE REMAINDER OF THE RESEARCH PARTICIPANTS

The correlation analysis of the relationship between business owners and non-business owners (Section 5.3.2) showed significant differences on a pre as well as a post intervention basis for Time Awareness ($p<0.08$); Action Orientation ($p<0.08$) and Goal Directedness ($p<0.06$). The possible reasons for these findings were discussed in Section 6.2.1.

Table 6.4

RESUMÉ OF HYPOTHESIS TESTING

NUMBER	HYPOTHESIS	ANALYSIS DETAILS	RESULTS
1.	There is a shift in the respondents' psychological values as measured by the *Achievement Motive Questionnaire* (AMQ) and the Rotter Locus of Control (I-E) instrument, *on a pre- versus post-administered basis*, when the Experimental and Control Groups were compared, as a results of the intervention.	The difference in values between the two group *mean scores was calculated for each dimension* in the AMQ. The difference between the mean values given by the Rotter I-E test by the Experimental and Control Groups was calculated.	A significant difference was found in Persistency ($p<0.05$) Action-Orientation ($p<0.10$) Goal directedness ($p<0.05$) and Achievement Motivation ($p<0.15$) dimensions. The difference between the means of the I-E values were not significant.
2.	There is an increase in business knowledge in the Experimental Group relative to the Control Group, as a result of the intervention.	The difference between the group mean results of a written examination sat by both Experimental and the Control Groups post intervention was compared. A one-way analysis of variance was done.	A highly significant difference ($p<0.0001$) was found between the results of both groups.
3.	As a result of the intervention, the participants in the Experimental Group who set-up their own businesses demonstrated that they were aware of the elements involved in forming and running their own independent businesses. The Control Group participants who started their own concerns did not display the same understanding.	The distribution of business ownership between the two groups was expressed as a ratio and a two-sample hypothesis test for the comparison of independent ratios carried out.	The ratios differ significantly. ($p=0.013$)
4.	The male participants in the Experimental Group benefited to a greater extent than the females in the same group by an increase in their locus of control internality and an increase in business knowledge, as a result of the intervention.	Variances of the means for the Rotter test (V28 and V29) and business knowledge (V38) analysed to determine gender differences.	A significant difference was found in the Rotter between the males and the females ($p=0.146$), and in business knowledge. ($p=0.020$)

A comparison of the means of the entrepreneur owners and the rest of the participants for the achievement motivation, Rotter and KAI instruments values (on a pre- and post- basis) was reported in section 5.3.2. The Personal Causation means (Factor F) were significantly different as were the Rotter (ROTDIF) values.

Factor F is one of the sub-sets of Personal Excellence of the Achievement Motive Questionnaire. It describes personality characteristics similar to those of an internally orientated individual. This ties in well with the ROTDIF values.

The entrepreneur owners are set apart from the others in the study. The majority of these (12 out of 20) did attend the intervention and were influenced as a result of this experience.

Regarding the Rotter differences, between business owners and non-entrepreneur's (significant $p<0.06$), the literature survey dealt with a number of studies in which the internality of entrepreneurs is greater than those of non-entrepreneurs (Durand 1975; Maloney 1978; Gilbert 1980; Brockhaus 1975, 1976; Shapero 1975; Venkatapathy 1983, 1984; Mescon and Montanari 1981 and Ahmed 1985). Begley and Boyd (1987) did not find significant

differences between locus of control scores of founders and non-founders of their own businesses. Both groups were internally orientated.

6.4 RESULTS OF MATRICULATION EXAMINATIONS RELATED TO KEY VARIABLES

Figure 5.1 summarises the matriculation examination results and the relationships with key variables. Of note is the significant difference between the Experimental and Control students doing business subjects. The Experimental Group doing business related subjects benefited more than the Control Group studying the same group of subjects ($p=0.14$). The East Rand group of schools appeared to have better results from their students in the matriculation examination compared with the Soweto groups. Overall, the Experimental Group performed better in their final examinstion than the Control Group, although this was not significantly so.

In Section 2.5.6. a summary of research done with students and young people is given in Table 2.3. Pottas (1983) identified eight studies which investigated the relationship of internality and various measures of academic achievement. Five of these indicate a significant

correlation between internality, as measured on the I-E scale, and high academic attainment. Brown (1980) disputes these findings maintaining that locus of control is a function of intelligence, since both intelligence and internality are closely related. No significant correlation was found by Brown between locus of control and academic achievement.

6.5 PARTICIPANT FEED-BACK

6.5.1 INVESTIGATION OF INFORMAL BUSINESSES

Results of the assessment of the 51 informal businesses visited are noted in Table 6.5.

The conclusion reached is that more of the Experimental Group entrepreneurs understood what elements were needed in setting-up a small business, in comparison with the Control Group. A great majority if not all the elements which should have been in place were only found in 20 out of the 51 independent businesses run and owned by the participants. Therefore, based upon the criteria selected, 31 of the activities reported were not considered to be fully fledged small businesses. The assessment of the informal businesses was carried out during October 1989.

Table 6.5

RESULTS OF THE ASSESSMENT OF THE 51 INFORMAL BUSINESSES VISITED:

GROUP	BUSINESSES REPORTED	BUSINESSES FOUND	PERCENTAGE
Experimental	26	12	86%
Control	25	8	48%

6.5.2 POST INTERVENTION STUDENT INTERVIEWS

In the literature survey, no references could be found on research work completed in South Africa on black students in the post matriculation period. Therefore the data gathered from the interviews will contribute to an understanding of the behaviour patterns, aspirations, motivations and home lives of this sector of our young people.

6.5.3 SUMMARY OF POST INTERVENTION INTERVIEW FINDINGS

Notes were made during each interview, and these were content analysed. Six different factors, identifying areas of interest, were derived from the analysis. A table was constructed to summarize the findings (Appendix 23).

The factors identified were grouped under the following headings:

1. Activities during 1988 (Group I) and/or 1989 (Group I-IV)
2. Near term career plans.
3. Longer term career plans.
4. Miscellaneous activities mainly informal business details.
5. Family and home details.
6. Parental circumstances.

Table 6.6 is a summary of the interviewed student details and academic performance.

6.5.4 ACTIVITIES SINCE THE INTERVENTION PERIOD

The 17 interviewees were also classified according to their academic pursuits. Five had their matriculation exemption; five wished to improve their matriculation qualifications to enable them to proceed to the tertiary level of study; a further five had to sit their examinations again sometime; two had quit studying (Table 6.7).

Table 6.6

SUMMARY OF INTERVIEWED STUDENT DETAILS AND ACADEMIC PREFORMANCE

GROUP	STUDENTS	AGE IN 1987	SEX	STATED OCCUP-ATION	INTER-VENTION ATTEN-DANCE	MATRIC INDEX	MATRIC SUBJECTS	NUME.-ACY	BUSI-NESS KNOW-LEDGE	ACH-IEVE-MENT	POST ROTTER	POST AMQ	POST KAI
	E2	18	F/m	Dn	87%	23	N.Bus	20%	35%	N	14	71	-
	E9	20	M	O/Bus	88%	20	Bus	90%	25%	N	11	55	-
I	E15	19	M	Job	65%	28	Bus	70%	55%	N	8	65	89
	E16	19	F/m	Dn	74%	26	Bus	60%	35%	N	7	61	-
	E22	17	F/m	Job	92%	26	N.Bus	70%	30%	N	12	79	89
	C16	24	M	O/Bus	0	25	Bus	80%	0	N	13	60	-
		1988											
	E18	18	M	O/Bus	59%	19	-	80%	20%	Y	6	60	108
II	C2	18	F/m	Dn	0	19	N.Bus	50%	5%	Y	9	79	-
	C12	19	F/m	O/Bus	0	27	Bus	78%	5%	N	8	77	-
		1988											
	E17	18	F/m	Dn	82%	19	N.Bus	50%	10%	N	10	55	101
	E19	20	F/m	Rep. Matric	88%	19	N.Bus	60%	10%	Y	9	61	94
III	E20	19	M	Dn	94%	26	Bus	40%	25%	N	5	74	81
	E25	18	F/m	Rep. Matric	88%	22	N.Bus	40%	5%	Y	8	75	95
	C19	19	F/m	Rep. Matric	80%	27	N.Bus	60%	5%	N	19	60	104
		1988											
	E33	20	F/m	Dn	88%	25	N.Bus	40%	40%	N	10	76	105
IV	E37	19	M	Rep. Matric/ P.T. Job	100%	29	Bus	90%	60%	N	10	61	102
	C7	20	F/m	Dn	0	24	N.Bus	70%	0	N	6	58	98

KEY TO SYMBOLS: M=Male; F/m=Female; Dn=Doing nothing; O/Bus=Own business; Job= is working; Rep. Matric= studying to improve matriculation symbols; N.Bus=Not studying business subjects; Bus=Studying business subjects; Y=Is doing extra curricula activities; N=Not doing extra curricula activities.

Table 6.7

ACADEMIC PURSUITS OF INTERVIEWED STUDENTS

1 Have matriculation qualification (n=5)	1:	In 2nd year at Teachers Training College.
	1:	To attend Teachers Training College in 1990.
	3:	Needed money to go to university or college.
2 Striving to improve symbols (n=5)	1:	At adult learning centre.
	2:	Back at school.
	2:	Studying at home.
3. Deferred their studies (n=5)	1:	Needs to make money to go to college. Still has to complete matric.
	1:	Has to rewrite final examinations. Wants to go to college.
	1:	Wishes to become an actress; must improve symbols to go to university to do B.A.
	1:	Is selling on commission. Has done Marketing Management Course. Needs to get matric exemption; to resit in 1990.
	1:	Is to go to boarding school (Qwa Qwa).
4 Have quit studying (n=2)	1:	Has been ill in hospital. Said it is too difficult to return to school.
	1:	Is setting up a professional singing group.

6.5.5 NEAR AND LONG TERM CAREER PLANS

The near term plans of the group centered mainly on improving their matriculation symbols. Finding a job or some other way to earn money to put themselves through college was another focus of the interviewees planning. A variety of short term job interests were expressed. They included a traffic police worker; a policeman; a radio announcer and a nurse.

On the longer term, the aspirations of the interviewees were grouped as:

1 A professional in the community (teacher at primary or senior secondary school; medical technician; nurse or social worker)

2. Qualified (eg. B.Com) to enter the commercial field in a big company (eg. sales/marketing manager; personnel management)

3 A professional actress or a professional singer in a group.

In the small business category three possible interests were mentioned. One of the interviewees wanted to own a photographic business, a second wanted to become a fashion designer and a third wished to set up a taxi operating business.

6.5.6 INFORMAL ACTIVITIES

In the 17 households studied informal business activities existed in 13 of them; three of those homes had more than one distinct business activity being conducted by those living there. Most of the trading was from spaza shops or lesser retail activities in the home (eg. selling groceries, cold drinks, liquor, sweets, ice cream and cigarettes). This type of trading was mentioned by seven of the interviewees. The clothing, footwear and soft goods businesses were being run by eight interviewees. These activities included the manufacture of overalls, linen and clothes.

Outside of the retail trading field other informal businesses conducted were hair styling, selling management courses, taxi driving, photography and acting in TV commercials.

The informal network of money making pursuits carried on in households in the disadvantaged communities in, or close to, the urban areas on the Witwatersrand is a very important part of the economic activity of the area. The above survey bears this out. This also illustrates the points made in Section 1.7.1.

6.5.7 FAMILY DETAILS

All the interviewees stayed at home. Regarding home ownership details, nine out of the seventeen houseswere rented from the local authority six were family owned and details on the remaining two homes were not given. Telephones were installed in fifteen of the houses.

Mention was made by three interviewees that they helped financially with the home running expenses; four assisted in the family businesses on a regular basis.

Additional statistics gathered from the interviews regarding family circumstances were:

The number of people staying in the home averaged 7.1 (highest number thirteen, lowest four n=15).

The number of children in a family varied from 12 - 2. (Average: 4.8 n=17).

Of the 34 parents of the interviewees, seven fathers and one mother had died before the time of the interviews. The oldest of the students seen was 24 and the youngest 17 (Average 19.1 years n=17).

6.5.8 GENERAL OBSERVATIONS ON INTERVIEWS

Despite the generally poor family economic circumstances, the existence of the extended family network of assistance was evident. The importance of informal business activities as a way of surviving economically was illustrated by the interviewees' remarks. The striving of the group to better themselves and to earn money to pursue their studies was noteworthy. The young people had formulated their short term and longer term aspirations and appeared to have the backing of their families. None of the interviewees were married and only two of the females had had babies, which reflected their educational status.

6.6 CHAPTER CONCLUSION

It has been shown in this and previous chapters that the current crises in South Africa require young people to be educated to become pro-active, creative, and enterprising and to develop entrepreneurial skills. In this process young people are empowered to create a different future for themselves which will result in stable social and economic development. This empowerment is promoted by learning experientially, by participating in the

setting-up and in the functioning of a mini-company, following the Junior Achievement model. The intervention in this study is based upon this, with an extended input and the addition of two field exercises, in a follow-up phase. The study was done to learn about the effects of the intervention on the behaviour and motivation of disadvantaged matriculants.

CHAPTER 7: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

7.1 THE ECONOMIC SITUATION

Chapter 1 records that the decline in job creation experienced in manufacturing since the 1960's and the rapid technological advances has resulted in many job losses in the semi-skilled sector. The development of the information and knowledge industries has not helped those without employment at the lower end of the skills range.

South Africa's open economy and the worldwide economic recession since the beginning of the decade has worsened the job loss situation locally. Political instability and uncertainty has discouraged investment. New unqualified entrants to the job market cannot find positions in the formal economy.

7.1.1 THE EDUCATIONAL CHALLENGE

As reported in the first chapter, countries that have developed economically to become leading trading nations of the world have done so after extensive restructuring of their education.

Since the 1940's South African education has not served the interests of the disadvantaged sector of the community. The discrepancy between white and black education has given rise to great dissatisfaction among black students, resulting in school boycotts, vandalism and unrest. School drop-outs and very poor pass rates in the final examinations have been the result. The output of a sub-standard schooling system, and lack of job opportunities has created a desperate situation for young people.

7.1.3 UNEMPLOYMENT AND URBANIZATION

Under this heading in Chapter 1, the seriousness of the fall in the South African Gross Domestic Product to average only 0.9% per annum in 1985-91 is discussed. An average population increase of 2.5% per annum has taken place during this time, to worsen the employment situation.

Between 1985 and 1992, 83.3% of the six million population increase were black; 42.7% were under 15 years of age. Although 67.1% of the black population is economically active, 83.1% are unemployed (Section 1.5).

The removal of legalislation restricting the movement of people from the rural areas in recent years, has speeded up

the urbanization process. This has increased unemployment in the cities, and added to the problems of school leavers. The vast majority can only enter the informal sector, if they want to try and become independent.

1.3 URBANIZATION AND TOWNSHIP LIFE

In this section of Chapter 1 the background to the social situation in the areas close to the cities is examined. Urbanization and detribalization are the biggest factors effecting family circumstances.

The breakdown of family life in the townships is discussed. This is a serious problem; disruption and alienation is brought on by a desire for money. Children are ill-disciplined and parents loose control of them at an early age. Young males possess insufficient self-control and commit crime. Discrimination has led to antagonism, particularly towards the authorities and their employees.

7.2. SITUATIONAL FACTORS

These comprise legal, business and community factors which will now be reviewed.

7.2.1 LEGAL RESTRICTIONS AND BLACK BUSINESSES

It is shown in Section 1.7.3 that the legalisation introduced by the government in the late 1940's was discriminatory and racially biased. Economic activity by the black community was severely restricted, the laws and amendments affected all phases of business activity.

In the years after 1986, the government developed its deregulation programme. Laws discriminating between persons of colour were withdrawn. It was shown in this section that the legalisation most relevant to this study was the Group Areas Act, the 99 year leasehold and the R1036 which restricted the right to trade, type of business and site allocation. The Group Areas repeal gave blacks the right to use premises for industrial and commercial purposes in any industrial township. The 99 year lease gave blacks the right to register title in an urban area for the first time.

The application of the restrictive laws has a lot to do with the community's negative attitude towards business owners. Their businesses become the targets of radical youth who destroy them during unrest periods.

7.2.2 BLACK BUSINESS AND THE COMMUNITY

In this part of Chapter 1 (Section 1.7.4), the view of the community towards business in the townships is studied. Despite the fact that deregulation has made business conduct easier, the community view has not changed. Businessmen and women are seen as "the haves" and the people "the have nots". The anti-capitalist ideology among the youth and liberation movements are largely responsible for the destruction carried out by the young radicals.

The community views on business serve to dissuade those wishing to start and own an enterprise. The government initiatives since 1990 may have caused a different view to be taken by young people towards business. It cannot be assumed that the changed perceptions towards business is all positive. A programme run to encourage young people to become self-employed must take the community's view on business into account, particularly if the business becomes successful and grows.

7.3 EDUCATION AND ENTERPRISE AS A SOLUTION TO THE PROBLEMS OF YOUTH

The views on enterprise and education are dealt with in Section 1.8.1. It was noted, that schooling and syllabi reforms were essential in the country's transitional situation. The lack of job opportunities dictate that young people are taught to become pro-active and enterprising and to take charge of their lives.

Pupil participation through discovery and the more practical application of learning must be encouraged. The development of a range of vocational and basic life skills is required. An integrative approach to curricula development must be encouraged so that education is seen by students to be relevant.

The intervention used in this study followed the integrative learn-by-doing business education experience based upon the Junior Achievement model, in which the setting-up and running of a mini-company is carried out. Participants run their own mini-businesses and develop the skills, attitudes and values which encourage the starting, owning or working in a business. The effect of the intervention is to make the participants involved more motivated, and to increase their internality. A change in

behaviour in students results in increased entrepreneurial activities, and this was found to be the case in this study (Section 5.2.3).

7.4 ENTREPRENEURIAL CHARACTERISTICS

The results of the various researches on the entrepreneurial personality are discussed in Section 1.9. These may be classified under seven headings: Need for achievement; creativity and initiative; self-confidence and internality (locus of control); motivation and commitment.

The background studies outlined in the preceeding sections enabled the research objectives for this study to be defined.

7.5 THE RESEARCH PROBLEMS AND HYPOTHESES

The research problems investigated concern the outcomes of the intervention given to senior high school leavers in relation to:

(a) Changes in personality values measured by the Achievement Motivation Questionnaire (AMQ) and Rotter Locus of Control (I-E) instruments.

(b) An increase in business knowledge.

(c) The initiation of small scale enterprises which demonstrate that the elements needed for a real business are known and used.

(d) An increase in internality as measured by locus of control (the Rotter test).

(e) The differential effect on the males compared with the females of a change in internality and business knowledge.

The four hypotheses tested are:

1 As a result of the intervention, there is a shift in the participants' values as measured by the Achievement Motive Questionnaire and the Rotter Locus of Control instrument, on a pre- versus post-administered basis, comparing the Experimental with the Control Groups.

2 As a result of the intervention, there is an increase in business knowledge in the Experimental Group relative to the Control Group.

3 As a result of the intervention, the participants in the Experimental Group who set-up their own businesses demonstrated that they were aware of the elements involved in forming and running their own independent

businesses. The Control Group participants who had their own concerns did not display the same understanding.

4 As a result of the intervention, the male participants in the Experimental Group benefited to a greater extent than the females in the same group, by an increase in their Locus of Control internality and an increase in business knowledge.

7.6 LITERATURE SURVEY

7.6.1 THE ACHIEVEMENT MOTIVE AND ENTREPRENEURSHIP

The most important section in the literature survey for this research was the work on achievement motivation. A previous chapter (Section 2.5.1) reviews McClelland and his fellow researchers' findings in this field. The motivational theory is used as one of the two primary bases for the study.

The three main personality traits identified in the achievement motivation studies are:

(1) High achievers take personal responsibility for finding solutions to problems.

(2) They set moderate achievement goals and take calculated risks.

(3) Achievers require concrete feedback regarding performance.

The literature search confirms the link between the achievement motive and entrepreneurial outcomes. High achievers are likely to behave in an entrepreneurial manner. The use of a measure of achievement motivation by the application of Pottas' et al. questionnaire in this study is confirmed by the literature survey.

7.6.2 ROTTER'S INTERNAL-EXTERNAL LOCUS OF CONTROL

In Chapter 2 it is shown that the relationship between the motivation theory and that due to Rotter is an important facet of the literature search (Section 2.5.4). The predictor value of Rotter's instrument for identifying the entrepreneurial personality was of particular value in this research.

The relationship between internality and entrepreneurship has been fully established in the literature (Section 2.5.5). The use of the Rotter Locus of Control construct as a measure for this research is therefore fully justified.

The literature study covers the work done with young people and internality. Table 2.3 illustrates the published research. Significant correlation between internality and academic achievement was established, and this further justifies the use of Rotter's construct in this work.

7.6.3 PERSONALITY CHARACTERISTICS AND ENTREPRNEURIAL SUCCESS

Chap 2 records most, if not all the published work in the literature which has application to the study.

The most important measure of the success of the intervention carried out in this work is the resulting entrepreneurial behaviours of the participants in the Experimental Group. In order to understand these outcomes it was necessary to study the published work on personality and entrepreneurial success.

The aspects identified in the literature were summarized by Timmons, Smollen and Dingee whose work is reviewed in Section 2.4. The characteristics noted are drive and energy; self-confidence; commitment to goals; persistence in problem solving; accepting challenges and taking

calculated risks. The model also incorporates the environmental factors and puts the elements of the entrepreneurial process into perspective. This work serves as a useful framework for the study.

7.6.4 KIRTON'S ADAPTIVE-INNOVATIVE THEORY

This construct measures the degree to which an individual is adaptive or innovative. The objective of using this instrument was to determine the individual's innovative characteristic and its relationship to entrepreneurial behaviour (Section 2.5.8).

7.6.5 EDUCATION, ENTERPRISE AND ENTREPRENEURSHIP IN YOUNG PERSONS

The literature confirms that active, or experiential learning by discovery, enables students to gain competencies, skills and knowledge which didactic learning does not. This is discussed in Section 2.6. The advantage of the enterprise approach to the development of the individual is also noted.

The benefits of an experiential mini-company model as a

particularly valuable methodology for learning about business is discussed in the same Section 2.6. The published literature confirms the use of this approach in designing the intervention employed in this study. The adaption of the Junior Achievement model for this work was therefore justified.

7.7 A THEORETICAL MODEL FOR THE STUDY

7.7.1 THE ACHIEVEMENT MOTIVE QUESTIONNAIRE (AMQ) AND ROTTER'S INTERNAL-EXTERNAL (I-E) INSTRUMENT

The development and use of the Achievement Motive Questionnaire is discussed in Section 2.5.1. The construct was used to determine the shift in values of its five dimensions, comparing the Experimental and Control Groups on a pre and post intervention basis.

Rotter's Locus of Control instrument and its use is dealt with in Section 2.5.3. It was used on a uni-dimensional basis and determined the changes in internality that had taken place between the two student groups, on a pre and post basis. It measured one of the effects of the intervention.

Differences in internality between the male and female participants were also studied.

The results obtained using both constructs are very satisfactory in all respects. The shift in values measured by the AMQ was as expected. The same can be said for the change in internality, after the gender effect was taken into account. The results confirmed the use of the AMQ and I-E instruments in researching the entrepreneurial personality, as is indicated by the literature survey.

7.7.2 KIRTON'S ADAPTIVE INNOVATIVE THEORY (KAI)

The objective for the use of Kirton's instrument in this study was to compare the KAI findings obtained with those of the AMQ and I-E constructs. The positive results obtained with the latter are in line with expectations and their use as predictors of entrepreneurial characteristics in the individual are confirmed.

The literature on the use of KAI in entrepreneurship studies is very sparse. The reliability of the construct was established by the pre and post values obtained. The discussions on the results of using Kirton's instrument is

given in Section 6.2.4. Based upon the results of this study, the degree of innovation measured by KAI is insufficient to be able to use it as a predictor of entrepreneurship. The additional work needed is outside the scope of this study.

7.7.3 THE STUDY RESEARCH MODEL

Shapero's adapted model used for this study is ideal in that it illustrates the relationship between the various elements involved in the creation of a new venture e.g. the credible examples of successful role models, the resources needed and the psychological make-up of the entrepreneur. The "triggering event" is the occurrence that motivates the individual to start a new business. For the students in this research, this "event" was, for some, the inability to gain access to a tertiary educational institution, or lack of funds to study further, or the non-availability of job opportunities.

In Section 3.3, the relevance of the adapted model to the study is discussed. The various elements in Shapero's illustration are well demonstrated in the intervention and the field research which followed. The use of Shapero's model in this research is therefore justified.

7.8 RESEARCH METHODOLOGY

7.8.1 RESEARCH POPULATION STUDIED AND METHODOLOGY EMPLOYED

The experimental research paradigm used for this study, with disadvantaged high school students in their final year was a successful methodology if judged by the results obtained. Since both Control and Experimental Groups were able to interact with each other during the school day, the "carry-over" and the Hawthorne effects could be limitations. The results obtained in the shift of values of the Experimental Group as a result of the intervention, confirmed that these effects had minimal impact. The schedules of the research activities are given in Table 4.4.

7.8.2 THE NATURE OF THE INTERVENTION

The intervention used was divided into two parts. The first section followed the Junior Achievement model and was spread over a sixteen week period. The Experimental Group set-up and ran a mini-company, which mirrored an actual business interacting with the local environment and experiencing the difficulties of any business venture.

In the second phase, a field survey was made to establish the nature of the business activity set up by some of the participants. A comparison of the two research groups' ventures was possible. The Experimental Group had learnt and applied the knowledge gained in the setting up of their ventures, to a greater extent than the Control Group students.

The field work was completed when a series of individual face to face interviews were held to learn more of the family circumstances of a representative group of the participants.

7.9. ANALYSES OF THE DATA

The summary of the findings on the data analyses is as follows:

1. The statistical work has shown that the four alternative hypotheses are accepted. Table 6.4 gives details of the analyses.
2. The intervention had the effect of:
   (a) Increasing the Achievement Motivation of the Experimental relative to the Control Group.
   (b) Increasing the Business Knowledge of the students involved in the intervention, as determined by a written test.

(c) Developing an increased understanding of the elements that make up a business with the entrepreneurs in the Experimental compared with those in the Control Groups. Field visits determined this outcome.

(d) Increasing the internality of the participating males compared with their female counterparts, as measured by the Rotter Locus of Control test.

(e) Participating males gained significantly more in business knowledge than their opposite sex, as measured by a written test.

3. Correlation and multi-variate analyses showed that there are significant differences between the means of the 20 entrepreneurs with a business compared to the remainder of the research participants for time awareness, action motivation, goal directedness (as measured by the Achievement Motive Questionnaire,) post-intervention Rotter Locus of Control and numeracy measured by a written test.

Table 7.1 details some of the results of analyses with dependent and key independent variables.

Table 7.1

STUDY OF SIGNIFICANT RELATIONSHIPS BETWEEN DEPENDENT AND KEY INDEPENDENT VARIABLES

INDEPENDENT VARIABLE	ANALYSIS	DEPENDENT VARIABLES	P-VALUE
Entrepreneurs in the research study (V51=1) compared with non-business participants (V50=0)	Correlation analysis: Difference in 10 out of 50 variables. Multi-variate analysis of difference of the means with 8 key variables gave significant differences.	Significance found with: pre- V13 (Time Awareness); " V14 (Action Orientation); " V17 (Goal Directedness) post- V21 (Time Awareness); " V22 (Action Orientation); " V25 (Goal Directedness); post- V29 (I-E Test Post); V40 (Numeracy)	(V13) pre- 0.007 (V14) " 0.080 (V17) " 0.051 (V21) post- 0.075 (V22) " 0.059 (V25) " 0.055 (V29) " 0.058 (V40) 0.040
Males (V5=1) compared with females (V5=2) on locus of control of the participants in study.	Multi-variant analysis of the differences between the means of (V5=1) and (V5=2) and pre-intervention I-E scale, (V28) and post-intervention I-E scale, (V29)	Significance found with: Males versus Females pre-(V28) Rotter internality - Experimental pre-(V28) Rotter internality - Control post-(V29) Rotter internality - Experimental post-(V29) Rotter internality - Control	(V28) pre 0.033 Experimental (V28) pre 0.0004 Control (V29) post 0.001 Experimental (V29) post 0.003 Control

4. The distribution of entrepreneurs with their own businesses in the research population indicates that a greater proportion are found on the East Rand compared with Soweto (Ratio 2.75:1). More males than females are found in the business-owning group (Ratio 1.51:1). The overall ratio of males to females in the research participants is 1.11:1. Corrected for the inbalance between the genders the above ratios become 2.48:1 and 1.36:1 respectively.

5. The male participants are significantly different, being more internally orientated than the females involved in the research, as measured by Rotter's Locus of Control instrument.

6. The most popular career choice for the research participants as a whole was a business-related one. However, own or family business was the least popular choice. Females preferred medical/health and community orientated careers over males (ratio 3:1). More males preferred the professions to females (2:1). There were more males uncertain of what they aspired to, compared with females (2:1).

7. Actual occupations noted 3-4 months after leaving school were investigated. The most frequent referred

to were: continuing to study (49%; male > female ratio 1.4:1); doing nothing (17%; female > male 2.6:1); in a job (13%; male > female 2.2:1); tertiary level study (12%; male = female); 9% were selling on own account (male = female).

8. The matriculation examination results were affected by the intervention and a difference between the Experimental and Control Group results were noted. Students taking business subjects in the Experimental Group did better than the Control Group students ($p < 0.15$); the Kwa Thema group taking business subjects did better than the Control ($p < 0.05$); the overall examination results for the Experimental Group were slightly better than those of the Control Group but not significantly so.

7.10 LIMITATIONS OF THE RESEARCH

1 The students in the research were not representative of township matriculants at the end of their school careers. They were self-selected on the basis of the interest shown in the presentation done by a counsellor visiting the schools that participated in the study. Although the approach used in talking to

possible participants was not intended to be a "selling" effort, or an attempt to attract any one type of student in preference to another, only some of those listening would have had interest in the project as a worthwhile exercise for them. Those attracted to participate can be considered to be "leaders" of their communities. Their opinions are probably representative of urban youth at the school leaving level.

2 There is a "carry over" effect in the classroom originating from discussions Experimental Group participants on activities during the intervention periods. These discussions could have been overheard by members of the Control Group, listening to or maybe taking part in the discussions. The "Hawthorne effect" may also have had an influence on the Control Group, compared to the rest of the matriculation students in the school who did not participate in the research programme at all. Therefore the Control Group may not have been representative of the matriculating students in the schools participating in the study. Nevertheless the fact that differences were obtained in the statistical analyses shows that the carry over and Hawthorne effects were not of great consequence. The

Control Group could have included possible "leaders" in their communities.

3 The generally poor educational standard of the black schooling system prevents students taking full advantage of all the inputs given and the lessons to be learnt from the intervention. The pupils who are more able and intelligent benefited to a larger extent than their colleagues not so endowed. There is no guarantee that the mix of the brighter and the less able students was uniformly dispersed within the Experimental and Control Groups. No effort was made to match students on school achievement records, or by intelligence tests. The random selection procedure adopted for student selection would have minimised this effect.

4. The students involved in the study were aware that the presenters of the intervention were university staff. In order to try to impress the staff, the individuals participating may have answered verbal and written questions in a way which they thought the tutors would prefer. This inconsistency, or cognitive dissonance, is difficult to handle. The tutors concerned used the vernacular at times during the intervention to try and

off-set any inconsistency. In the final face-to-face interviews with selected participants, the author verified the answers given by the individuals by approaching the subject in a variety of different ways. This technique worked well and it is felt that inconsistencies were minimised.

5 Some of the students in the research were 24 years old (median 20 years). It is probable that a proportion of the older pupils had sat the matriculation examination more than once in order to improve their symbols to try and gain admission to college or university. No check was made on this at any stage. The frustration of attempting to do better in the examination without reaching the standard required affects the older students more than the first time matriculants. By the matching process the age effect between the groups was minimised.

6 The main intervention process in this study was of sixteen weeks duration. In this short time a good deal of learning took place which was reinforced by the experiential nature of the activity. To complete the programme required close attention to the time aspect of each input element. The exercise was a

pressured one. The intervention can be criticised as a "pressure cooker" type activity, the effects wearing off in a short time. The longitudinal nature of the study did not show a significant fall-off in knowledge gained. The maturation time in the post intervention period also helped to off-set the participants' feelings of unusual motivation at the end of a successful programme working in a team of peers and good friends.

7 The running of a successful business depends, among other things, on the owner's ability to understand cause-effect relationships. One of the objectives of the Junior Achievement programme is to illustrate practically the outcomes of a particular course of action (e.g. the effect of poor sales on profitability and cash flow).

One of the deficiencies in the black educational system is the concentration on rote learning, with minimum practical application or even discussion of the meaning of what has been learnt in a wider context. The students in this study had difficulty in grasping the outcomes of some of their decisions in running their businesses. This put them at a disadvantage in maximising the benefits of the intervention.

8 It became clear as the intervention proceeded that some of the students were not interested in making money for themselves. This can be explained by the negative perception senior high school students have for those who are trying to survive by selling informally on the street corner. This role is socially unacceptable to the student that has struggled for many years to get up to the Standard 10 level.

9 The psychological instruments used for this study were not validated for the black school leaver, but for first year black university students. To enter university the matriculant's symbols have to be better than those attained by the vast majority of Standard 10 school leavers. The university entrants are part of an elite group. Although the Achievement Motive values obtained by the students in this study compared well with Erwee's (1986) results for first year university students, the AMQ instrument used has not been validated at the lower level.

10 In the analysis of business owners versus those not in business for themselves, the sample size (n=20) was small compared with n=175, for the non-entrepreneurs. The initial total of students in a

study such as this would have to approach 1000 to obtain a sample size of about 100 entrepreneurs who commence business as a result of the intervention. This assumes that the same proportion of entrepreneurs are going to be identified in a replicated study.

11 In the latest studies employing the Rotter locus of control construct, most researchers use the multi-dimensional properties of the I-E scale. In this study the instrument was used in its uni-dimensional form.

12 Although three geographically separate areas were used to draw the research sample of students in this work, the results obtained may not be representative of the Witwatersrand (Rand) area as a whole. The West Rand was not included. It is not logistically possible to cover all the townships in such a large area as the Witwatersrand. In addition, this area is not representative of the other urban areas in the country. It may be necessary to do pilot studies in other metropolitan regions before replicating the techniques of this research elsewhere.

13 In this research the students were not given a business knowledge assessment prior to the commencement of the

intervention. It was assumed that the knowledge of the participants at this stage would be uniformly low, across both Experimental and Control Groups. In a replication of this study a business knowledge questionnaire should be administered at both the pre- and post-intervention stages.

7.11 CONTRIBUTION TO KNOWLEDGE

1 The search of the literature did not indicate any publications dealing with black youth in the transition state between leaving school and the next stage in their career development. This study gives considerable insight into the difficulties facing the young person going out into the world from an urban township environment. In particular the study deals with those who are not able to proceed to the tertiary educational level. The post intervention interviews yielded data on family and the social backgrounds of the study participants. The hopes and aspirations of the young people were also highlighted by the contacts made with the participants in the longitudinal research.

2 One of the greatest challenges facing South Africa

(and much of the rest of the world) is the unemployment situation and its resolution. This bears most heavily on the black sector of the population. The identification and development of entrepreneurial talent in the community is of prime importance since the formal sector will not be able to make a significant contribution to the unemployment problem. This research has quantified and illustrated the application of the Junior Achievement model as an intervention. It is maintained that the programme can be used and makes a contribution towards the encouragement of informal business development, based upon the results of this work.

3 This research quantifies the value of the experiential educational method of learning. The findings have shown that there is a significant increase in knowledge concerning the business processes. In addition, the results of the application of the skills as well as the knowledge gained from the intervention by the entrepreneurs in the Experimental Group in setting up their own ventures, have been quantified. The understanding of elements ne in the formation of a new venture by the entrepreneurs in the Experimental Group was significantly better than their colleagues in the Control.

4 The matriculation results for those in the intervention group were better than those of the Control Group, although not statistically significant. Teachers commented that they saw a change in the behaviour patterns of the Experimental Group students in class. They were more motivated, paid better attention and became more involved in classroom discussion than before they participated in the research. The teacher was able to identify the students who attended the intervention by their changed behaviour patterns. The study provided a motivational intervention for the students taking part.

5 The literature on entrepreneurship and disadvantaged youth is very sparse. Research on disadvantaged persons in the United States mainly concerns those who are mentally or physically disabled. There is published work on the use of the Locus of Control construct to identify internality and its relationship to entrepreneurship with ethnic minorities in other countries. This study shows for the first time that participants in the Experimental Group were more internally orientated, relative to the Control, as a result of the intervention.

6 Research into entrepreneurship prior to the time when the decision is made to set up a venture could not be found. In addition little work has been done on failed small businesses since former business owners are so difficult to contact. This research studied young people who took decisions to make money for themselves; twenty participants started their own ventures.

7 South African research results on the locus of control of first year black university students was carried out by Pottas and Erwee. The former researcher found no significant difference between males and females on the I-E scale, and this was confirmed by Erwee (1986). On the political control dimension in the Rotter test Erwee found that black female students were less convinced that they can exert control over political events than their male colleagues. As pointed out under the limitations of this study, the young people who are senior high school students leaving school are different from the academically brighter recent university entrants researched by both Pottas and Erwee. This research is therefore more applicable to the urban black population than the other two earlier researches.

8 The business owners who were participants in the present study, drawn from both the Experimental and Control Groups, were significantly different on a pre-intervention basis on time awareness, action orientation and goal directedness compared with non-business owners among the research participants. The higher internality of entrepreneurs compared with others in the study is borne out by researchers over two decades. This study confirmed their findings.

9 The usefulness of the Kirton Adaptive-Innovative construct is limited when used in the entrepreneurial field. Van Daalen's (1989) work with business owners in the Eastern Province confirmed this view. The research literature on the KAI construct confirms its major use is with individuals in the corporate world.

Only two studies have been published in the small business area. This study confirmed the limited potential for the use of KAI in the entrepreneurial field. More work has to be done on this aspect however.

7.12 THE RESEARCH MODEL

Figure 7.1 is the revised version of the adapted Shapero venture initiation model, which incorporates all the elements of the research study and places them in perspective. It is recommended that future researchers use this model, in a replication of this study.

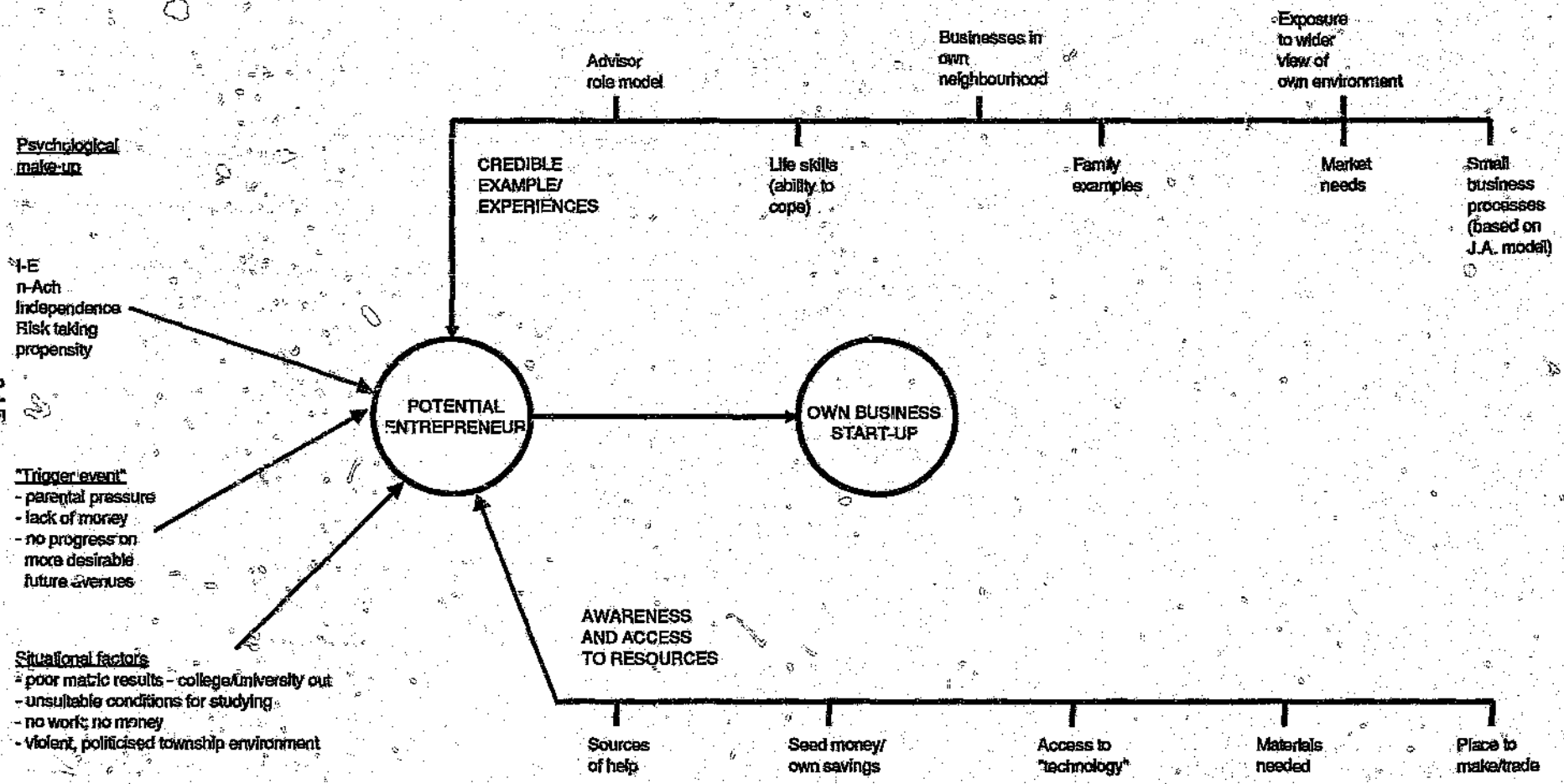
7.13 RECOMMENDATIONS FOR FURTHER RESEARCH

It is recommended that:

1 The research be extended to other racial groups, and to other urban areas in the country, with the proviso given under limitations (point 12). Extension to rural areas may be difficult since the economic environment is vastly different from the urbanized areas. The mainspring of the Junior Achievement programme is the access of the participants to markets for the products made. Lack of sales is a demotivator. To overcome this, for the less developed areas, careful market research has to be done to determine the nature of the problem. A survey may indicate the need for a different product, style, colour or price. The possibility of being able to adapt a mini-business's urban market strategy to a rural area is limited.

Figure 7.1

REVISED MODEL OF SMALL BUSINESS INITIATION



(Adapted From A.Shapero, 1975)

Experience in rural areas with the regular Junior Achievement activity has not been very successful, from a selling viewpoint, on this account.

2 The regular format of the Junior Achievement model does not allow for job rotation. This limits the extent of the learning for each individual. It is possible to redesign the programme to take care of this situation, and it is recommended that this be done in future applications of the model. Job rotation was done in this intervention but to a limited extent only. Its effectiveness is dependent on the ability of the students involved to learn quickly and effectively.

3 An outcome of this study was the entrepreneurs' significant increase in numeracy, time awareness, action motivation, goal directedness, and post-intervention internality compared with the non-entrepreneurs in the group. Further work is needed to confirm the findings.

4 A comparison of the results from this study with a similar replication using black matriculants with a higher standard of education would be very useful. It is predicted that the results would not be as positive, since the majority of the better educated students

would be preparing to enter the tertiary education level and not have as great an incentive to engage in economic pursuits, compared with this study's research group. The author has run a regular format of the Junior Achievement programme with black first year Commerce students, over a number of years, as part of a "bridging" course at the University of the Witwatersrand. The motivation of these groups of students left much to be desired, compared with the students in this study.

5 A replication of this work using the multi-dimensional Rotter Locus of Control construct together with the Achievement Motive Questionnaire would serve to reinforce the values obtained with each instrument.

6 The usefulness of the KAI construct in entrepreneurship studies is questionable. It may be that there is an ideal ratio of innovation to adaption which is unique to the entrepreneur, in setting up a new venture. The process is not only about innovation alone, it could be hypothesised.

7 The career aspirations stated by the participants in this study after the intervention should have been compared with their views before the exercise

commenced. This was not done, and a shift in their career choices could possibly have been detected as a result of the intervention. From experience with the Junior Achievement programme, many students taking part do change their mind on their career path as a result of the experiential experience.

8 Business knowledge should be assessed at the pre-intervention as well as a post-intervention stage, in every replicated study.

9 Time did not allow the longitudinal study to be extended beyond the 24 month limit for Group I and 13 months for the others in the Experimental Groups. It would be worthwhile to repeat the work and build in a longer follow-up period, or to try to contact the students in research study to determine what value the intervention has been in their lives since 1989.

LIST OF REFERENCES

AHMED,S.U. 1985. nAch, Risk-taking Propensity, Locus of Control and Entrepreneurship Personality and Individual Differences 6(6): 781-782.

ALDRICH,H and ZIMMER,C. 1986. Entrepreneurship through social networks in Sexton,D.L. and Smilor,R.N.(Eds.) The Art and Science of Entrepreneurship. Cambridge: Mass. Ballinger.

ANDERSON,C.P. 1976. The relationship between Locus of Control, Decision Behaviours and Performance in a stress setting: A longitudinal study. Proceedings of the Academy of Management.

APPLE,M. 1980. Curricular forum and the logic of technical control: building the possessive individual. Birmingham: Paper delivered to the Sociology of Education Conference, January.

ASHMORE,C.M. 1986. A case for Entrepreneurship Education Career Training Spring: 14-17.

ATKINSON,J.W. 1958. Motives in Fantasy Action and Society. Princeton: Van Nostrand.

ATKINSON,J.W. 1968. An Introduction to Motivation. New York: Van Nostrand, Reinhold.

ATKINSON,J.W. and BIRCH,D. 1970. The Dynamics of Action. New York: John Wiley.

ATKINSON,J.W. and RAYNOR,J.O. 1978. Personality, Motivation and Achievement. Washington: Hemisphere Publications Corp.

BALL,C. and BALL,M. 1979. Fit for Work ? London: Writers & Readers Co-operative.

BEGLEY,T.M. and BOYD,D.P. 1987. The Relationship of the Jenkins Activity Survey to Type. A Behaviour among Business Executives. Journal of Vocational Behaviour 27:316-328.

BELL,D. 1974. The Coming of Post-Industrial Society. London: Heinemann.

BERGER,P.C.;BERGER,B. and KELLNER,H. 1973. The Houseless Mind. Harmondsworth: Penguin.

BIESHEUVEL,S. 1984. Work Motivation and Compensation: Vol.1: Motivational Issues. Johannesbureg: McGraw-Hill.

BLACK,D. 1976. Work Experience: A Systematic Approach. British Journal of Guidance and Careers 4(1):88-97

BORLAND,C. 1974. Locus of Control, need for Achievement and Entrepreneurship. Doctoral dissertation. Austin: University of Texas.

BOURDIEU,P. and PASSERON,J.C. 1977. Reproduction in Education, Society and Culture. London: Sage.

BOWLES,S. and GINTIS,H. 1976. Schooling in Capitalist America. London: Routledge and Kegan Paul.

BRAY,E. 1983. Mini-Co's in Schools. In: A.G.Watts (ed). Work Experience and Schools. London: Heinemann.

BRIGHT,J.R. 1964. Research Development and Technological Innovation. Homewood: Illinois.

BROCKHAUS,R.H. 1975. I-E Locus of Control Scores as Predictors of Entrepreneurial Intentions. New Orleans: Proceedings, Academy of Management:433-435.

BROCKHAUS,R.H. 1976. Locus-of-control and Risk-taking Propensity as Entrepreneurial Characteristics... A Comparative Study. Unpublished Doctoral Dissertation. Seattle: Washington University.

BROCKHAUS,R.H. and NORD,W.R. 1979. An Exploration of Factors Affecting the Entrepreneurial Decision: Personal Characteristics vs. Environmental Calculations. New Orleans: Proceedings Academy of Management.

BROCKHAUS,R.H. 1980. Risk-taking Propensity of Entrepreneurs. Academy of Management Journal. 23 (3):509-520

BROCKHAUS,R.H. 1982. The Psychology of the Entrepreneur. In: Kent,C.A., Sexton,D.C. & Vesper,K.H. Encyclopedia of Entrepreneurship. New Jersey: Prentice Hall.

BROWN,R.I. 1980. Locus of Control and its Relationship to Intelligence and Achievement. Psychological Reports. 46:1249-1250.

BUREAU OF INFORMATION 1991. South Africa Profile. Pretoria: January.

BUREAU of MARKET RESEARCH 1986. Unpublished estimates. Pretoria: University of South Africa.

CANTILLON,R. 1931. Essai sur la Nature du Commun en General. 1755. Edited and translated by H.Higgs. London: MacMillan

CARLAND,J.W., HOY,F., BOULTON,W.R. and CARLAND,J.A.C. 1984. Differentiating Entrepreneurs from Small Business Owners: A conceptualization. Academy of Management Review. 9(2):354-359.

CARR,W.J.P. 1990. Soweto: Its Creation, Life and Decline. Johannesburg: Institute of Race Relations.

CENTRAL STATISTICAL SERVICES 1985. Population Census. (Reports for Regions on the East Rand and Johannesburg/Randburg). Pretoria: Government Printer.

CENTRAL STATISTICAL SERVICES 1991. Statistically Unrecorded Economic Activities of Coloureds, Indians and Blacks: October 1990. Statistical News Release. Pretoria: Government Printer

CENTRAL STATISTICAL SERVICES — 1992. Demographic Statistics. Pretoria: Government Printer.

CENTRAL STATISTICAL SERVICES — 1992. Statistics in Brief. Pretoria: Government Printer.

CHELL,E. — 1985. The Entrepreneurial Personality: A few Ghosts Laid to Rest. International Small Business Journal. 3(3):43-54.

CHELL,E. and HAWORTH,J.M. — 1987. Entrepreneurship and the Entrepreneurial Personality - a Review. Salford U.K.: Dept. of Business and Management Studies, University of Salford.

CHRISTENSEN,P.S. — 1989. Strategy, Opportunity Identification and Entrepreneurship. Denmark: Institute of Management, Aarhus University.

CLARK,B., DAVIS,C. and HARNISH,V. — 1984. Do courses in Entrepreneurship aid in New Venture Creation?. Journal of Small Business Management. 22(2): 26-31

CLAYTON,D. — 1981. Planning a Career as a Business Owner. Business Education Forum. 36:2

COHEN,L. and MANION,L. — 1980. Research Methods in Education. London: Croom Helm.

COLE,A.H. — 1946. An Approach to the Study of Entrepreneurship: A Tribute to Edwin F Gay. Journal of Economic History. 6:1-15.

COLE,A.H. — 1959. Business Enterprise in its Social Setting. Cambridge, Mass: Harvard University Press.

COMPETITION BOARD (The) — 1987. Eighth Annual Report. Pretoria.

COOPER,C., SHINDLER,J. et al. — 1987-88 and 1988-89. Race Relations Survey. Johannesburg: Annual publication of South African Institute of Race Relations.

COOPER,C., McCAUL,C. et al. 1989-90 and 1990-91. Race Relations Survey. Johannesburg: Annual publication of South African Institute of Race Relations.

COOPER,C., HAMILTON,R. et al. 1991-92. Race Relations Survey. Johannesburg: Annual publication of South African Institute of Race Relations.

COTTON,J. 1990. The Learning Pyramid. National Training Laboratories. Bethel, Maine. In J.Cotton Enterprise Education Experience.Chester-le-Street, Co. Durham: Casdec.

COTTON,J. 1990. Enterprise Education Experience. A Manual for School-based In-service Training. Chester-le-Street, Co.Durham: Casdec.

CROMIE,S. and JOHNS,S. 1983. Irish Entrepreneurs: Some Personal Characteristics. Journal of Occupational Behaviour. 4:317-324.

CROMIE,S. 1987. Motivations of Aspiring Male & Female Entrepreneurs. Journal of Occupational Behaviour. 8:251-261.

CROMPTON,K. 1987. A Curriculum for Enterprise: Pedagogy or Propaganda ? School Organization 7(1):5-11.

DAVID,E. and ZELINKO,M. 1982. Entrepreneurship in Vocational Education: A Guide for Program Planning. Columbus: Ohio State University.

DE CONING,C. 1984. Die Informele Sakesektor in Grote Soweto. Monograph Series No.39. Johannesburg: Rand Afrikaans Universiteit.

DEEKS,J. 1976. The Small Firm Owner-Manager-Entrepreneur: Behaviour and Management Practice. New York: Praeger Publishers.

DE MONTILLE,S. 1987. Informal trading in Soweto. Development Southern Africa. 4:656-64.

DE RIDDER,J.C. 1961. Personality of the Urban African in South Africa. London:Routledge and Kegan Paul.

DE VRIES,A.J.M. 1989. Structural Changes in the South African Economy. Stellenbosch: South African Journal of Entrepreneurship and Small Business.

DEWAN,S. 1982. Personality Characteristics of Entrepreneurs. Unpublished doctoral thesis. Delhi: Institute of Technology.

DEWAR,D. and WATSON,V. 1981. Unemployment and the "Informal Sector". Some proposals. Urban Problems Research Unit. Cape Town: University of Cape Town.

DEWEY,J. 1977. Education v's Trade Training: Dr. Dewey's reply. Journal of Curriculum Enquiry. 7:37.

DRUCKER,P.F. 1985. Innovation and Entrepreneurship. New York: Harper and Row.

DUNCAN,D.B. 1957. Multiple Range Tests for Correlated and Heteroscedastic Means. Biometrics. 13:164-176.

DUNKELBERG,W.C. and COOPER,A.C. 1982. Entrepreneurial Typologies: an Empirical Study. In: Vesper, K.H. (ed). Frontiers of Entrepreneurial Research. Wellesley. Mass: Babson Centre for Entrepreneurial Studies.

DURAND,D.E. 1972. Black Entrepreneurship Training: A Study of the Effects of Achievement Motivation Training in a Management Development Program for Black Businessmen. Unpublished doctoral dissertation. Seattle: University of Washington.

DURAND,D.E. and SHEA,D. 1974. Entrepreneurial Activity as a Function of Achievement Motivation and Reinforcement Control. Journal of Psychology. 88:57-63.

DURAND,D.E. 1975. Effects of Achievement Motivation and Skills Training on the Entrepreneurial Behaviour of Black Businessmen. Organizational Behavior and Human Performance. 14:76-90.

EDELSTEIN,M.L. 1974. What do Young Africans Think? Johannesburg: Labour & Community Consultants.

ELLIS,H. 1970. Private Enterprise and Socialism in the Middle East. Washington: American Enterprise Institute for Public Policy Research.

ENTWISLE,D.R. 1972. To Dispel Fantasy-based Measures of Achievement Motivation. Psychological Bulletin, 77:377-391

ERWEE,R. 1981. Cognitive Functioning, Achievement Motivation and Vocational Preferences of Black University Students. Psychologia Africana. 20:29-51

ERWEE,R. 1986. Achievement Motivation and Locus of Control of Black University Students. S.A.Journal of Industrial Psychology. 12(2): 1-9.

FANSLOW,A. and COMPTON,C. 1981. Entrepreneurship: A Senior High School Economics Career Exploration Unit. Iowa State University of Science and Technology.

FAURE,E. 1972. Learning to be. Paris: United Nations Educational Scientific and Cultural Organization (UNESCO).

FEIGE,E. 1979. How big is the Irregular Economy ? Challenge: 22 (1): 5-13.

FINEMAN,S. 1977. The Achievement Motive Construct and its Measurement: Where are We Now ? British Journal of Psychology. 68:1-22

FREIRE,P. 1972. Pedagogy of the Oppressed. Harmondsworth: Penguin.

FREY,R.S. 1984. Need of Achievement, Entrepreneurship and Economic Growth: A Critique of the McClelland Thesis. The Social Science Journal. 21 (2).

FRIEDLAND,R. 1987. Small Business and the Informal Sector. Optima 35:100.

FURHAN,A and HENRY,J. 1980. Cross-cultural Locus of Control Studies: Experiment and Critique. Psychological Reports. 47:23-27.

GARTNER,W.B. 1982. An Empirical Model of the Business Start-up, and Eight Entrepreneurial Archetypes. Unpublished doctoral dissertation. Seattle: University of Washington.

GASSE,Y. and GARNIER,B. 1984. Les Besoins de Formation des Proprietaires-di-rigeants de PME Quebecoises: une etude empirique pilote. Universite Laval.

GASSE,Y. 1985. A Strategy for the Promotion and Identification of Potential Entrepreneurs at the Secondary School Level. In K.H Vesper et al. (eds) Frontiers of Entrepreneurship Research. Wellesley, Mass: Babson College.

GERSHUNY,J. 1978. After Industrial Society - the Emerging Self-service Economy. London: MacMillan.

GIBB,A.A. and RITCHIE, J. 1981. Influences on Entrepreneurship: a Study over Time. In: Bolton Ten Years On - Proceedings of the UK Small Business Research Conference. London: Polytechnic of Central London. November.

GIBB,A.A. 1987. Enterprise Culture - its Meaning and Implications for Education and Training. Journal of European Industrial Training. 11(2):38.

GIBB,A.A. 1992. The Enterprise Culture and Education: Understanding Enterprise Education and its links with Small Business, Entrepreneurship and wider Educational Goals. Durham: Paper produced for Durham University Business School. March.

GILBERT,A.J. 1980. The Parameters of the Progress of Black Workers. Unpublished masters thesis. Pretoria: University of South Africa (UNISA).

GODSELL,G. 1990. The Social Networks of South African Entrepreneurs. Unpublished doctoral dissertation. Boston:Boston University.

GODSELL,R. 1984. The Cities: Vast Changes Inevitable. Energos. 10:98.

GOLDSMITH,R.E. 1985. A Factorial Composition of the KAI Inventory. Education and Psychological Measurement. 45:245-250.

GREGORY,D. and REES,T. 1976. The Work Experience: a case study evaluation from South Wales. London: Profile Monograph Publications, Manpower Services Commission.

GURIN,P., GURIN,G., LAO,R. and BEATTIE,M. 1969. Internal-External Control in the Motivational Dynamics of Negro Youth. Journal of Social Issues. 25:29-53.

HABERMAS,J. 1976. Legitimation Crisis. London: Heinemann.

HAGEN,E.E. 1963. On the Theory of Social Change: How Economic Growth Begins. Homewood, Illinois: Dorsey Press.

HAINES,P., McGARTH,P. and P[illegible]OT,M. 1980. Expectations and persistance: An Experimental Comparison of Bandura and Rotter. Social Behaviour and Personality. 8(2):193-201.

HAMILTON,J. 1981. Entrepreneur for a new age. Journal of Career Education. 8(2):161-167.

HAMMER,T and VARDI,Y. 1981. Locus of Control and Career Self-management among Nonsupervisory Employees in Industrial Settings. Journal of Vocational Behaviour. 18: 13-29.

HANDY,C. 1984. The Future of Work. Oxford: Basil Blackwell.

HARRE,R. 1979. Social Being. Oxford: Basil Blackwell.

HARTSHORNE,K. 1992. Crisis and Challenge: Black Education 1910-1990. Cape Town: Oxford University Press.

HARTZENBERG,T. and LEIMAN,A. 1990. Sizing up the informal sector Indicator S.A. 7(2):35-38.

HEBERT,R.F. and LINK,A.N. 1982. The Entrepreneur: Mainstream Views and Radical Critiques. New York: Praeger Publishers.

HECKHAUSEN,H. 1967. The Anatomy of Achievement Motivation. New York: Academic Press.

HECKHAUSEN,H., SCHMALT,H.D. and SCHNEIDER,K. 1985. Achievement Motivation in Perspective. Translated by Woodruff,M and Wickland,R. Orlando: Academic Press.

HESKETH,M. 1989. A Small Enterprise Promotion Act. Indicator S.A. Summer/Autumn(6)(1/2).

HENNESSEY,B.A.,AMABILE,T.M. and MARTINAGE,M. 1989. Ordinary Creativity. Contemporary Educational Psychology. 14:212-3.

HERSCH,P.D. and SCHIEBE,T. 1967. Reliability and Validity of Internal-External Control as a Personality Dimension. Journal of Consulting Psychology. 31: 609-613.

HORNADAY,J.A. and ABOUD,J. 1971. Characteristics of Successful Entrepreneurs. Personnel Psychology. 24:141

HORNADAY,J., and SHUMAN,J. 1975. Experiential Learning in an Entrepreneurship Career. Collegiate News and Views 29 (1):5-9.

HORNER,M.S. 1972. Toward an Understanding of Achievement-related Conflicts in Women. Journal of Social Issues. 28:157-175

HUFFMAN,F. 1989. Teen Tycoons. Entrepreneur. 17 (10):77-80.

IVISON,V.D. 1979. "Young Enterprise" - a School-Industry Link. Trends in Education. Summer:39-43.

JACOBOWITZ,A. and VILDER,D. 1982. Characteristics of Entrepreneurs: Implication for Vocational Guidance. Vocational Guidance Quarterly. 30 (3): 252-257.

JAMES,W. 1890. Principles of Psychology. New York: Holt.

JAMIESON,I. 1984. Schools and Enterprise. In A.G.Watts, and P.Moran,(eds) Education for Enterprise. Cambridge: Hobson Press.

JUNIOR ACHIEVEMENT 1987. Junior Achievement Achiever Manual. Centre for Developing Business. Johannesburg: University of the Witwatersrand.

KANTOR,B. 1989. Estimating the value of unrecorded economic activity in South Africa. Journal for Studies in Economics and Econometrics. 13(1):33-40.

KAPLAN,C. and BORTZ,R. 1981. A National Field Test of Entrepreneurship Training Components. Journal of Career Education 8(2): 109-118.

KENT,C. 1982. Entrepreneurship Education for Women: A Research Review and Agenda. Joint Council on Economic Education.

KENT,C. 1983. Business Education for Women Entrepreneurs. Journal of Business Education. 59 (1).

KERLINGER,F.N. 1973. Foundations of Behavioral Research. New York: Holt Rinehart and Winston.

KETS DE VRIES,M.F.R. 1977. The Entrepreneurial Personality: A Person at the Crossroads. Journal of Management Studies. 14(1): 34-57.

KHANEJA,D.K. 1982. Relationship of the Adaption - Innovation Continuum to Achievement Orientation in Entrepreneurs and Non-Entrepreneurs. Unpublished doctoral thesis. Delhi: Institute of Technology.

KIERULFF,H. 1979. Finding and Keeping Corporate Entrepreneurs. Business Horizons 22(1):6-15

KILBY,P.M. 1971. Entrepreneurship and Economic Development. New York: Macmillan.

KIRSTEN,M.A. 1988. A Quantitative Perspective on the Informal Sector in Southern Africa. Development Southern Africa 5:251-7.

KIRTON,M.J. 1961. Management Initiative. London: Action Society Trust.

KIRTON,M.J. 1976. Adaptors and Innovators: a Description and Measure. Journal of Applied Psychology. 61 (5):622-629.

KIRTON,M.J. 1977. Adaptors and Innovators and Superior-Subordinate Identification. Psychological Reports. 41:289-290.

KIRTON,M.J. 1984. Adaptors and Innovators: Why New Initiatives Get Blocked. Long Range Planning. 17(2): 137-147.

KIRTON,M.J. 1985. KAI Report Back Form. Hatfield, U.K.: Occupational Research Centre.

KIRTON,M.J. 1987. Manual of the Kirton Adaption - Innovation Inventory. Hatfield, U.K.: Occupational Research Centre.

KLINGER,E. 1966. Fantasy need Achievement as a Motivational Construct. Psychological Bulletin 66: 291-308.

KOURILSKY,M. 1980. Predictors of Entrepreneurship in a Simulated Economy. Journal of Creative Behavior. 14(3):175-198.

KRIGE,D.J. 1985. The Urban Informal Sector in South Africa: What Options for Development ? A case study in KwaMashu, Natal. Unpublished M.Sc.dissertation. Durban: University of Natal.

KUHN,T.S. 1970. The Structure of Scientific Revolutions. Illinois: University of Chicago Press.

LAO,R.C. 1970. Internal-external Control and Competent and Innovative Behavior among Negro College Students. Journal of Personality and Social Psychology.14:263-270

LAW,B. 1985. Is it Working? Cambridge: National Institute for Careers Education and Counselling.

LAW,B. and STOREY,S. 1986. Widening Concepts of Work. Cambridge: National Institute for Careers Education and Counselling.

LEEDY,P.D. 1980. Practical Research. New York: Macmillan.

LEVINE,R. 1966. Dreams and Deeds: Achievement Motivation in Nigeria. Chicago: Chicago Press.

LILES,P.R. 1974. New Business Ventures and the Entrepreneur. Homewood, Illinois: Irwin.

LITVAK,I. and MAULE,C. 1976. Comparative Technical Entrepreneurship: Some Perspectives. Journal of International Business Studies. 7(1):6-15.

LOUW,L. and KENDALL,F. 1986. South Africa: The Solution? Johannesburg: Amagi Publications.

LYNN,R. 1969. An Achievement Motive Questionnaire. British Journal of Psychology. 60:529-534.

MAASDORP,G. and PILLAY,N. 1978. The Informal Sector in Clermont. Interim Report No. 4: Low Cost Housing Research Project. Department of Economics. Durban: University of Natal.

MAZONEY,D.C. 1978. Effects of Psychological and Demographic Characteristics of External Degree Students on Achievement in a Teacher - Directed versus Self-directed General Psychology Course. Unpublished dissertation. Johannesburg: University of the Witwatersrand.

MANCUSO,J.C. and MASCOLO,M.F. 1987. Recognising Achievement Motivation. Motivation and Emotion. 11(3):323-330.

MARAIS,G. and VAN DER KOOY,R. 1979. South Africa's Urban Blacks: Problems and Challenges. Pretoria: Centre for Management Studies. School of Business Leadership. UNISA.

MAREE,J and CORNELL,J. 1977. Sample Survey of Squatters in Crossroads. Working Paper No.17. Cape Town: S.A. Labour and Development Research Unit. December.

MASLOW,A.H. 1943. A Theory of Motivation. Psychological Review: 370-396.

MAYER,R.E. 1989. nitive Views of Creating Creat Teaching for Creative Learn . Contemporary Educational Psychology 14: 203-211.

MCBER & Co. 1986. Entrepreneurship and Small Enterprise Development. 2nd Annual report to the United States Agency for International Development (USAID).

McCLELLAND,D.C., ATKINSON,J.W.,CLARK,R.A. and LOWELL,E.L. 1953. The Achievement Motive. New York: Appleton Century Crofts.

McCLELLAND,D.C. 1955. Measuring Motivation in Fantasy: The Achievement Motive. In McClelland,D.C. (ed.) Studies in Motivation. New York: Appleton Century Crofts:401-413.

McCLELLAND,D.C. 1961. The Achieving Society. Princeton, N.J.: Van Nostrand.

McCLELLAND,D.C. 1962. Business Drive and National Achievement. Harvard Business Review. 40(4):99.

McCLELLAND,D.C. 1965. Achievement Motivation can be Developed. Harvard Business Review. 43(6):6-24.

McCLELLAND,D.C. and WINTER,D.G. 1969. Motivating Economic Achievement. New York:Free Press

McCLELLAND,D.C. 1985. Human Motivation. Glenview, Illinois: Scott Foresman.

McCLELLAND,D.C. 1987. Characteristics of Successful Entrepreneurs. Journal of Creative Behavior. 21(3):219-233.

McGHEE,P.E. and CRANDALL,V. 1968. Beliefs in Internal-External Control of Reinforcement and Academic Performance. Child Development. 39:91-102.

MERTON,R.K. 1957. Bureaucratic structure and personality. In: The Social Theory and Social Structure. New York: Free Press of Glencoe.

MESCON,T.S. and MONTANARI,J.R. 1981. The Personalities of Independent and Franchise Entrepreneurs: An Empirical Analysis. Academy of Management Proceedings: 413-417.

MEYER,H.H., WALKER,W.B., and LITWIN,G.H. 1961. Motive Patterns and Risk Preference Associated with Entrepreneurship. Journal of Abnormal and Social Psychology. 63:570-574

MILLER,D. 1983. The Correlates of Entrepreneurship in Three Types of Firms. Management Sciences 29(7):770-791.

MILLER,D. and FRIESEN,P.H. 1982. Innovation in Conservative and Entrepreneurial Firms: Two models of Strategic Momentum. Strategic Management Journal. 3: 1-25.

MINER,J.B. 1980. Theories of Organizational Behavior. Hinsdale, Illinois: Dryden Press.

MIRON,D. and McCLELLAND,D.C. 1979. The Impact of Achievement Motivation Training on Small Businesses. California Management Review. 21(4):13-28.

MISCHEL,W. 1973. Toward a Cognitive Social Learning Reconceptualisation of Personality. Psychological Review. 80(4):252-283.

MKHIZE,K. 1980. The Stick that Beats the Baas. Frontline :31.

MOKOATLE,B.N. 1979. The Black Entrepreneur in South Africa: A Product of Social Change. In: G.Marais and R.van der Kooy (eds): South Africa's Urban Blacks: Problems and Challenges. Pretoria: Centre for Management Studies, School of Business Leadership, UNISA.

MOODLEY-RAJAB,D. and RAMKISSOON,R.D. 1979. Internal-External Locus of Control among South African Students - A Cross Cultural Study. South African Journal of Psychology. 9:145-147.

MOORE,C.H. 1976. From School to Work: Effective Counselling and Guidance. London: Sage.

MORRIS,P. 1980. Unemployment and the Informal Sector in Soweto. Unpublished report. Johannesburg: The Urban Foundation.

MORRISON,D.F. 1976. Multi-variate Statistical Methods. New York: McGraw-Hill.

MOULDER,J. 1989. Education for Self-reliance. Johannesburg: Business Day. May 8.

MULLANY,M.J. 1993. Personal Telephone Discussions with the Lecturer at the Department of Computer Science. (Presently conducting doctoral research using Kirton's construct). Pietermaritzburg: University of Natal. July 7.

MUNRO,D. 1979. Rotter Internal - External Scale in an African Context: Problems of Construct and Equivalence. S.A. Journal of Psychology (9):61-66.

MURRAY,H.A. 1938. Explorations in Personality. New York: Oxford University Press.

MUSSELMAN,V.A.,HANNA,J.M., WEAVER,D.H. and KALUZA,H.J. 1979. Methods of Teaching Accounting. New York: McGraw-Hill.

MYERS,I.B. 1962. The Myers Briggs Type Indicator. Palo Alto: Ca. Consulting Psychological Press.

NADLER,D.A. and LAWLER,E.E. 1977. Motivation: A Diagnostic Approach. In: Hackman,J.R., Lawler,E.E. and Porter,L.W. (eds). Perspectives on Behavior in Organizations, (24-34). New York: McGraw Hill.

NATTRASS,N. 1990. The Small Black Enterprise Sector - a Brief Note of Caution. In: N.Nattrass and E.Arlington (eds). The Political Economy of South Africa. Cape Town: Oxford University Press: 217-228.

NAUMES,W. 1978. The Entrepreneurial Manager in the Small Business. Reading, Mass: Addison-Wesley.

NELSON,R and NECK,P. 1982. Expanded Career Opportunities through Small Busineess Training. Journal of Business Education. 57 (5): 181-184.

NELSON,R. and PILAND,W. 1982. Organizing Small Business Programs in Community. Department of Vocational and Technical Education. Urbana, Champaign: University of Illinois.

NENE,D.S. 1981. A Survey on African Women. Petty Traders and Self-Employed in Town and Country in South Africa. Geneva: International Labour Office WEP 10-4-04-24-1-159-5.

NORWICKI,S. and STRICKLAND,B.R. 1973. A Locus of Control Scale for Children. Journal of Consulting and Clinical Psychology 40:48-155.

OLSON,P.D. and BOSSERMAN,D.A. 1984. Attributes of the Entrepreneurial Type. Business Horizons. 27(3):53-56.

PALMER,M. 1971. The Application of Psychological Testing to Entrepreneurial Potential. California Management Review. 13(3):32-38

PANDEY,J. and TEWARY,N.B. 1979. Locus of Control and Achievement Values of Entrepreneurs. Journal of Occupational Psychology. 52:107-111.

PETROF,J. 1980. Entrepreneurial Profile: A Discriminant Analysis. Journal of Small Business Management. 18(4):13-17.

PIROW,P.C. 1992. A Guide for Management Research. Information Series. Johannesburg: Woodacres Publishers.

POTTAS,C.D., ERWEE,R., BOSHOFF,A.B. and LESSING,B. 1980. Manual for the Achievement Motivation Questionnaire (AMQ). Unit for Entrepreneurship Pretoria: University of Pretoria.

POTTAS,C.D. 1981. Entrepreneurspotensiaal onde, Swart Studente. Development Studies in Southern Africa. 3(e):241-264.

POTTAS,C.D. 1983. Identifsering van Entrepreneurskaptalent. Paper prepared for Small Business Conference, Potchefstroom University. October.

POTTAS,C.D. 1984. Unpublished research with KAI Inventory. Pretoria: University of Pretoria.

PRESIDENT'S COUNCIL 1985. Report on a Strategy for Small Business Development and for Deregulation. Pretoria: The Government Printer.

PRESTON-WHYTE,E. and ROGERSON,C. 1991. South Africa's Informal Economy. Cape Town: Oxford University Press.

PURYEAR,J.R. and MEDNICK,M.S. 1974. Black Militancy, Affective Attachment and the Fear of Success in Black College Women. Journal of Consulting & Clinical Psychology. 42:263.

REUBENS,B.G. 1977. Bridges to Work: International Comparisons of Transition Services. London: Martin Robertson.

REYNOLDS,N. 1991. Lessons for South Africa from the First Decade of Zimbabwe's Independence. Policy Issues and Actors.4:3. Johannesburg: Centre for Policy Studies, University of Witwatersrand.

RICE,M.C., HALL,G.N. and GOUVERNER,A. 1993. An Investigation of the Influence of the Junior Achievement Programme on the Career Choices and Development of Past Achievers. Private Research Report. Johannesburg: Pro-civitas Educational Consultants.

RIORDAN,Z.A.V. 1981. Locus of Control in South Africa. Journal of Social Psychology. 115:159-168.

ROBERTS,E.B. and WAINER,H.A. 1971. Some Characteristics of Technical Entrepreneurs. I.E.E.E. Transactions on Engineering Management. EM-18 (3)

ROGERS,C.R. 1959. Towards a Theory of Creativity. In H.H.Anderson (ed.) Creativity and Its Cultivation. New York: Harper.

ROGERSON,C.M. 1987. The State and the Informal Sector: A Case of Separate Development. In G.Moss and I. Obery (eds.) South African Revue Johannesburg: Ravan 4;412-422.

ROGERSON,C.M. and Da SILVA,M. 1988. Upgrading urban small scale forms of production: The South African Case. In G.J.R. Lange (ed.) Peripheralisation and Industrial Change. London: Croom Helm: 199-213

ROGERSON, C.M and Da SILVA, M. 1989. Urban Small-Scale Industry on the Witwatersrand: Emergence Destruction and Revival. African Urban Quarterly. 5.

ROTTER, J.B. 1964. Social Learning and Clinical Psychology. Englewood-Cliffs, N.J.: Prentice-Hall.

ROTTER, J.B. 1966. Generalized Expectancies for Internal versus External Control of Reinforcement. Psychological Monographs: General and Applied 80 (1): 1-27.

ROTTER, J.B. and HOCHREICH, D.J. 1975. Personality. Glenview, Illinois: Scott Foresman.

ROTTER, J.B. 1982. The Development and Application of Social Learning Theory: Selected Papers. New York: Praeger.

SCANLAN, T.J. 1979. Self-employment as a Career Option: An Investigation of Entrepreneurship from the Perspectives of Holland's Theory of Career Development and Levenson's Measures of Locus of Control. Unpublished doctoral dissertation. Urbana, Champaign: University of Illinois.

SCANLAN, T.J. 1980. Methods and Materials for Entrepreneurship Education Project: Phase III Report. Springfield, Illinois: State Office of Education.

SCHATZ, S.P. 1971. Achievement and Economic Growth: A Critical Appraisal. In P.Kilby (ed.) Entrepreneurs and Economic Development. New York: Free Press:183-190.

SCHLEMMER, L. 1991. A South African Social Market Economy ? Review and Discussion of a German - S.African Dialogue. Workshop Proceedings No. 5. Johannesburg: Centre for Policy Studies. University of Witwatersrand.

SCHUMPETER, J.A. 1939. Business Cycles. (Vols I & II). New York: McGraw-Hill.

SCHUMPETER,J.A. 1949. Economic Theory and Entrepreneurship History. Change and the Entrepreneur, Postulates and Patterns of Entrepreneurial Theory. Cambridge, Mass: Harvard University Press.

SHAPERO,A. 1975. Entrepreneurship and Economic Development: Proceedings of Project I.S.E.E.D: Entrepreneurship and Enterprise Development: A Worldwide Perspective.

SHAPERO,A. 1980. Some Social Dimensions of Entrepreneurship. Abstract. In C.A.Kent, D.L. Sexton and K.H.Vesper (eds.) Encyclopedia of Entrepreneurship. Englewood Cliffs: Prentice Hall.

SHAPERO,A. and SOKOL,L. 1982. The Social Dimensions of Entrepreneurship. Immunizing Children against the Negative Effects of Reward. C.A.Kent et al.(eds.) Encyclopedia of Entreprensurship. Englewood Cliffs: Prentice Hall.

SHARP,R. and GREEN,A. 1975. Education and Social Control.

SHOUKSMITH,G. 1970. Intelligence, Creativity and Cognitive Style. London: Batsford.

SIMKINS,C. 1984. Urbanisation in South Africa: Some Notes on its Desirability, Form and Short-Term Future. Energos 10:107

SIMON,A. 1986. Field Research Procedures and Techniques for the Social Sciences and Education. Johannesburg: University of the Witwatersrand.

SMITH,A. 1937. An Enquiry into the Nature and Cause of the Wealth of Nations.(1776). New York: Random House.

SMITH,P.C. and KENDALL,L.M. 1963. Retranslation of Expectations: An Approach to the Construction of Unambiguous Anchors for Rating Scales. Journal of Applied Psychology. 47:149-155.

SOUTH AFRICAN RESERVE BANK 1961-91. Quarterly Bulletins. Pretoria: SARB.

SOUTH AFRICAN RESERVE BANK. 1992. 3rd Quarterly Report. Pretoria: SARB.

SOUTH AFRICAN YEARBOOK. 1991. The National Economy, South Africa 1989-90. Reprint from Official Yearbook of the Republic of South Africa 1989-90. Pretoria: Government Printer.

SOWETAN (THE). 1989. November 10. Johannesburg: Argus Publishing.

STANDARD BANK. 1992. Economic Review: International Economics - a less than Bright Picture. November.

STANDARD BANK. 1992. Economic Review: Trends in S.A. Population Growth. December.

STAR (THE). 1989. October 20. Johannesburg: Argus Publishing

STEYN,A.F. 1966. Die Bantoegesin. Pretoria: SABRA.

STRONACH,I and WEIR,A.D. 1980. Experiences of Work: In, Out and Round About. 2nd Evaluation Report on the Clydebank European Economic Community (EEC) Project. Glasgow: Jordanhill College of Education.

STRUMPFER,D.W.J. 1975. Scale to measure Autonomous and Social Achievement Values. Psychological Reports, 36:191-208.

SUSBAUER,J.C. 1969. The Technical Company Formation Process: a Particular Aspect of Entrepreneurship. Unpublished doctoral thesis. Austin, Texas: University of Texas.

SUTTON,F.X. 1954. Achievement Norms and the Motivations of Entrepreneurs. In Entrepreneurship and Economic Growth. Cambridge, Mass: Social Sciences Research Council and Harvard University Research Center in Entrepreneurial History.

TAGER,L. 1989. Deregulation in the South African Context. Johannesburg: The Centre for Business Studies, Graduate School of Business Administration, University of the Witwatersrand. Business Alert 104.

TAYLOR,C.W. 1964. Creativity Progress and Potential. London: McGraw-Hill.

THOMAS,W. 1989. South African Economic Statistics: Useful Tools or Hindrances to the Understanding of our Development Process?. Paper presented at the Biannual Conference of the Economic Society of S.A. Johannesburg: September.

TIMMONS,J.A. 1971. Black is Beautiful - is it always Bountiful? Harvard Business Review 49(6):81-94.

TIMMONS,J.A., SMOLLEN,L.E. and DINGEE,A.L.M. 1977. New Venture Creation: A Guide to Small Business Development. Homewood: Irwin.

TIMMONS,J.A., SMOLLEN,L.E. and DINGEE,A.L.M. 1985. New Venture Creation: A Guide to Entrepreneurship. Homewood: Irwin.

TOBACYK,J. 1978. Factor Structure of Rotter's I-E Scale in Female Polish University Students. Journal of Psychology. 106:3-10.

TOFFLER,A. 1980. The Third Wave. London: Pan Books.

UNIVERSITY OF PRETORIA 1980. Achievement Motive (PM) Questionnaire (AMQ). Unit for Entrepreneurship. Pretoria: University of Pretoria.

UNIVERSITY OF PRETORIA 1980. I-E Scale. Based upon Rotter's Locus of Control (1966) modified for South African Conditions. Unit for Entrepreneurship. Pretoria: University of Pretoria.

VAN DAALEN,H.J. 1989. Individual Characteristics nd Third World Entrepreneurial Success. Unpublished doctoral thesis. Faculty of Economic and Management Sciences. Pretoria: University of Pretoria.

VAN DER BERG,S. 1990. Shadow Boxing over Size. Indicator S.A. 7(3):37-41.

VAN DER MERWE,W.G. 1976. Die Persoonlikheid van Suksesvolle Xhosa-sakemanne met Speciale Verwysing na Prestasie Motivering. Unpublished doctoral dissertation. Pretoria: University of South Africa.

VENKATAPATHY,R. 1983. Internal-External Locus of Control among Entrepreneurs. Tirupathi: Paper presented to the 70th Annual Session of the Indian Science Congress Association.

VENKATAPATHY,R. 1984. Locus of Control among Entrepreneurs: A Review. Psychological Studies. 29(1): 97-100.

VENNING,P. 1981. A Spiral of Jobs. Times Educational Supplement. 8 May.

VESPER,K. 1981. The Importance of Entrepreneurship in Academic Research. Proceedings of the 1981 Conference on Entrepreneurship Education. Baylor University:10-13.

WALDEN,J. 1979. Entrepreneurship: It takes more than a Dream. Business Education Forum 38(7):27-29.

WATKINS,W. 1982. The Entrepreneur and Entrepreneurship. National Centre for Research in Vocational Education. Columbus, Ohio: State University.

WATTS,A.G. 1980. The Educational Response to Changing Needs of Youth Work Experience Programmes. The Views of British Youth. Paris: OECD/CERI April.

WATTS,A.G. 1983. Work Experience and Schools. London: Heinemann.

WEBER,M. 1930. The Protestant Ethic and the Spirit of Capitalism. Translated by: Parsons,T. New York: Scribner's.

WEBER,M. 1970. In: H.H.Garth and C.W.Mills (eds. and trans.). From Max Weber: Essays in Sociology. London: Routledge and Kegan Paul.

WHYTE,W.H. 1957. The Organization Man. Cape Town: Lowe.

WILLIS,P. 1977. Learning to Labour. London: Saxon House.

WINNICOTT,D.W. 1980. Playing and Reality. Harmondsworth: Penguin.

Appendix 1

FOREWORD ON THE JUNIOR ACHIEVEMENT (J.A.) PROGRAMME

Junior Achievement is an international experiential business and life skills education programme. Established in the United States of America in 1919, it is the leading economic education programme for school going persons in the world. The extra-curricular project commenced operating in South Africa in 1980.

The author was the first Director of the Centre for Developing Business started at the University of the Witwatersrand's Graduate School of Business Administration in 1978. The Centre's prime objective is to foster and teach entrepreneurship, specialising in assistance to the black community. The Junior Achievement programme compliments the Centre's portfolio of activities. The author started and has directed the J.A. programme since its inception.

Junior Achievement is run in all the larger urban centres, under the auspices of the local university. The Dean of University of the Witwatersrand's Business School represents the universities on J.A.'s Board of Control.

Since the launch of Junior Achievement, the basic American model has been retained. The materials and the format have been adapted however to suit local conditions and to take into account the needs of the participants. Adaptions have been made by experienced staff, trained in educational methodology.

Students from all communities are involved in each J.A. mini-company. The businesses are owned by the participating students, who make all the decisions.

Sponsor companies provide several managers to work with each group. They serve as role models, teachers and mentors. Junior Achievement staff provide training, guidance, support and monitor the quality standards, on an on-going basis.

During the programme important business procedures and systems are taught and practised. Some of the concepts learnt are break-even, cash flow, market research, pricing and costing, record keeping and banking.

The J.A. experience provides the participants with valuable life skills and an understanding of the wealth creation process, as well as basic economic principles. The input contributes to social as well as economic development encouraging entrepreneurial skills and a spirit of enterprise.

Over the years since 1980, approximately 30 000 young adults have attended the programme, setting up and running about 1 150 enterprises in 14 centres countrywide. Sponsoring companies have supplied over 4 000 Advisors to assist the participating students in running their businesses.

A number of researchers have written on the merits of the Junior Achievement programme for the participants. Gasse (1985:549) wrote "the program has greatly contributed to the development of entrepreneurial skills". Musselman et al (1979:39) states that "The Junior Achievement programme provides an opportunity .... to obtain practical and valuable work experience .... where Junior Achievement programmes are in operation, the accounting teacher may wish to encourage students to participate in the programme."

Bray (1983:137) commenting on the British equivalent of the American J.A. initiative, states that "Pupils are very responsible and motivated in their work. They learn a great deal about basic economics .... which will have wide application to their work as adults. Immediate bonuses are increased confidence and responsibility, an ability to handle decisions, argue points, make judgements, work as a team .... the project improved enterprise, entrepreneurial skills, and skills relevant to employment."

Huffman (1989) commenting on the "Teen Tycoons" says: "With J.A., future entrepreneurs can learn from their business mistakes without disastrous outcomes. It's the perfect vehicle for .... ideas concerning products, management techniques and sales strategies .... . All of this gives these high school students a head start in the business world."

An independent education consultancy, specialising in research, recently produced results on a longitudinal project investigating the outcomes of the Junior Achievement activity in South Africa. Rice et al (1993) comment: "... the J.A. company programme has been remarkably successful in meeting and achieving its objectives. It has succeeded in giving participants an increased sense of their own well-being and self-confidence .... providing them with practical experience of what it is like to run a business, and knowledge of the wealth creating process."

In summary Bray (1983:143) comments on the J.A. model: "By putting young people in charge of their learning experience, within the scale model of a mini-company, we offer them roles, risks and realism (Ball and Ball 1979) as a preparation for a future which is full of problems, but also opportunities".

Appendix 1

DESCRIPTION OF THE JUNIOR ACHIEVEMENT PROGRAMME (JA)

Junior Achievement is a business education programme for selected high school students. They obtain practical business experience and insights, as well preparation for the working world. Valuable life skills are acquired. Initiative, teamwork, time management, risk taking and responsibility are developed. The students are called "Achievers" which reflects their attitude towards their mini-company and to life in general.

There are four elements of the J.A. Programme: The Achievers; the Advisors; the J.A. Co-ordinating staff and JA Manuals and other material (e.g. charts, record keeping forms).

1) THE ACHIEVERS

Each J.A. mini-company consists of 25 - 30 Standard 9 and 10 students from all sectors of the community. The companies have equal representation of males and females, as well as the different socio-economic groups. This diverse mixture enables a natural process of group dynamics to evolve.

The J.A. Programme is not a classroom situation. Achievers are given responsibility for making their own decisions, utilising resources and motivating themselves. Advisors create a supportive climate for initiative to emerge so that Achievers can explore their own abilities.

2) THE ADVISORS

J.A. Advisors are experienced business people who volunteer their services to aid the development of young people. They attend every one of the ten, 3 hours sessions held after school hours once per week. They attend briefings, or training sessions, given by J.A. staff who prepare them for their advisory role.

The Advisor team consists of managers experienced in the marketing, personnel, finance and production areas of business. Each must understand the entire J.A. process so that the necessary interaction and support may be developed.

For the first two weeks of the programme, Advisors take the lead and introduce the principle business concepts to the Achievers. Each gives sufficient theoretical input so that the students can proceed to set-up their mini-company and understand what they are doing. The "gaps" in knowledge and understanding are filled in, as the programme proceeds. By the end of week two, the directors are elected from the group, by a democratic process.

At this stage the responsibility for the mini-company activity becomes that of the directors, and the Advisors cease to lead the group to allow the Achievers full scope for growth.

Advisors act as friends and mentors to the company, providing emotional support for the Achievers. A constant, supportive and encouraging interaction ensures that the best potential of the group is realised. The "ownership" of the company, and decisions in running it, rests with the company members - the Achievers, and hence full commitment is obtained.

3) J.A. STAFF MEMBER (OR CO-ORDINATOR)

A Co-ordinator is present at every session, during the 10 weeks, to ensure the smooth running of the programme. All the arrangements (the venue for instance) are made, as well as equipment, materials and literature supplied. Support is given to the Advisor team, but the Co-ordinator does not deal directly with the Achievers, unless there is a good reason to intervene (e.g. Time schedule not being met, safety measures being violated).

4) THE JA MATERIALS

A J.A. Manual and an Advisor's Manual is supplied. In addition the invoice books, personnel, accounting and other records are made available. The control system is explained to the Advisors and their correct use by the mini-company monitored by the Co-ordinator. Depending on the product chosen to be made, or sold, by the Achievers, the necessary equipment is supplied to the group, on a rental basis by J.A.

CONTENTS OF THE PROGRAMME

Appendix 2 outlines the activities week by week, as well as the learning points. Examples of two of the weekly agendas are given in Appendix 3.

Marketing research is carried out by the Achievers, a costing and pricing exercise is done and a suitable product chosen. A sales strategy is worked out, and training given by the Advisors. A production system is designed, and company targets set.

Sales commence, and production output is geared to the sales forecast, the responsibility of the Marketing Director. Production and sales continue, and planning and control is established, with the co-operation of the Marketing, Production and Financial Directors. Strict financial and stock control is carried out. Report back meetings for the mini-company members are held at the end of every session.

Each student becomes a member of the J.A. mini-company by subscribing for a R2 share. The authorised share capital is R100. An initial financing loan of R100 is made available by J.A. to each mini-company, to be paid back, with interest, by week 9. A bank account is opened.

Any excess monies made after all expenses have been paid, including wages and salaries, sales commissions and a "tax" levy, is used for bonuses, and the return of share capital to the investors, as well as the declaration of a maximum dividend of R2/share, if sufficient profit is made.

The winding down of the mini-company starts in week 9 and the final report to shareholders is drawn up.

A debriefing session is held with the Achievers. The value of the life and other skills learnt and knowledge gained, as they might be used by the Achievers completes the programme.

(Source: Junior Achievement Achiever Manual, 1987)

Appendix 2

OUTLINE OF THE ACTIVITIES AND LEARNING POINTS OF THE JA PROGRAMME

WEEK	ACTIVITY	LEARNING POINTS
1	Introduction	What a business is. What marketing is. Business financing. The roles of people.
2	Shares sold. Product selected. Management team elected.	Pricing and costing. Structuring an organisation.
3	Production and sales. Planning and control.	Production system design. Setting targets. Selling.
4	Production and sales. Planning and control.	Planning and control. Conducting meetings.
5	Production and sales. Planning and control.	Financial control.
6	Production and sales. Planning and control. Wages paid.	Problem solving.
7	Production and sales. Planning and control.	The business environment. The wealth creation process.
8	Production and sales. Planning and control.	Liquidation. Rights of creditors. Company reporting.
9	Final sales monies and unsold stock collected. Business quiz.	The income statement.
10	Liquidation. Payment of final wages and bonus. Distribution of liquidation reports, shareholders capital and dividends.	What was done well and badly.
	JA and you: future	Factors that may influence your future success.

(Source: Junior Achievement Achiever Manual, 1987)

JUNIOR ACHIEVEMENT PROGRAMME: WEEK TWO AGENDA

DATE: _____

YOU WILL LEARN

- How to decide on your selling price.
- How to calculate when you will start to make a profit.
- How to make a good product decision.
- How an organisation is structured.

AGENDA	TIME MINUTES	STARTING TIME	RESPONSIBILITY
Collection of share capital and management candidate forms	10		Financial advisor Executive advisor
Pricing and costing theory	20		Financial advisor
Product discussion and presentations	30		Marketing advisor
Product evaluation	20		Financial advisor
Break	5		
Product choice	10		Executive advisor
Election	55		Executive advisor
Organisation structure	10		Executive advisor
Choose company name	10		Managing director
Other production materials and equipment (Note suppliers)	10		Co-ordinator

Things to do this session

- Complete temporary register
- Financing loan of R100 issued by JA.
- Complete your fixed and variable cost and product evaluation schedules on pages 18 and 19.
- Letters of appointment issued for management positions Form (07).

Things to do before Week 3

- Sell outstanding shares.
- Read the production process on pages 23 and 24.
- Read selling techniques on 26 and 27.
- Revise what you have done so far.
- Managers may take their files home to read this week only. Files must be returned in Week 3.

(Source: Junior Achievement Achiever Manual, 1987)

Appendix 3

JUNIOR ACHIEVEMENT PROGRAMME: WEEK THREE AGENDA

DATE: _____

YOU WILL LEARN

- How to set up your production line.
- How to make your product.
- What targets you need to set and why.
- How to sell your product.

AGENDA	TIME MINUTES	STARTING TIME	RESPONSIBILITY
Register	5		Personnel director
Production theory	10		Production advisor
Designing your production line	20		Production advisor
Production induction of managers	90		Production director All advisors
Break	5		
Setting production and sales targets	10		Executive advisor
Selling techniques	25		Marketing advisor
Stock issue	15		Marketing director

Things to do this session

- Collect balance of share capital.
- Fill in your production system on page 24.
- Sketch your production layout on page 24.
- Invoice books issued.
- Fill in your production and sales targets on page 25.
- Letters of appointment issued to production team Form (08).

Things to do before Week 4

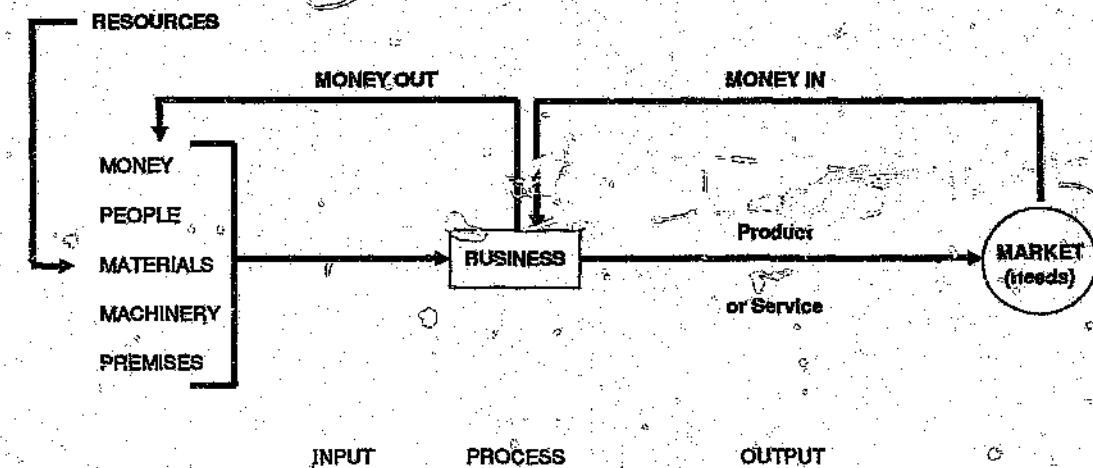
- Decide on and fill in your own selling techniques on pages 26 and 27.
- Sell your product.
- Read "Meetings" on page 35.
- Update your manual.

(Source: Junior Achievement Achiever Manual, 1987)

Appendix 4

JUNIOR ACHIEVEMENT MODEL OF WHAT A BUSINESS IS

A business is an organisation that seeks to make a profit by obtaining resources and combining them into a product or a service to meet a need in the market.



A successful business is one where the sales revenue received from its market (money in) is greater than the costs of its resource inputs (money out).

COST < REVENUE

RESULTS IN PROFIT

(Source; J - A - Achiever Manual 1987)

Appendix 5

JUNIOR ACHIEVEMENT PROGRAMME: PRICING AND COSTING

The price at which you can sell your product will be determined by two things:

1) The price charged by competitors, and other elements of their marketing mix.
2) The value that customers place on your product.

But your selling price (S.P.) must also consider the costs of running your business as well as producing and selling your product. Until all the costs of running the business are covered by money received from sales, there can be no profit. These business costs can be broken down into two parts:

- Fixed Costs (F.C.). These are costs which must be paid irrespective of whether the business is producing and selling or not.
- Variable costs (V.C.) are costs related directly to the volumes of production and sales. In JA variable costs are the production materials and commission on sales.

In business there is the danger of overlooking the fixed costs when pricing your product. For example if the variable costs per unit are made up of production materials costing R4-00 plus a commission payable to the salesman of R1-00, the total variable cost is R5-00. If the product is then sold for R8-00 there is a difference of R3-00. This amount is known as contribution. It is a contribution towards the fixed costs of running the business until all of the fixed costs have been paid, thereafter it becomes a contribution towards profit.

$$\text{Contribution} = \text{Selling Price (S.P.)} - \text{Variable Costs (V.C.)}$$

The point at which contribution exactly covers all the fixed costs of running the business is known as the break-even point. Below this point the business will make a loss and above this point the business will make a profit.

$$\text{Break-Even Point (in units)} = \frac{\text{Total Fixed Costs (F.C.)}}{\text{Contribution Per Unit (S.P. - V.C.)}}$$

The profitability of your business will be determined by the number of units sold as well as the contribution per unit.

(Source: Junior Achievement Achiever Manual, 1987)

Appendix 6

MATRICULATION EXAMINATION RESULTS

BLACK PUPILS VERSUS WHITE

	1987		1988		1989		1990	
	AFRICAN	WHITE	AFRICAN	WHITE	AFRICAN	WHITE	AFRICAN	WHITE
CANDIDATES	137 600	66 658	169 412	69 549	177 076	70 686	253 623	68 979
TOTAL PASSES	77 454	63 135	98 050	66 809	72 787	67 825	93 717	66 131
PROPORTION	56.3%	94.7%	57.9%	96.1%	41.1%	96.0%	37.0%	96.0%
PASSED WITH MATRIC EXEMPTION	39 354	28 347	27 865	29 126	17 170	29 933	20 999	28 615
PROPORTION OF TOTAL NO. OF CANDIDATES	28.6%	42.5%	16.4%	41.9%	9.7%	42.4%	8.0%	41.0%
PASSED WITH SCHOOL-LEAVING CERTIFICATE	38 100	34 788	70 185	37 683	55 617	37 892	72 718	37 516
PROPORTION OF TOTAL NO. OF CANDIDATES	27.7%	52.2%	41.4%	54.2%	31.4%	53.6%	28.7%	54.4%

(Source: Cooper et al 1986/7 to 1991/2 Race Relations Surveys.)

Appendix 7

PER CAPITA EXPENDITURE ON EDUCATION BY THE STATE ON PUPILS OF DIFFERENT RACE GROUPS

EXPENDITURE PER CAPITA IN R000'S

GROUP	1986/87	1987/88	1988/89	1989/90
Blacks (white areas only)	476.95 (23%)	593.39 (24%)	764.73 (29%)	930.00 (22%)
Coloured	1021.41 (15%)	1507.55 (48%)	1359.78 (-10%)	1983.00 (46%)
Indian	1904.20 (37%)	2014.88 (6%)	2227.01 (11%)	2659.00 (19%)
White	2508.00 (-9.0%)	2722.00 (9%)	3082.00 (13%)	3739.00 (21%)

(Figures in brackets refer to year-on-year increase in expenditure per capita)

(Source: Cooper et al 1986/7 to 1989/90 Race Relations Surveys)

MATRICULATION RESULTS: INDEXING OF SCHOOL SUBJECTS, GRADES AND SYMBOLS

RESEARCH GROUP: 3

AREA: SOWETO

SCHOOL SUBJECTS, GRADES + SYMBOLS

INDEX: GRADES SUBJECTS & SYMBOLS

CODE	SCHOOL	ENG 3	AFRIK 2	GEOG 2	BIOL 2	SCI 3	A/C 3	ECON 3	BUS ECON 3	MATHS 3	HIST 1	BIB STUDY 1	OTHER 1	GRADE	SUB-JECTS	SYMBOLS	TOTAL
E2	TH																
E3	TH	D(H)	E(H)		E(H)	G(S)				G(H)			E(H)	5	14	5	24
E4	TH	D(H)	E(H)				E(H)		D(S)	H(H)			E(H)	5	15	7	27
E7	TH	E(H)	E(H)		E(H)	F(S)				F(S)			D(H)	4	14	5	23
E8	TH	D(H)	E(H)		H(H)				D(S)		E(H)		E(H)	5	12	6	23
E11	TH	D(H)	E(H)		H(H)	G(S)				F(H)			E(H)	5	12	4	21
E13	TH	E(S)	F(S)		H(H)	H(S)				H(H)			E(H)	3	14	2	19
E14	TH	D(H)	E(H)				E(S)		E(S)	H(S)			C(H)	3	15	8	26
E17	EM	E(H)	E(H)		F(S)	F(S)				H(H)			E(H)	4	12	3	19
E19	EM	E(H)	E(H)	F(S)	F(S)						E(S)		C(H)	3	11	5	19
E20	EM	D(H)	E(H)				F(H)		E(H)	H(H)			E(H)	6	15	5	26
E21	EM	F(H)	H(H)				H(H)		G(H)	H(H)			E(H)	6	15	1	22
E22	EM	D(H)	E(H)		E(H)	D(S)				E(H)			E(H)	5	14	8	27
E24	EM	E(H)	F(H)				E(H)		E(H)	H(H)			E(H)	6	15	4	25
E25	LE	C(H)	E(H)	F(S)	H(H)							E(H)	E(H)	5	11	6	22
E26	LE	D(H)	E(H)		E(S)	E(S)				H(H)			D(H)	4	14	7	25
E29	LE	D(H)	F(H)	G(H)	H(H)							F(H)	E(H)	6	11	3	20
E31	LE	D(H)	E(H)	F(S)	H(H)							E(H)	E(H)	5	11	5	21
E33	TH	E(H)	E(H)				E(H)		F(H)	E(S)			E(H)	5	15	5	25

NOTE: Figures under subjects indicate weighting of the subject in terms of its importance in a business sense. Higher grade is rated at 1 point, Standard as 0, for index purposes. A "C" symbol scores 3 points, a "D" 2 and "E" 1 point and those below "0". Eng = English; Afrik = Afrikaans; Geog = Geography; Biol = Biology; Sci = Science; A/C = Accountancy; Econ = Economics; Bus Econ = Business Economics; Maths = Mathematics; Hist = History; Bib Study = Biblical Study.

INDEXING OF SUBJECTS AND MATRICULATION RESULTS

GROUP: 3 **AREA: SOWETO**

SCHOOL SUBJECTS, GRADES + SYMBOLS | INDEX: GRADES SUBJECTS & SYMBOLS

CODE	SCHOOL	ENG 3	AFRIK 2	GEOG 2	BIOL 2	SCI 3	A/C 3	ECON 2	BUS ECON 3	MATHS 3	HIST 1	BB STUDY 1	OTHER 1	GRADE	SUB-JECTS	SYMBOLS	TOTAL
C2	TH	E(H)	E(H)						D(S)		E(S)		D(H)	3	10	7	20
C3	TH	D(H)	E(S)		F(S)				D(S)		E(H)		E(H)	3	12	7	22
C4	TH													-	-	-	-
C7	TH	D(H)	E(H)		G(H)	E(S)				H(H)			D(H)	5	14	6	25
C8	TH	F(S)	F(S)		H(H)				F(S)		H(H)		E(H)	3	12	1	16
C1	TH	E(H)	E(H)		H(H)	F(S)				H(H)			E(H)	5	14	3	22
C13	TH	E(H)	F(H)		F(H)	G(S)				F(H)			E(H)	5	14	2	21
C14	TH	E(H)	F(H)		H(H)	H(S)				H(H)			D(H)	5	14	3	22
C19	EM	C(H)	E(H)		E(H)	E(S)				H(H)			D(H)	5	14	8	27
C20	EM	D(H)	E(H)				C(H)		C(H)	E(H)			D(H)	5	15	12	33
C21	EM	E(H)	F(H)	F(S)	E(H)					H(H)			D(H)	5	13	4	22
C22	EM	E(H)	E(S)				F(S)		F(H)	F(S)			E(H)	3	15	3	21
C24	EM	E(H)	E(S)				E(S)		F(H)	F(S)			E(H)	3	15	3	21
C25	LE	D(H)	F(H)		G(H)						G(H)	E(S)	D(H)	5	10	5	20
C26	LE	D(H)	E(H)		H(H)	G(H)				H(H)			D(H)	5	14	5	25
C29	LE													-	-	-	-
C31	LE													-	-	-	-

NOTE: Figures under subjects indicate weighting of the subject in terms of its importance in a business sense. Higher grade is rated at 1 point, Standard as 0, for index purposes. A "C" symbol scores 3 points, a "D" 2 and "E" 1 point and those below "D". Eng = English; Afrik = Afrikaans; Geog = Geography; Biol = Biology; Sci = Science; A/C = Accountancy; Econ = Economics; Bus Econ = Business Economics; Maths = Mathematics; Hist = History; Bib Study = Biblical Study.

Appendix 9

YOUTH ENTERPRISE

(NOTE: This is the application form for students to join the research group)

SURNAME: _____ FIRST NAME: _____

SEX: _____ DATE OF BIRTH: _____

HOME ADDRESS: _____

_____ TEL. NO.: _____

POSTAL ADDRESS: _____

_____

SCHOOL ATTENDED: _____

TEL. NO.: _____ STANDARD: _____

SUBJECTS TAKEN: _____

_____

DETAILS OF PART-TIME WORK _____

_____

_____

HAVE YOU EVER SOLD ANYTHING? _____

_____

_____

HOBBIES AND INTERESTS _____

_____

SPORTS PLAYED

CLUBS AND ASSOCIATIONS

WHAT ARE YOUR MOST IMPORTANT ACHIEVEMENTS/ SUCCESSES?

WHAT ARE YOUR PLANS AFTER LEAVING SCHOOL?

WHY ARE YOU INTERESTED IN YOUTH ENTERPRISE?

IS YOUR FATHER OR MOTHER IN BUSINESS? GIVE DETAILS.

SIGNATURE OF APPLICANT ..... SIGNATURE OF PARENT OR GUARDIAN ..... DATE .....

Appendix 10

YOUTH ENTERPRISE

(Questionnaire on academic performance, occupation and business activity)

NAME: _____

ADDRESS: _____

_____ TEL. NO.: _____

If you are not at home, at what address can we reach you?

_____

_____

Please tick the answers to the following questions.

1. Did you pass your matriculation examinations? Yes/No
2. What were your subjects and symbols? _____

_____

3. Are you studying? Yes/No
4. If the answer is YES, what are you studying?

_____

Where are you studying?

_____

Have you got a bursary? Yes/No

5. If you are not studying, have you got a job? Yes/No

a. If the answer is YES, is your job full-time or part-time? Yes/No

b. Who are you working for?

_____

c. What is your job?

d. If you are not studying full-time and do not have a job, what are you doing?

6. Please write below and tell us what you hope to do when you have completed your studies (for example have you been promised a job?)

7. If you are still looking for a job, what job would you like to do?

8. Are you doing anything to make some money for yourself? Yes/No

If YES, can you give some details on what you are doing, how much you are selling and why you are doing this (for example to help pay your fees?)

9. Are you going to be home during July holidays? Yes/No

10. What is your contact telephone number?

SIGNATURE ..... DATE .....

YOUTH ENTERPRISE

(Follow-up questionnaire on attendance at tertiary level institutions, and/or involvement in economic or other activities)

NAME: _____

ADDRESS: _____

_____ TEL. NO.: _____

1. What are you doing now?

_____

2. Why are you doing this activity?

_____

_____

3. What are your plans for the remainder of 1988?

_____

_____

4. Are you making and/or selling anything? Yes/No

5. If YES, what is it that you are making or selling and to whom?

_____

_____

_____

6. If NO, what is stopping you making or selling something? Please explain what the problems/difficulties are that you have to overcome.

_____

_____

_____

....

SIGNATURE DATE

P.O. Box 98
Wits
2050, South Africa

Telegrams 'Embark'
(011) 643-3241/2/3/4

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Centre for Developing Business · Graduate School of Business Administration

1989.05.09

Dear

THE YOUTH ENTERPRISE PROGRAMME: KWA THEMA

You will remember that you took part in the above business learning exercise at the "3M" premises in Isando at the end of 1987, just before you wrote your matriculation examination. In order to complete our work, we need to contact you again, to find out what you are doing. You were part of the experimental/ control group.

We understand that some of you are away at College and University. It is possible that you will be here for the mid-year break in June/July. We would like you to phone us on the number 643-3241 (ask for Mr Black) to talk to you about what you are doing. Some of you may have a job, or not doing anything. We would also like to hear from you, please.

We have attached to this letter a form for you to complete now and send back to us, as soon as you can. There is a stamped addressed envelope enclosed, so that this will not cost you anything. Thank you.

We have run the youth Enterprise Programme in several townships had have learnt a great deal about students and their difficulties. It is important that we keep in touch as we are preparing a report which we will publish and this will assist in the understanding of conditions where you live.

Thank you for your help.

We look forward to hearing from you.

Yours sincerely

S. BLACK
DIRECTOR

The University of the Witwatersrand rejects racism and racial segregation. It is committed to non-discrimination, particularly in the constitution of its student body, in the selection and promotion of its staff, and in its administration.

PHD System PHDPRN1
Print Student Record - Experiment Group YEPIV - Student Code E1

Sub Division . . : * Intervention . . : 1 Experiment Group : YEPIV
Sex. . . . . : 2 Age. . . . . : 19 School . . . . . : 13
Subject Class. . : 1 Extra Curr. Act. : 1 Parent Occupation: 2
Attendance . . . : 88 %

AMQ Test - Before YEP
Factor A : 17 Factor B : 20 Factor C : 3 Factor D : 10
Factor E : 7 Factor AA: 40 Factor BB: 17 Factor PM: 57

AMQ Test - After YEP
Factor A : 18 Factor B : 19 Factor C : 6 Factor D : 16
Factor E : 8 Factor AA: 43 Factor BB: 24 Factor PM: 67

Rotter Test
Pre YEP : 12 Post YEP : 10

Kai Test - Before YEP
Factor SD: 37 Factor E : 13 Factor R : 40 Total : 90

Kai Test - After YEP
Factor SD: 44 Factor E : 17 Factor R : 34 Total : 95

Business Knowledge
Post YEP : 30

Numeracy Skills : 70

Matric
Std Grade: 31

Own Business
After YEP: 0

Career Intentions
Pre YEP : . After YEP: 1

Occupation

3-4 Mths : 1

Appendix 14

VARIABLE DETAILS

VARIABLE	CODE	DESCRIPTION	
V1	Group	1 = Experimental	2 = Control
V2	Intervention	0 = No	1 = Yes
V3	Area	1 = Kwa Thema 3 = Soweto "A"	2 = Vosloorus 4 = Soweto "B"
V4	Student respondent	Student number identification	
V5	Gender	Male or Female	Male = 1 Female = 2
V6	Age	Years (16 - 25)	
V7	School participation	Numbered:	1 - 17
V8	Subjects studied	Business = 1	Non-business = 2
V9	Extra curricular activities	No = 1	Yes = 2
V10	Parents' occupation	Do not have own business = 1	Have own business = 2
V11	Attendance	Percent during intervention	(Control = 0)
V12	Achievement motive questionnaire (AMQ)	Pre-intervention	Factor A - (Persistency)
V13	AMQ	Pre-intervention	Factor B - (Time awareness)
V14	AMQ	Pre-intervention	Factor C - (Action orientation)
V15	AMQ	Pre-intervention	Factor D - (Aspiration level)
V16	AMQ	Pre-intervention	Factor E - (Personal causation)
V17	AMQ	Pre-intervention	Factor AA - (Goal directedness)
V18	AMQ	Pre-intervention	Factor BB - (Personal excellence)
V19	AMQ	Pre-intervention	Factor AM - (Achievement motivation)

VARIABLE	CODE	DESCRIPTION	
V20	Achievement motive questionnaire (AMQ)	Post-intervention	Factor A
V21	AMQ	Post-intervention	Factor B
V22	AMQ	Post-intervention	Factor C
V23	AMQ	Post-intervention	Factor D
V24	AMQ	Post-intervention	Factor E
V25	AMQ	Post-intervention	Factor AA
V26	AMQ	Post-intervention	Factor BB
V27	AMQ	Post-intervention	Factor AM
V28	Pre-intervention	Rotter Test (I-E)	
V29	Post-intervention	Rotter Test (I-E)	
V30	Pre-intervention	KAI Inventory	Factor SO
V31	Pre-intervention	KAI Inventory	Factor E
V32	Pre-intervention	KAI Inventory	Factor R
V33	Pre-intervention	KAI Inventory	Factor TO KAI Score
V34	Post-intervention	KAI Inventory	Factor SO
V35	Post-intervention	KAI Inventory	Factor E
V36	Post-intervention	KAI Inventory	Factor R
V37	Post-intervention	KAI Inventory	Factor TO KAI Score
V38	Business knowledge	Test: Post Intervention	
V39	Business knowledge	Test: 3 months later	
V40	Numeracy test		
V41	Index of Matric subjects &	results	
V42	Post-intervention	Business ownership	
V43	Post-intervention	Own business	3 months later
V44	Post-intervention	Own business	12 months later
V45	Pre-intervention -	Career Aspirations	
V46	Post-intervention -	Career Aspirations	
V47	Occupation -	Post-intervention	
V48	Occupation -	Post-intervention	12 months later
V49	Matriculation -	Subject Index	
V50	Matriculation results		
V51	Own business -	1 = Yes	0 = No

Appendix 15

CHECK LIST FOR INFORMAL BUSINESSES

To be used as a guide to evaluate whether the student who says he has an informal business, has in fact got one.

ITEM 1: What is the business - describe it?

ITEM 2: Is there a trading licence and if so, whose name is it in?

ITEM 3: Does the student have receipts/vouchers for the purchase of raw materials/transport/goods?

ITEM 4: Is the student able to show the interviewer the materials or goods physically.

ITEM 5: Where is the "Stock" of goods kept - can this be shown to you, physically?

ITEM 6: Where are the goods sold?
Or a route followed?
Can this place be found?
Did you see the student actually selling in this place?

ITEM 7: If the student is making something, how is this done (knitting, sewing)?
Have you seen the machine/s used?
Where is it?
Whose is it?

ITEM 8: What vending equipment is used (benches, buckets, posters)?
Are the goods displayed?

ITEM 9: Does the student actually sell, or act as a runner or "go for" somebody else?
Does he work for somebody else, i.e. business not his own?

ITEM 10: Has the student ever been summonsed for illegal trading?
Evidence of harassment?

ITEM 11: Where does the money come from to buy the goods?
Does the student run a bank account/savings account?
Can you see this and are regular payments/withdrawals made?

ITEM 12: Has the student ever got a loan?
From whom?
Can an IOU/outstanding amount be shown, or a receipt perhaps?
Does the student get credit at all?
Is he paid cash for his sales?
Does he give credit?
Does he pay for goods in advance?

ITEM 13: What records are kept (e.g. number sold/made)?
Are sales recorded?
Are sales recorded anywhere?
Did you see the records?

ITEM 14: How is pricing done?
Does he follow others - i.e. match prices?
Is the price calculated and is a real profit made?

ITEM 15: Can the student identify the customer target market?
How has the student identified his target customers?

INVESTIGATION OF INFORMAL BUSINESSES: DATA SHEET

NAME: _____ CODE: _____

ADDRESS: _____

_____ PHONE: _____

DATE OF INTERVIEW: _____

ITEM 1: _____

_____

_____

ITEM 2: _____

ITEM 3: _____

ITEM 4: _____

ITEM 5: _____

ITEM 6: _____

_____

ITEM 7: _____

_____

ITEM 8: _____

_____

ITEM 9: _____

_____

ITEM 10: _____

_____

ITEM 11: _____

_____

ITEM 12: _____

_____

_____

ITEM 13:

ITEM 14:

ITEM 15:

GENERAL:

What was the attitude of the student towards this investigation: Co-operative/non-co-operative, enthusiastic/non-enthusiastic?

Do you think that he does have a business or not?

INTERVIEWER: **DATE:**

1. A always plans his/her programme a long time ahead.
   B seldom plans his/her programme a long time ahead.

2. A persists with every task which he/she tackles.
   B finds it difficult to persist

3. A is inclined to make careless errors in his/her work.
   B is usually very accurate in his/her work.

4. A feels that every minute of the day must be used actively.
   B feels that he/she can relax a bit during his/her daily duties.

5. A prefers tasks where he/she must take a risk.
   B avoids tasks where he/she must take a risk.

6. A sets easy goals that he/she knows he/she will be able to reach.
   B aims high in spite of the possibility of failure.

7. A begins preparing himself/herself for a task a long time beforehand.
   B prefers to prepare for a task a short while beforehand.

8. A loses heart when problems are experienced.
   B perseveres with a task even though many problems are experienced.

9. A believes that his/her actions are correct in most situations.
   B doubts the correctness of his/her actions in most situations.

10. A prefers a task that is demanding and challenging even though there is a reasonable chance of failure.
    B prefers simple tasks where the chance of failure is slight.

HM - QUESTIONNAIRE

INSTRUCTIONS

This questionnaire consists of a number of items where contrasting descriptions concerning two people, viz. Person A and Person B, are given. Read the two descriptions in every item and then decide which one of the two BEST describes you. Mark your choice with a cross over the letter A or B on the SEPARATE ANSWER SHEET. You may sometimes find that none of the two descriptions quite fit you, but you should, nevertheless, decide which of the two is more like you. Mark only one cross for each item.

There is no time limit. You should, however, work quickly and ensure that each item is answered. Do not linger over any item.

PLEASE NOTE:

Your answer for one item should never influence your answer to another item as Person A or B of one item is not necessarily the same as Person A or B in any other item. Carefully consider each item independently from all the other items.

Turn now to the ANSWER SHEET and supply the necessary information on the first page.

When you start filling in the responses on the answer sheet, please do not make any marks on the questionnaire. All responses must be filled in on the separate answer sheet.

You will note that the answer sheet is divided into columns - one column for each page of the questionnaire. Place your answer sheet under the questionnaire so that the column marked "page 1" protrudes on the right hand side. When you have completed page 1 of the questionnaire, turn the page over and carry on with page 2. At the same time, shift the answer sheet further under the questionnaire so that page 2 protrudes on the right hand side, and so on.

Under no circumstances mark any of the numbers on the answer sheet - these are for use by the computer. Mark only an "X" over A or B of every item.

IF YOU HAVE ANY QUESTIONS YOU MAY ASK THEM NOW

Copyright : Unit for Entrepreneurship
University of Pretoria
Pretoria, 1980

11. A feels that idleness is sometimes justified.

    B cannot tolerate idleness

12. A does not worry too much if certain of his/her goals are not attained.

    B worries if he/she cannot reach all his/her goals.

13. A's whole orientation is concerned with the present.

    B's whole orientation is concerned with the future.

14. A is prepared to spend his/her free time learning a skill.

    B feels he/she would rather use his/her free time for relaxation.

15. A is confident that he/she is able to successfully complete all tasks which he/she tackles.

    B is unsure whether he/she can successfully complete all tasks which he/she tackles.

16. A always has lots to do.

    B sometimes looks for something to do.

17. A sometimes gives up too easily.

    B does not give up easily.

18. A prefers to avoid all risks.

    B prefers to take calculated risks.

19. A avoids an occupation where high standards are demanded.

    B prefers an occupation where high standards are demanded.

20. A does not rest until an assignment is completed

    B is not upset when an assignment is not completed.

21. A feels that time sometimes stands still.
B feels that time flies quickly.

22. A prefers work of a routine nature.
B prefers demanding work.

23. A will accept a challenge even though he/she is not sure of success.
B will only accept a challenge when he/she is fairly certain of success.

24. A prefers working to a timetable.
B finds it difficult working to a timetable.

25. A welcomes periodical rest breaks during the execution of a difficult task.
B prefers to first complete a difficult task and then take a break.

26. A relies on own abilities to overcome difficulties.
B relies on the help of others in order to overcome difficulties.

27. A first tackles difficult tasks.
B leaves the difficult tasks for later.

28. A observes how the career situation develops for himself/herself.
B has a clear plan of his/her future career which he/she follows carefully.

29. A views success as resulting from personal skills.
B views success as partly pure luck.

30. A finds it difficult to resume work after an interruption.
B easily resumes a task after an interruption.

31. A would prefer a job that offers a challenge, even though less security is attached to it.

    B would rather prefer work that offers security, even though there is less challenge.

32. A is not worried if he/she deviates from his/her timetable.

    B feels discontented if he/she deviates from his/her timetable.

33. A tends to give up easily.

    B endures until the end.

34. A can for an unlimited time focus his/her attention on carrying out a task.

    B's attention is easily distracted while performing a task.

35. A is vague as to his/her future plans.

    B has very clear future plans.

204

36. A does not easily accept help in the solving of a complex task.

    B readily accepts help in the solving of a complex task.

37. A feels that time passes too quickly.

    B has enough time "to live it up".

38. A feels that his/her actions can at times be planned better.

    B always acts in a planned way.

39. A views personal skills as important for success.

    B accepts that luck can play a role in success.

40. A avoids tasks to which great risks are attached.

    B prefers tasks to which great risks are attached.

41. A always has a full programme.

B's programme is not always full.

42. A feels that external factors makes his/her control of situations difficult.

B usually feels in control of a situation.

43. A does not enjoy to organise his/her life strictly.

B enjoys to organise his/her life strictly.

44. A often tackles more difficult tasks where he/she is not sure of whether he/she will be able to complete them.

B rather tackles easier tasks which he/she is sure he/she can complete.

45. A is not always sure of his/her plans for the following year.

B mostly has clarity as to what he/she is going to do the following year.

46. A is usually discouraged by his/her misfortunes.

B is never discouraged by his/her misfortunes.

47. A prefers a challenging profession to an interesting profession.

B prefers an interesting profession to a challenging profession.

48. A seldom works to a timetable.

B mostly works to a timetable.

49. A prefers challenging situations in spite of a real chance of failure.

B prefers situations where he/she is sure of success.

50. A finds it easier to leave work incomplete because he/she can finish it later.

B does not leave work incomplete if there is enough time to complete it.

51. A seldom plans a programme according to which he/she is to carry out all his/her activities.

B usually plans a programme according to which he/she is to carry out all his/her activities.

52. A tends to forsake plans if circumstances become unfavourable.

B completes his/her plans to the "bitter end" even though circumstances are unfavourable.

53. A easily wastes time.

B uses every minute.

54. A starts immediately when an assignment is given to him/her.

B waits a while before he/she starts on an assignment.

55. A prefers tasks with an average level of difficulty.

B prefers very difficult or very easy tasks.

P-03

56. A mostly decides for himself/herself what to do in certain situations.

B usually allows himself/herself to be lead by the opinions of others in his decisionmaking.

57. A is sometimes idle.

B is always busy.

58. A accepts resignedly if his/her watch loses time.

B is irritated if his/her watch loses time.

59. A relaxes only after a task has been completed.

B relaxes even before a task has been completed.

60. A will be satisfied if he/she fares well, even though he/she does not come out right on top.

B wants to reach the highest level in life at all costs.

61. A completes the easier jobs first as he/she can complete them with confidence.

B completes the difficult jobs first so as to get it over with.

62. A sets standards for himself/herself that are not too high or too low.

B usually sets high standards for himself/herself.

63. A finds it difficult to do something more than what he/she resolved to do.

B usually gets more done than what he/she resolved to do.

64. A blames himself/herself if he/she oversleeps.

B is not much concerned if he/she oversleeps.

65. A prefers an occupation that demands a very high standard.

B prefers an occupation that demands an average standard.

66. A usually carries on with relatively difficult jobs until he/she masters them.

B usually gives up before he/she has mastered a relatively difficult job.

67. A is prepared to take a chance to complete his/her plans even though circumstances are less favourable.

B is not prepared to take a chance and carry out his/her plans if circumstances are unfavourable.

68. A always ensures that his/her watch is set to the correct time.

B is less concerned as to whether his/her watch is set to the correct time.

69. A prefers situations in which he/she is mainly required to follow directions developed by others.

B prefers situations in which he/she can personally take initiative to make things happen.

70. A It worries A if he/she was late for an appointment.

B does not worry if he/she is occasionally late for an appointment.

71. A prefers an important and difficult task even though there is only a 50% chance of success.

B avoids an important and difficult task where there is only a 50% chance of success.

72. A finds it easy to start a new task even though the previous task is incomplete.

B does not start easily with a new task while the previous task is incomplete.

73. A prefers goals which he/she can attain without much effort.

B prefers goals for which he/she has to exert a great amount of effort.

74. A feels guilty when he/she somewhere uses his/her time ineffectively.

B does not mind if he/she sometimes wastes time.

75. A prefers a work situation that requires a very high standard of excellence.

B prefers a work situation demanding an average standard of excellence.

76. A sometimes does not know what to do with his/her time.

For B time usually passes too quickly.

77. A has a need to succeed.

B has a need to avoid failure.

78. A first completes an urgent job at home before he/she can relax.

B prefers to relax at home and then do the urgent job the next morning.

79. A becomes disheartened by setbacks.

B regards setbacks as new challenges.

80. A believes that if completion of a job is postponed it will never get done.

B feels that "tomorrow is another day" with regard to the execution of a task.

81. A prefers working for an established firm.

B prefers to manage his/her own business undertaking.

82. A's conscience always worries him/her if he/she has not executed a job to the best of his/her ability.

B's conscience seldom worries him/her if he/she has not executed a job to the best of his/her ability.

83. A can accept easily that no solution to a problem exists.

B keeps on searching until he finds a solution to a problem.

84. For A structure and order in his/her life is very important.

For B structure and order in his/her life is unimportant.

21. A In the long run the bad things that happen to us are balanced by the good ones.

    B Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. A With enough effort we can wipe out political corruption.

    B It is difficult for people to have much control over the things politicians do in office.

23. A Sometimes I can't understand how teachers arrive at the grades they give.

    B There is a direct connection between how hard I study and the grades I get.

24. A A good leader expects people to decide for themselves what they should do.

    B A good leader makes it clear to everybody what their jobs are.

25. A Many times I feel that I have little influence over the things that happen to me.

    B It is impossible for me to believe that chance or luck plays an important role in my life.

26. A People are lonely because they don't try to be friendly.

    B There's not much use in trying too hard to please people, if they like you, they like you.

27. A There is too much emphasis on athletics in high school.

    B Team sports are an excellent way to build character.

28. A What happens to me is my own doing.

    B Sometimes I feel that I don't have enough control over the direction my life is taking.

29. A Most of the time I can't understand why politicians behave the way they do.

    B In the long run the people are responsible for bad government on a national as well as on a local level.

UNIT FOR ENTREPRENEURSHIP

UNIVERSITY OF PRETORIA

*

I-E SCALE

This is a questionnaire to discover how certain important events in our society affect different people. Each item consists of two alternatives marked A and B respectively. Please choose the one statement from each pair which you are convinced describes your view adequately. Assure that you choose the one statement which you believe to be true rather than to choose the one which you think others will approve of or which you wish were true. This is a measure of personal conviction - there are no right or wrong answers.

Your answers must be marked on the separate answer sheet (printed on yellow paper and titled ; I-E Scale ; Response sheet).

Please answer the questions thoroughly, but do not spend too much time on each. Make sure that you have answered each question. Mark A or B of the appropriate number of the item on the answer sheet, to reflect your convictions.

In certain cases you may find that you either believe both statements or believe neither. In such cases you must still choose the one statement which seems the most acceptable to you. Please evaluate each statement independently and do not be influenced by your previous choices.

Please turn the page and start at item 1, page 2.

*Based upon Rotter's Locus of Control (1966), modified for South African conditions by the Unit for Entrepreneurship, University of Pretoria.

1. A Children get into trouble because their parents punish them too much.

   B The trouble with most children nowadays is that their parents are too easy with them.

2. A Many of the unhappy things in people's lives are partly due to bad luck.

   B People's misfortunes result from the mistakes they make.

3. A One of the major reasons why we have wars is because people don't take enough interest in politics.

   B There will always be wars, no matter how hard people try to prevent them.

4. A In the long run people get the respect they deserve in this world.

   B Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. A The idea that teachers are unfair to students is nonsense.

   B Most students don't realize the extent to which their grades are influenced by accidental happenings.

406

6. A Without the right breaks one cannot be an effective leader.

   B Capable people who fail to become leaders have not taken advantage of their opportunities.

7. A Now matter how hard you try some people just don't like you.

   B People who can't get others to like them don't understand how to get along with others.

8. A Heredity plays the major role in determining one's personality.

   B It is one's experience in life which determine what they're like.

9. A I have often found that what is going to hap[illegible] will happen.

   B Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. A In the case of the well prepared student there is rarely if ever, such a thing as an unfair test.

    B Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. A Becoming a success is a matter of hard work, luck has little or or nothing to do with it.

    B Getting a good job depends mainly on being in the right place at the right time.

12. A The average citizen can have an influence in government decisions.

    B This world is run by the few people in power, and there is not much the little guy can do about it.

13. A When I make plans, I am almost certain that I can make them work.

    B It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. A There are certain people who are just no good.

    B There is some good in everybody.

15. A In my case getting what I want has little or nothing to do with luck.

    B Many times we might just as well decide what to do by flipping a coin.

16. A Who gets to be the boss often depends on who was lucky enough to be in the right place first.

    B Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. A As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

    B By taking an active part in political and social affairs the people can control world events.

18. A Most people don't realise the extent to which their lives are controlled by accidental happenings.

    B There really is no such thing as "luck".

19. A One should always be willing to admit mistakes.

    B It is usually best to cover up one's mistakes.

20. A It is hard to know whether or not a person really likes you.

    B How many friends you have depends upon how nice a person you are.

Respondent Details

Date _____

Name _____

Age _____ Sex _____

Occupation/Title _____

_____

Department _____

Educational Status _____

_____

Other _____

_____

KAI RESPONSE SHEET

IMPORTANT

- Complete 'Respondent Details'
- Answer all questions
- Use ball point pen and press hard

Guidance Notes

We all find it necessary to present a particular image of ourselves consistently over a long period. In some cases this proves easy as we are like this; sometimes it is very difficult as we are not like this at all.

For instance, some of us are early risers. It is easy for such people to present the image of good timekeepers at work. So if you are an early riser and were asked how easy or hard it is for you to present an image at work of a good timekeeper you would put a clear cross on the scale below on or near 'Very Easy'.

Very Hard	Hard	Easy	Very Easy
. . . . .	. . . . .	. . . . .	X . . . .

If you are the extreme other sort, you would find being on time every morning for a long period difficult, and you may well put a cross on the scale at the 'Very Hard' end.

Please indicate the degree of difficulty (or ease) that would be required for you to maintain the image, consistently for a long time, that is asked of you by each item below.

How easy or difficult do you find it to present yourself, consistently, over a long period as:

	Very Hard	Hard	Easy	Very Easy
1) A PERSON WHO IS PATIENT.				
2) A PERSON WHO CONFORMS.				
3) A PERSON WHO WHEN STUCK WILL ALWAYS THINK OF SOMETHING.				
4) A PERSON WHO ENJOYS THE DETAILED WORK.				
5) A PERSON WHO WOULD SOONER CREATE SOMETHING THAN IMPROVE IT.				
6) A PERSON WHO IS PRUDENT WHEN DEALING WITH AUTHORITY OR GENERAL OPINION				
7) A PERSON WHO NEVER ACTS WITHOUT PROPER AUTHORITY.				
8) A PERSON WHO NEVER SEEKS TO BEND (MUCH LESS BREAK) THE RULES.				
9) A PERSON WHO LIKES BOSSES AND WORK PATTERNS WHICH ARE CONSISTENT.				
10) A PERSON WHO HOLDS BACK IDEAS UNTIL THEY ARE OBVIOUSLY NEEDED.				
11) A PERSON WHO HAS FRESH PERSPECTIVES ON OLD PROBLEMS.				
12) A PERSON WHO LIKES TO VARY SET ROUTINES AT A MOMENT'S NOTICE.				
13) A PERSON WHO PREFERS CHANGES TO OCCUR GRADUALLY.				
14) A PERSON WHO IS THOROUGH.				
15) A PERSON WHO IS A STEADY PLODDER.				
16) A PERSON WHO COPES WITH SEVERAL NEW IDEAS AND PROBLEMS AT THE SAME TIME.				
17) A PERSON WHO IS CONSISTENT.				
18) A PERSON WHO IS ABLE TO STAND OUT IN DISAGREEMENT ALONE AGAINST A GROUP OF EQUALS AND SENIORS.				
19) A PERSON WHO IS STIMULATING.				
20) A PERSON WHO READILY AGREES WITH THE TEAM AT WORK.				
21) A PERSON WHO HAS ORIGINAL IDEAS.				
22) A PERSON WHO MASTERS ALL DETAILS PAINSTAKINGLY.				
23) A PERSON WHO PROLIFERATES IDEAS.				
24) A PERSON WHO PREFERS TO WORK ON ONE PROBLEM AT A TIME.				
25) A PERSON WHO IS METHODICAL AND SYSTEMATIC.				
26) A PERSON WHO OFTEN RISKS DOING THINGS DIFFERENTLY.				
27) A PERSON WHO WORKS WITHOUT DEVIATION IN A PRESCRIBED WAY.				
28) A PERSON WHO LIKES TO IMPOSE STRICT ORDER ON MATTERS WITHIN OWN CONTROL.				
29) A PERSON WHO LIKES THE PROTECTION OF PRECISE INSTRUCTIONS.				
30) A PERSON WHO FITS READILY INTO 'THE SYSTEM'.				
31) A PERSON WHO NEEDS THE STIMULATION OF FREQUENT CHANGE.				
32) A PERSON WHO PREFERS COLLEAGUES WHO NEVER 'POCK THE BOAT'.				
33) A PERSON WHO IS PREDICTABLE.				

PLEASE CHECK THAT YOU HAVE ANSWERED ALL 33 QUESTIONS

© M. J. Kirton 1985
form ref. EL85R.

NUMERACY TEST

1. What does the following mean: $X < Y$?

2. What is 5% of R150 ?

3. What is 28 x R2,10 ?

4. What is 5 x R1,70 + 16 x R2,00 ?

5. What is R5,00 less 15% ?

6. What is 7 x R6,75 ?

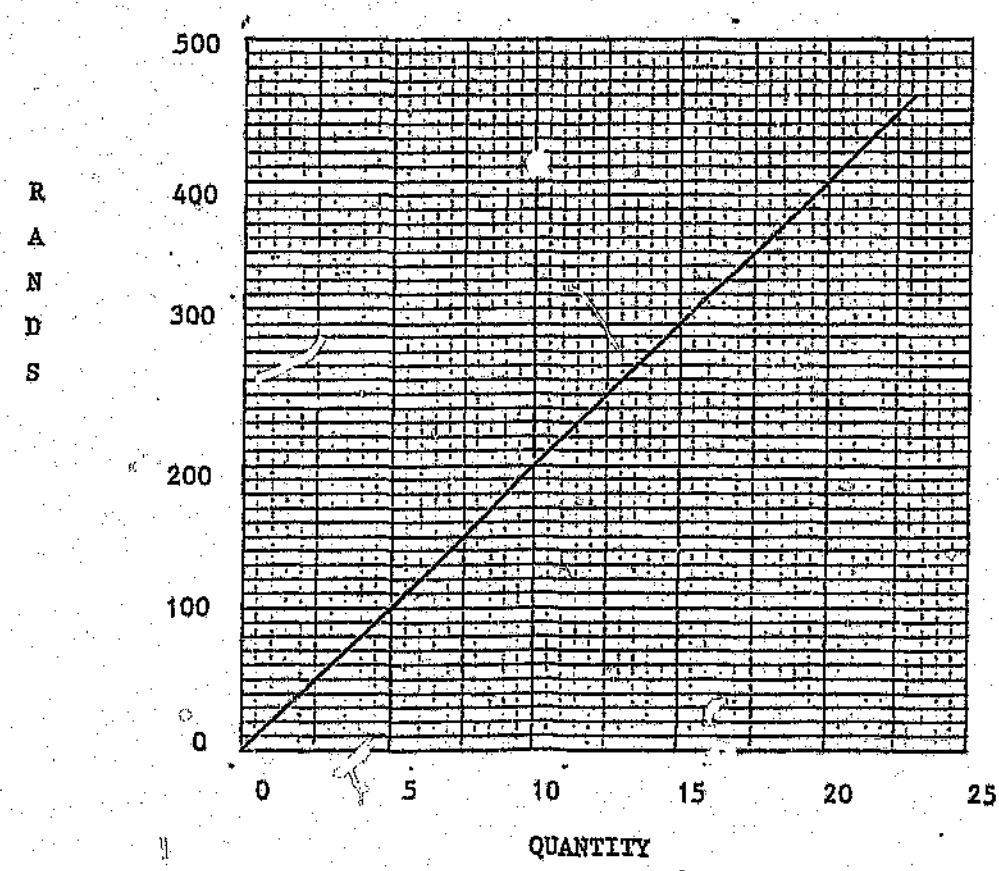
7. Calculate X if $X = \frac{300}{10 - 5}$?

8. Divide R125 among 25 people.
   How much will each person get ?

9. Add:

	R2840,19
	R 161,03
	R 38,72
R	

10. From the graph below, what quantity will be required to produce R300 ?



BUSINESS KNOWLEDGE TEST

QUESTIONS

1. During the course, you were shown a diagram of the inputs and output of a business.

   Draw this, label it and explain what is means. (60%)

2. If you had your own business, why is it important to know and understand this diagram?

   How would it help you in running your own business? (30%)

3. In order to make a profit, what must happen? (10%)

Appendix 22

CODING OF BUSINESS KNOWLEDGE TEST

BUSINESS KNOWLEDGE PERCENTAGE SCORE	BUSINESS KNOWLEDGE CODE
0	1
1 - 14	2
15 - 34	3
35 +	4

SUMMARY OF STUDENT INTERVIEWS: OCTOBER, 1989

INTERVIEWEE	ACTIVITIES: 1988	ACTIVITIES: 1989	SHORT TERM PLANS	LONG TERM PLANS	OTHER ACTIVITIES	FAMILY SITUATION	PARENTS
GROUP I E2	RE-WROTE MATRIC - UNSUCCESSFUL	AT SECRETARIAL COLLEGE. STUDYING OFFICE ADMINISTRATION.	TO SIT MATRICULATION AGAIN. TO FIND A JOB - NEED TO HELP PARENTS.	TO BE A TEACHER IN PRIMARY SCHOOL. WANTS TO ATTEND COLLEGE.	DOES NOTHING TO HELP FAMILY FINANCIALLY.	CHILDREN: 4 (2M; 2F/M). LIVING IN HOME: 7. CRIPPLED UNCLE SUPPORTED. HOUSE: RENTED. PARENTS PAYING FOR COLLEGE. UNMARRIED NO CHILDREN.	FATHER: ENGINEERING SHOP OPERATOR. MOTHER: CLEANER IN RESTAURANT.
E9	IMPROVED MATRIC SYMBOLS - SUCCESSFUL	LOOKING FOR PART-TIME JOB. HAS OWN PHOTOGRAPHIC BUSINESS.	WANTS TO STUDY COMMERCIAL SUBJECTS AT TECHNIKON.	WANTS TO GET EXPERIENCE WORKING IN A COMPANY. EVENTUALLY START OWN PHOTOGRAPHIC BUSINESS.	INFORMAL BUSINESS - MAKES MONEY TO GO TO COLLEGE.	CHILDREN: 3 (2M; 1F/M). LIVING IN HOME: 13. GRANDPARENTS, AUNTS UNCLES. SOME MONEY FROM THEM. ELDEST BROTHER TAXI DRIVER. SUPPORTS FAMILY. UNMARRIED - NO CHILDREN.	FATHER: DIED WHEN YOUNG. MOTHER: MACHINE OPERATOR.
E15	GOT A JOB. WAS STUDYING TO RE-WRITE MATRIC.	IS A LABOURER AT TUBE MANUFACTURER. IS STUDYING PRIVATELY TO RE-WRITE EXAMS.	GOT TO IMPROVE MATHS. SYMBOL. PLANNING TO GO TO TECHNIKON.	WANTS TO GET INTO ACCOUNTING, SALES OR MARKETING OR PRODUCTION MANAGEMENT.	HELPS FAMILY WITH MONEY. SAVING TO GO TO COLLEGE.	CHILDREN: 4 (2M; 2F/M). LIVING IN HOME: 7. HOME BELONGS TO FAMILY. UNMARRIED - NO CHILDREN.	FATHER: DRIVER. MOTHER: NOT WORKING.
E16	RE-SAT EXAMS. GOT MATRICULATION.	LOOKED FOR JOBS - INTERVIEWED, HAD TESTS. UNSUCCESSFUL.	TO GO TO TECHNIKON OR COLLEGE, TO STUDY COMMERCIAL SUBJECTS.	HOPES TO HAVE OWN BUSINESS AS FASHION DESIGNER. (AUNT TEACHING HER CLOTHES MAKING).	SCHOOL FRIEND MAKES JERSEYS SELLS. THEM ON COMMISSION. MAKES APPROX R20/MO.	CHILDREN: 3 (2M; 1 F/M). LIVING IN HOME: 4. RENTED HOUSE. GRAND-PARENTS HELP TO SUPPORT HER. UNMARRIED - NO CHILDREN.	FATHER: DIED 1987 MOTHER: BREAD WINNER.
E22	GOT PART-TIME WORK WITH MOTHER. FELL PREGNANT - NO STUDYING.	CASUAL PART-TIME WORK IN RETAIL STORE. COULDN'T FIND FULL TIME JOB. NOT STUDYING. NO MONEY TO GO TO COLLEGE.	WANTS TO GO TO TECHNIKON - NOT ACCEPTED.	WANTS TO STUDY CHEMISTRY, DO LAB. WORK. LATER TAKE MEDICAL BSC.		CHILDREN: 3 (2M; 1 F/M). LIVING IN HOME: 6. RENTED HOUSE. UNMARRIED WITH BABY GIRL.	FATHER: PERSONNEL OFFICER. MOTHER: MANAGERESS RETAIL STORE.

SUMMARY OF STUDENT INTERVIEWS: OCTOBER, 1989

INTERVIEWEE	ACTIVITIES: 1988	ACTIVITIES: 1989	SHORT TERM PLANS	LONG TERM PLANS	OTHER ACTIVITIES	FAMILY SITUATION	PARENTS
GROUP I C-16	ENTERED TEACHERS TRAINING COLLEGE	2ND YEAR AT COLLEGE. STUDYING BUSINESS ECONOMICS, PHYSICAL EDUCATION FOR SENIOR SECONDARY TEACHING.	FINISH TEACHING STUDIES.	TO GET TEACHING POSITION.	WHOLESALER CONTACT SELLS RETAIL - OWN BUSINESS EMPLOYS 2 PEOPLE. MAKES R200/MONTH. HAS TO SUPPLEMENT GOVERNMENT SCHOLARSHIP.	CHILDREN: 7 (5M; 2F/M). LIVING IN HOME: 9. HOUSE FAMILY OWNED. UNMARRIED - NO CHILDREN.	FATHER: HAS SPAZA SHOP. MOTHER: SELLS TO SCHOOL CHILDREN.
GROUP II E18		STUDYING MATRIC SUBJECTS AGAIN - ST ANTHONY'S ADULT CENTRE.	HAS APPLIED FOR JOB. IF UNSUCCESSFUL WILL STUDY COMPUTER SCIENCE AT TECHNIKON.	WANTS TO WORK WITH PEOPLE IN OWN BUSINESS OR FOR A BIG COMPANY.	TO HELP FAMILY SELLS CIGARETTES & VIENNA SAUSAGES.	CHILDREN: 4 (2M; 2 F/M). LIVING IN HOME: 7. OLDEST BROTHER WORKING - COUSIN HELPS FINANCIALLY. HOUSE RENTED. UNMARRIED.	FATHER: DIED. MOTHER: HELPS TO RUN SON'S BUSINESS - WILL TAKE OVER, IF NECESSARY.
C-2		GOT SICK - HOSPITALISED. TOO LATE TO GO BACK TO SCHOOL. SYMBOLS NEED IMPROVING.	NOT KEEN TO GO BACK TO SCHOOL, OR COLLEGE. HAS TO EARN MONEY. WANTS TO START BUSINESS.	WANTS JOB - HAS NOT BEEN ACTIVE IN THE SEARCH. LIKES TO TYPE BUT HAS NOT LEARNT.	APPLIED TO SA POLICE FOR JOB - IS NOT TALL ENOUGH. WANTS TO START SPAZA SHOP. IS LOCAL TABLE TENNIS CHAMPION.	CHILDREN: 7 (3M; 4F/MI. LIVING IN HOME: 10. BROTHER DOES PIECE WORK - 6 CHILDREN AT HOME - 1 MARRIED SISTER WITH 2 CHILDREN CONTRIBUTES FINANCIALLY HUSBAND NO WORK. HOUSE: FAMILY OWNED. UNMARRIED - NO CHILDREN.	FATHER: WORKING MOTHER: IS SICKLY - CAN'T WORK.
C-12		HAS MATRICULATION. NEEDS MONEY TO GO TO COLLEGE. CAN'T FIND A JOB. SELLING ON COMMISSION.	WILL GO TO TEACHERS COLLEGE. STUDY FOR SENIOR SECONDARY. HAS TO GET MONEY.	WANTS TO TEACH BUSINESS ECONOMICS, AND ACCOUNTANCY.	SELLS SHOES FROM FACTORY THROUGH FRIEND ON COMMISSION. MAKES MONEY FOR COLLEGE.	CHILDREN: 12 (3M; 9F/M). BROTHER BREAD-WINNER. 3 MARRIED SISTERS HELP FINANCIALLY. HOUSE: RENTED. UNMARRIED - NO CHILDREN.	FATHER: DIED 1980. MOTHER: ON PENSION IS TOO ILL TO WORK.

SUMMARY OF STUDENT INTERVIEWS: OCTOBER, 1989

INTERVIEWEE	ACTIVITIES: 1988	ACTIVITIES: 1989	SHORT TERM PLANS	LONG TERM PLANS	OTHER ACTIVITIES	FAMILY SITUATION	PARENTS
GROUP III E 17		TRIED TO GET JOB - NO SUCCESS STUDYING ON OWN TO IMPROVE MATRIC. SYMBOLS.	WANTS TO BE TRAFFIC OFFICER - HAS TO HAVE MATRIC-ULATION.	HOPES TO GET MONEY. WANTS JOB IN TRAFFIC DEPT. TO STUDY MEDICINE LATER ON.	HELPS IN MOTHER'S SHOP.	CHILDREN: 3 (2M; 1 F/M). LIVING IN HOME: 5. ELDEST WORKING. HOUSE: FAMILY OWNED. UNMARRIED - NO CHILDREN.	FATHER: DRIVER MOTHER: HAS SPAZA SHOP. HAS RUN TUCK SHOP FOR 5 YEARS.
E 19		NOT STUDYING. HAS OWN BUSINESS. APPLIED TO WITS. TECHNIKON TO DO BUSINESS MANAGEMENT.	MAY GO TO BOARDING SCHOOL TO RE-DO MATRIC. IF NOT ACCEPTED BY TECHNIKON.	WANTS TO DO SOCIAL WORK STUDYING AT UNIVERSITY. WILL WORK IN SOWETO CLINICS.	BUYS CURTAINING WHOLESALE - MAKES-UP TO SELL. KEEPS PROFIT FOR HERSELF. HELPS PARENTS SELL SWEETS AND ICE CREAM. SALES R15/DAY.	CHILDREN: 6 (2M; 4F/M). LIVING IN HOME: 6. 4 CHILDREN AWAY - 3 WORKING. HOUSE: RENTED. UNMARRIED - NO CHILDREN.	FATHER: PENSIONER MOTHER: PENSIONER
E 20		DOES NOT WANT TO STUDY ANY MORE. IS SELLING FROM HOME.	WANTED TO BE RADIO ANNOUNCER. WANTS TO CONCENTRATE ON OWN BUSINESS.	TEAMS UP WITH COUSIN TO FORM SINGING TEAM - WANTS TO BECOME PROFESSIONAL. SINGS AT FUNCTIONS.	MAKES UP COLD DRINKS - SELLS FROM HOME REFRIGERATOR 40% MARK-UP. MAKES R30 PER WEEK.	CHILDREN: 2 (1M; 1 F/M). LIVING IN HOME: 4. AUNT & GRAND-MOTHER AT HOME. COUNCIL HOUSE - RENTING. UNMARRIED - NO CHILDREN.	PARENTS: BOTH DEAD. AUNT WORKS. HAS TAKEN OVER FAMILY.
E 25		ATTENDS ADULT EDUCATION CENTRE TO IMPROVE MATRIC. SYMBOLS. DOES PART-TIME MODELLING. HAS HAIR STYLING BUSINESS.	WANTS TO GO TO COLLEGE OR UNIVERSITY, IF MATRICULATION SYMBOLS OK. IF NOT WILL JOIN SA POLICE UNIFORM DEPARTMENT.	WANTS TO BE PROFESSIONAL ACTRESS. TO STUDY B.A. (DRAMA).	DOES TV COMMERCIALS. EARNED R1000 IN ONE ADVERT. ACTS IN YOUTH CLUB PLAYS. RUNS HAIR STYLIST BUSINESS FOR 3 YRS - SELF-TAUGHT.	CHILDREN: 5 (3M; 2 F/M). LIVING IN HOME: 5. ELDEST TAILOR. MAKES CLOTHES & LINEN AT HOME. STUDENT PAYS OWN WAY AT HOME.	FATHER: DEAD MOTHER: HELPS ELDEST SON.

SUMMARY OF STUDENT INTERVIEWS: OCTOBER, 1989

INTERVIEWEE	ACTIVITIES: 1988	ACTIVITIES: 1989	SHORT TERM PLANS	LONG TERM PLANS	OTHER ACTIVITIES	FAMILY SITUATION	PARENTS
GROUP III C-19		GONE BACK TO SCHOOL - REWRITING MATRIC. SUBJECTS. CANNOT FIND WEEK-END JOB.	NEEDS MATRICULATION EXEMPTION TO GO TO UNIVERSITY TO STUDY OCCUPATIONAL THERAPY - NEEDS BURSARY.	TO STUDY OCCUPATIONAL THERAPY. IF NOT GET IN TO UNIVERSITY - WILL WORK IN OFFICE/SECRETARY. NEEDS MONEY TO DO STUDIES.	HELPS MOTHER SELL SOFT GOODS FROM HER CAR.	CHILDREN: 6 (1M; 5F/M). LIVING IN HOME: 6. HOME IS FAMILY OWNED. 2 ELDEST SISTERS CONTRIBUTE FINANCIALLY. UNMARRIED - 3 YR OLD GIRL.	FATHER: DIED 1980 MOTHER: HAS HAWKING LICENSE. SELLS SOFT GOODS LOCALLY.
GROUP IV E-33		HAS NOT RESUMED STUDIES - GOING TO DO THIS PART TIME. JOB APPLICATIONS UNSUCCESSFUL.	MATRICULATION ACCEPTED AT TECHNIKON. NOT APPLIED - NO MONEY FOR THIS. WANTS JOB IN BIG COMPANY.	WANTS TO TAKE COMMERCIAL QUALIFICATION AT TECHNIKON.	HELPS AUNT IN HER OWN BUSINESS. IS TOO SMALL TO BE A SPAZA. BREAD AND LIQUOR SOLD.	CHILDREN: 3 (2M; 1 F/M). LIVING IN HOME: 6. HOUSE: FAMILY OWNED. UNMARRIED AUNT AT HOME. HAS JOB - CASHIER. UNMARRIED - NO CHILDREN.	FATHER: DRIVER. MOTHER: HELPS AUNT.
E-37		GOT TO IMPROVE SYMBOLS - NO PLACE AT SCHOOL. STUDYING MARKETING MANAGEMENT.	WANTS TO GET BETTER MATRICULATION.	WANTS TO DO B.COM AT UNIVERSITY. WANTS TO OWN BUSINESS - RUN TAXIS LIKE HIS COUSIN.	SELLS COURSES ON COMMISSION FOR COLLEGE - MADE R400 IN A YEAR.	CHILDREN: 6 (5M; 1 F/M). LIVING IN HOME: 8. HOUSE: RENTED. UNMARRIED - NO CHILDREN.	FATHER: PETROL ATTENDANT. MOTHER: MAKES OVERALLS AT HOME IN BUSINESS 10 YRS.
C-7		RE-DOING MATRICULATION AT SCHOOL.	WANTS MATRICULATION EXEMPTION TO GO TO UNIVERSITY. IF NOT GET THIS WILL GO NURSING.	WOULD LIKE TO STUDY ENGINEERING OR COMPUTER SCIENCE AND WORK IN CORPORATION. WILL QUALIFY AS NURSE IF NOT GET OPPORTUNITY OR FINANCE FOR DEGREE.		CHILDREN: 4 (1M; 3 F/M). LIVING IN HOME: 10. HOUSE: RENTED. MOTHER HAS HOUSE IN SOWETO - UNCLE, AUNT AND GRANDMOTHER AT HOME. UNMARRIED - NO CHILDREN.	FATHER: LAID OFF COMPANY SHUT DOWN. IS DRIVER. MOTHER: TEACHER BREADWINNER IN FAMILY.

NOTES ON STUDENT INTERVIEW TABLES:

THE "E" AND "C" PRE-FIXES FOR INTERVIEWEE IDENTIFICATION REFER TO EXPERIMENTAL AND CONTROL GROUPS RESPECTIVELY.
ALL THE 17 INTERVIEWEES LIVED AT HOME.
"OTHER ACTIVITIES" REFERS MAINLY TO INFORMAL BUSINESS INVOLVEMENT.

DESCRIPTIVE STATISTICS OF ACHIEVEMENT MOTIVATION DIMENSIONS (AMQ) AND ROTTER INTERNAL - EXTERNAL (I-E) QUESTIONNAIRE

EXPERIMENTAL GROUP _ UNIVARIATE PROCEDURE

AMQ PRE-INTERVENTION

VARIABLE	n	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	MINIMUM	MAXIMUM	MODE
V12 (A)	101	16.64	3.39	-1.68	4.27	1.0	21.0	18
V13 (B)	101	16.07	3.08	-1.63	4.36	2.0	20.0	16
V14 (C)	101	6.02	1.88	-0.39	-0.18	1.0	9.0	5
V15 (D)	101	11.10	3.67	0.04	-0.43	2.0	19.0	9
V16 (E)	101	8.34	2.42	-0.36	-0.43	2.0	13.0	11
V17 (AA)	101	38.73	6.97	-1.79	5.86	4.0	49.0	40
V18 (BB)	101	19.44	4.64	-0.19	0.56	5.0	29.0	17
V19 (AM)	101	58.18	10.24	-1.60	5.32	9.0	77.0	55

ROTTER PRE-INTERVENTION

VARIABLE	n	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	MINIMUM	MAXIMUM	MODE
V28	101	9.81	2.67	-0.08	-0.33	3.0	16.0	10

Variable key: Appendix 14

CONTROL GROUP UNIVARIATE PROCEDURE

AMQ PRE-INTERVENTION

VARIABLE	n	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	MINIMUM	MAXIMUM	MODE
V12 (A)	91	17.35	2.76	-1.08	1.34	9.0	21.0	18
V13 (B)	91	16.97	2.49	-0.95	0.33	5.0	20.0	18
V14 (C)	91	6.52	1.85	-0.68	0.23	1.0	9.0	7
V15 (D)	91	12.14	12.14	3.23	-0.21	5.0	20.0	11
V16 (E)	91	8.80	2.32	-0.76	0.38	2.0	13.0	9
V17 (AA)	91	40.84	5.89	-0.93	1.05	23.0	50.0	42
V18 (BB)	91	20.94	4.48	-0.05	-0.45	11.0	32.0	22
V19 (AM)	91	61.78	8.70	-0.63	0.31	35.0	82.0	68

BOTTER PRE-INTERVENTION

VARIABLE	n	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	MINIMUM	MAXIMUM	MODE
V28	91	9.87	3.07	0.02	-0.19	3.0	18.0	10

Variable key: Appendix 14

Appendix 25

RELATIONSHIPS WITH OCCUPATIONAL GROUPS AND KEY VARIABLES

OCCUPATIONAL KEY:

1 = Continue studying
2 = Attending tertiary institutions
3 = Doing nothing
4 = Has a job
7 = Selling something

1. CROSS TABULATION: GENDER DIFFERENTIAL

Occupational Groups	1	2	3	4	7	Total
Male	42	10	7	13	7	79
Female	31	9	18	6	7	71
	73	19	25	19	14	150

2. ACHIEVEMENT AND OCCUPATION

Occupational Groups	1	2	3	4	7	Total
No extra activities	20	9	4	6	5	44
Yes extra activities	53	10	21	13	9	106
	73	19	25	19	14	150

3. EXPERIMENTAL AND CONTROL WITH OCCUPATION

Occupational Groups	1	2	3	4	7	Total
Experimental	40	12	12	10	7	81
Control	33	7	13	9	7	69
	73	19	25	19	14	150

4. MEANS OF POST-INTERVENTION AM SCORES AND OCCUPATION

OCCUPATIONAL GROUP	(n)	MEAN (V27)
4	19	63.90
7	13	62.77
3	25	62.60
2	18	60.94
1	71	58.85

No significant differences

5. MEANS OF POST-INTERVENTION ROTTER SCORES

OCCUPATIONAL GROUP	(n)	MEANS (V29)	DUNCAN GROUPING
3	24	10.5	A
1	70	10.23	A
4	19	8.58	B
7	13	8.54	B
2	18	8.50	B

Groups 3 and 1 significantly different from 4,7 and 2.

6. MEANS FOR BUSINESS KNOWLEDGE

OCCUPATIONAL GROUP	(n)	MEAN (V36)
2	17	22.94
1	67	20,08
4	17	16.77
3	23	16,30
7	14	10.36

No significant differences

7. MEANS OF AGE GROUPS

OCCUPATIONAL GROUP	(n)	MEAN (V6)
4	19	20.74
3	25	20.36
7	14	20.35
2	19	19.95
1	73	19.86

No significant differences

8. MEANS OF DIFFERENCES BETWEEN AM - SCORES: PRE- AND POST INTERVENTION

OCCUPATIONAL GROUP	(n)	AMDIF
4	19	3.00
7	12	2.33
3	23	1.91
1	68	1.68
2	16	-0.63

No significant differences

RELATIONSHIPS WITH MATRICULATION RESULTS AND KEY VARIABLES

1. MEANS FOR GEOGRAPHIC GROUPS "E" VERSUS "C"

Group	Experimental	Control
1	(n=26) 9.577	(n=22) 8.364
2	(n=12) 9.167	(n=16) 8.750
3	(n=18) 9.667	(n=14) 9.30
4	(n=24) 10.04	(n=20) 9.500

No significance (p=0.49)

2. MEANS FOR COMBINED "E" AND "C" GROUPS AND MATRIC

Group	Size n=	Means	Std Deviation	P-value
1	48	9.021	2.841	0.25
2	28	8.929	2.433	0.66
3	32	9.531	2.676	0.75
4	44	9.932	3.259	0.81

Interactive effect - no significance (p=0.88). Group 1 lower p value differ slightly more than others. (Class Observation)

3. COMPARISON BUSINESS VERSUS NON-BUSINESS AND MATRIC (EXPERIMENTAL AND CONTROL COMBINED)

Group	Size n=	Mean (v60)	Std Deviation
Non-Business	96	9.281	2.809
Business	58	9.538	3.658

(p=0.63 - no difference)

4. COMPARISON BETWEEN "E" AND "C" GROUPS DOING BUSINESS SUBJECTS AND MATRIC

Group	Size n=	Average
Experimental	26	10.31
Control	30	8.87

p=0.14 relatively low - nominal difference between average values could be significant - needs larger sample. Experimental better than Control. Investigation did not benefit "non-business" group.

5. COMPARISON BETWEEN "E" AND "C" GROUPS AND NON-BUSINESS SUBJECTS AND MATRIC

Group	Size n=	Mean
Experimental	54	9.37
Control	42	9.17

No significance (p=0.73)

6. COMPARISON BETWEEN "BUSINESS" VERSUS "NON-BUSINESS" SUBJECTS AND EXPERIMENTAL AND CONTROL

Subjects	Experimental	Control	Difference	p-values
Business	10.31	8.87	1.44	0.14
Non-Business	9.37	9.17	0.20	0.73

No significance. Low p-value for Experimental doing business indication intervention of benefit.

7. COMPARISON BETWEEN "BUS" VERSUS "NON-BUS" AND EXPERIMENTAL AND CONTROL

Group	"Bus or Non-Bus"	Experimental	Control	Difference	P-values
1	B	12.14 (n=8)	8.64 (n=17)	3.50	0.04
1	Non-B	8.63 (n=21)	7.88 (n=10)	0.75	0.62
2	B	12.33 (n=8)	9.25 (n=5)	3.08	0.32
2	Non-B	8.11 (n=19)	8.58 (n=19)	-0.47	0.52
3	B	10.00 (n=5)	9.50 (n=4)	0.5	0.87
3	Non-B	9.54 (n=14)	9.30 (n=13)	0.24	0.79
4	B	8.73 (n=16)	8.75 (n=14)	-0.02	0.98
4	Non-B	11.15 (n=16)	10.50 (n=14)	0.65	0.57

Experimental Group 1 students with Business subjects did significantly better than Control in same group (p<0.05).

8. AVERAGE RESULT : COMPARISON OF SCHOOLS: MATRIC

Means significantly different?		Mean	Size n=	School Number
	A	12.357	14	14 * #
B	A	11.143	7	3 #
B	A	11.000	1	12 #
B	C	7.857	14	6 *
B	C	7.667	3	16 *
B	C	7.333	3	15 *
	C	6.143	7	1 * #

Significantly different School 14 v's 6,16,15 and 1; No. 1 v's 14,3,12.

9. MALE AND FEMALE COMPARISON OF MATRIC RESULTS (SAMPLE SIZE n=152. AVERAGES)

Male	Female	P-value
9.625	9.097	0.30

Not significant

10. REPEAT ABOVE - MALE, FEMALE AVERAGES/GROUP

Group	Male	Female	P-value
1	9.62	8.32	0.22
2	8.69	9.25	0.55
3	9.82	9.20	0.52
4	10.19	9.70	0.62

Not significant

11. ANALYSIS ON AN AGE DIFFERENTIAL BASIS WITH MATRIC

Age Set	Age (Yrs)	n=
1	<18	22
2	19	36
3	20	40
4	>21	54

Means Of Age Sets		Mean	n=	Set
	A	10.75	36	2
B	A	9.43	40	3
B		9.14	22	1
B		8.52	54	4

At a p-value <0.01, means differential with same letter not significant. Significant difference between 2 and 1 and 4.

12. COMPARISON OF GROUPS 1 - 4 WITH AGE SET AND MATRIC RESULTS

Group	Age Set	Mean		P-value
1	2	10.75		0.46
	1	10.00		No significance
	3	9.00		
	4	8.06		
2	3	10.40		0.46
	2	9.00		No significance
	1	8.83		
	4	8.20		
3	2	11.14	A	0.01
	3	10.00	A B	Set 2 and 4 had
	1	9.40	A B	significantly different
	4	8.18	B	results
4	2	11.79	A	0.01
	4	9.55	A	Sets 2 and 1 -
	3	9.08	A B	significantly different
	1	6.50	B	results.

13. GENDER DIFFERENTIATION BETWEEN AGE SETS AND MATRIC RESULTS

Age set	Male Means	Age Set	Female Means
2	10.96	2	10.43
3	10.16	1	8.88
1	9.83	3	8.76
4	8.39	4	8.71

No significance between means Male versus Female with age.

14. MATRIC RESULTS (V50) CORRELATED WITH CONTINUOUS VARIABLES

Correlates of V50	Coefficient V	P-value
Numeracy (V40)	0.103	0.220
AMQ DIF (V27 - V19)	-0.024	0.791
ROT DIF (V29 - V28)	-0.009	0.918

No significant correlations found.

Appendix 27

CROSS TABULATIONS: PARTICIPANTS WITH OWN BUSINESSES (V51) AND KEY VARIABLES

1. GEOGRAPHIC DISTRIBUTION

V51	AREA	1	2	3	4	Σ
0		50	40	33	58	181
1		6	9	3	2	20
Σ		56	49	36	60	201

2. GENDER DISTRIBUTION

V51	MALE	FEMALE	Σ
0	94	87	181
1	12	8	20
Σ	106	95	201

3. AGE DISTRIBUTION

V51	<18 YEARS	19 YEARS	20 YEARS	>21 YEARS	Σ
0	27	53	46	55	181
1	4	3	5	8	20
Σ	31	56	51	63	201

4. EXTRA-CURRICULA ACTIVITIES

V51	NO	YES	Σ
0	46	135	181
1	8	12	20
Σ	54	147	201

CROSS TABULATIONS: PARTICIPANTS WITH OWN BUSINESSES (V51) AND KEY VARIABLES

5. SCHOOLS DISTRIBUTION

SCHOOL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Σ
0	7	12	8	18	5	21	9	10	24	14	7	2	14	16	10	3	1	181
1	0	2	1	2	1	6	3	0	2	1	1	0	0	0	0	1	0	20
Σ	7	14	9	20	6	27	12	10	26	15	8	2	14	16	10	4	1	201

STUDY OF CAREER INTENTIONS: KEY VARIABLES

INDEX	CAREER INTENTIONS:	DESCRIPTION
	1.	Business related
	2.	Medically related (e.g. nurse)
	3.	Education - teacher
	4.	Uncertain what to do
	5.	Own or family business
	6.	Professional (e.g. lawyer)
	7.	Community work (e.g. social or police)

1. CROSS TABULATION OF GENDER (V5) WITH CAREER INTENTIONS.

GENDER	CAREER INTENTIONS							TOTAL
	1	2	3	4	5	6	7	
MALE	23	7	13	26	8	23	5	105
FEMALE	24	22	12	14	2	7	14	95
TOTALS	47	29	25	40	10	30	19	200

2. CROSS TABULATION OF AGE GROUPINGS WITH CAREER INTENTIONS

AGE GROUPINGS	CAREER INTENTIONS							TOTAL
	1	2	3	4	5	6	7	
< 18 YEARS	6	6	2	3	1	6	6	30
19 YEARS	16	7	3	10	6	9	5	56
20 YEARS	11	9	6	9	2	8	6	51
> 20 YEARS	14	7	14	18	1	7	2	63
TOTALS	47	29	25	40	10	30	19	200

3. RESPONDENTS' MEAN AGES WITH CAREER INTENTIONS.

CAREER INTENTIONS	MEAN AGE (YEARS)	SAMPLE SIZE (n)	DUNCAN GROUPING		
3	20.88	25	A		
4	20.40	40	A	B	
1	19.93	47	A	B	C
2	19.69	29		B	C
6	19.67	30		B	C
5	19.30	10			C
7	19.21	19			C

Significant difference between career intentions 3 and 5 and 7.

4. RELATIONSHIPS BETWEEN EXTRA-CURRICULAR ACTIVITIES (V9) AND CAREER INTENTIONS.

ACHIEVEMENTS (V9)	CAREER INTENTIONS							TOTAL
	1	2	3	4	5	6	7	
NO	9	8	9	12	5	9	2	54
YES	38	21	16	28	5	21	17	146
TOTALS	47	29	25	40	10	30	19	200

No significant differences.

5. RELATIONSHIPS BETWEEN BUSINESS KNOWLEDGE (V38) AND CAREER INTENTIONS.

CAREER INTENTIONS	MEAN FOR V38	SAMPLE SIZE (n)
5	22.14	7
1	21.16	43
6	20.83	24
2	19.26	23
7	17.06	17
4	15.91	35
3	13.25	20

No significant differences.

6. RELATIONSHIPS BETWEEN NUMERACY (V40) AND CAREER INTENTIONS.

CAREER INTENTIONS	MEAN FOR V40	SAMPLE SIZE (n)
6	60.80	25
2	54.82	29
5	53.30	9
3	52.08	24
4	51.10	36
1	51.09	46
7	47.20	18

No significant differences.

7. RELATIONSHIPS BETWEEN POST-INTERVENTION AM VALUE (V27) AND CAREER INTENTIONS.

CAREER INTENTIONS	MEAN AGE V27	SAMPLE SIZE (n)	DUNCAN GROUPING	
1	64.10	46	A	
6	62.41	29	A	B
3	60.42	24	A	B
2	60.31	29	A	B
4	59.87	38	A	B
5	59.44	9	A	B
7	56.90	19		B

Significant difference between career intentions 1 and 7.

8. RELATIONSHIPS BETWEEN POST-INTERVENTION ROTTER I-E VALUES (V29) AND CAREER INTENTIONS.

CAREER INTENTIONS	MEAN AGE V29	SAMPLE SIZE (n)	DUNCAN GROUPING	
5	11.00	9	A	
2	10.72	29	A	
4	10.03	38	A	B
7	9.94	18	A	B
3	9.54	24	A	B
1	9.36	45	A	B
6	8.21	28		B

Significant difference between career intentions 6 and 2 and 5. ($p=0.044$)

Author: Black S
Name of thesis: Entrepreneurial behavior of disadvantage urban youth- A study of the effects of an experiential intervention

PUBLISHER:
University of the Witwatersrand, Johannesburg
©2015

LEGALNOTICES:

Copyright Notice: All materials on the University of the Witwatersrand, Johannesburg Library website are protected by South African copyright law and may not be distributed, transmitted, displayed or otherwise published in any format, without the prior written permission of the copyright owner.

Disclaimer and Terms of Use: Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page)for your personal and/or educational non-commercial use only.

The University of the Witwatersrand, Johannesburg, is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the Library website.