ARE WE TEACHING POTENTIAL ENTREPRENEURS IN THE BEST WAY TO ENHANCE THEIR CAREER SUCCESS?

Julie Logan: Cass Business Cshool, London, United Kingdom

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Contact: Julie Logan, Cass Business Cshool, City University, EC1 London, United Kingdom, Email: J.Logan@city.ac.uk

ABSTRACT

Governments in Australia, the UK and US have stressed the need to nurture and enhance the entrepreneurial skills of the next generation, but does the education system support those who are most innovative?

This comparative study explored: the incidence of dyslexia¹ in entrepreneurs, corporate managers and the general population. It examined the suggestion that dyslexic entrepreneurs have soft skills that are of benefit in the new venture creation process and explored their experience of education (including entrepreneurship education). The study also examined how entrepreneurship is taught in universities and whether this meets the needs of our most innovative students.

INTRODUCTION

Many entrepreneurs claim to be dyslexic. These include Richard Branson, and Charles Schwab (Morris, 2002). They have suggested that being dyslexic has helped them succeed but education has failed them. Furthermore anecdotal evidence suggests there is a high incidence of dyslexia in entrepreneurs. Initial research in the UK supported this (Logan 2001). In addition research with dyslexic adults suggests those who successfully overcome their difficulties develop coping strategies that may also be useful in business (Everatt, Steffert and Smythe, 1999).

There is also evidence that the UK/US school curriculum does not encourage the development of skills, particularly soft skills, essential for creating enterprising young people (NESTA, 2007). Frey (1990) suggests school curriculum is becoming geared to left brain learning and weeding out some of our most innovative people.

Objective of Study

This research compared the rate of dyslexia in two population groups: entrepreneurs and corporate managers in the United States; examined the suggestion that dyslexics had particular entrepreneurial skills that provide an advantage in business and explored the entrepreneur's educational experience. A previous study (Logan 2001) examined the incidence of dyslexia in UK entrepreneurs and corporate managers. The current study also examined how entrepreneurship is currently taught in our universities to establish whether the methods being used were appropriate for dyslexic entrepreneurs.

Methodology

The research was completed in three phases. First a questionnaire was devised for all participants to compare the incidence of dyslexia in entrepreneurs and corporate managers. This second questionnaire (which at this stage has been piloted with 36 of the original respondents) examined family and educational backgrounds, experiences whilst running their own company and self-perception of various entrepreneurial related attributes. In addition a survey examining teaching pedagogy was

carried out with 30 teachers of entrepreneurship who attended the training the entrepreneurship lecturer run by Cass Business School.

First study

The initial questionnaire which was designed for both the corporate managers and entrepreneurs comprised of three main sections. The first focused on company details and their role within this company, the second included questions relating to their education and attributes. The third section incorporated a series of Yes/No questions from 'A Revised Adult Dyslexia Checklist' (Vinegrad 1994); these questions were able to identify which respondents in the study displayed signs of dyslexia. The questionnaire was structured to collect quantitative data.

The Academy for Entrepreneurial Leadership at the University of Illinois provided contact details for entrepreneurs and the Kauffman Foundation Business and Financial database provided the contact details of entrepreneurs and corporate managers. The database also included details concerning company size and their financial status. A mail or email correspondence was sent to 2,000 potential participants explaining that the research was investigating characteristics of corporate managers and entrepreneurs and asked them to complete the questionnaire. A total of 102 entrepreneurs and 37 corporate managers responded. Each key variable was analysed to reveal any differences between the two groups; dyslexic entrepreneurs and non-dyslexic entrepreneurs. A control group of corporate managers was included in the analysis to compare incidence of dyslexia.

(The study replicated the UK study (Logan 2001) completely so that comparisons could be drawn; however the UK study used business directories as the sample frame. 215 respondents completed the UK study.

The Follow up Study

Thirty-six respondents from the initial study took part in the follow up study. This involved following up in more depth the respondents perception of their entrepreneurial ability and educational experience. The research tool was a semi-structured questionnaire.

The Study of entrepreneurship teaching Pedagogy

Thirty entrepreneurship lecturers from the US and UK completed a questionnaire prior to commencing the programme and after. The questionnaire was designed to explore their teaching methods and evaluate their entrepreneurial self-efficacy.

RESULTS OF STUDY

The primary variable to represent these groups was a split between those who displayed dyslexic characteristics (n=36) and those who did not (n=66). The control group of corporate managers was included in the analysis. A description of the sample can be found below.

Table 1: Sample Composition

				Total
		Entrepreneur	Corporate Manager	
Non-Dyslexic		66	34	100
Dyslexic*		36	3	39
	Total	102	37	139

*With four or more distinct recognisable traits

A further two variables representing the split were created; Dyslexia6 (6 or more traits were taken to represent a high level of dyslexia) and Dsylexia8, (A person with all 8 traits would be on the extreme end of the dyslexia scale). The same analysis was applied to these groups. Obviously the sample size of dyslexic entrepreneurs was reduced significantly (Dys6: n=17, Dys8: n=5), however where trends

were found, it was interesting to explore whether they were more or less significant as the level of dyslexia increased. They are reported within the relevant section.

Table two below provides a summary of all the analysis performed, and any relevant notes. All dependent variables were included in the analysis; however the main body of the report focuses on those where trends were found. The analysis was split into three areas, examining variables relating: to business aspects; personal attributes and early experiences.

Note on statistical tests used: Where there was enough in the sample to run tests, either Chi Square, Fisher's exact test or Mann Whitney tests were used, depending on the nature of the dependent variables and relevant assumptions. P values are reported in table 2, including marginal significance. Trends which were not significant are noted as n.s.

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Table 2: Summary of Analysis - Study One

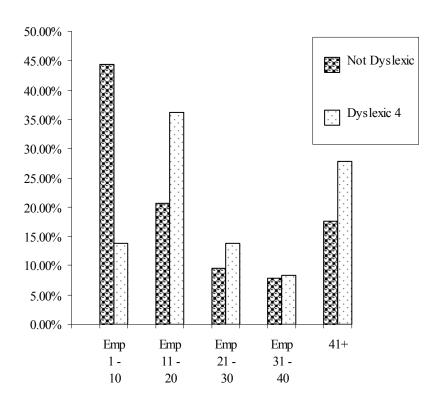
Incidence of Dyslexia in Entrepreneurs

As can be seen in Table One above there is a much higher incidence of dyslexia in entrepreneurs in the USA than in the normal population and in the corporate population. 35 % of US entrepreneurs in this sample reported as dyslexic. Less than 1% of corporate managers reported as dyslexic, this compares with a US national incidence of up 15% (Morgan & Klein 2000: Morris 2002²).

Chosen Industry

No pattern emerged for the type of Industry the entrepreneur had chosen. Whilst there was some difference between dyslexics and non-dyslexics these were not significant. Both groups showed a preference for the service industries with manufacturing second and engineering third.

Figure 1 Number of Staff Managed



A clear pattern emerged; dyslexic entrepreneurs were more likely to have more staff than non-dyslexic entrepreneurs. This was found to be statistically significant at the 95% confidence level.

		Entr	epreneurs		Corporate	Managers
	Not			Not		
	Dys4	Dys4	Total	Dys4	Dys4	Total
0-10	28	5	33	11	2	13
	44.4%	13.9%	33.3%	32.4%	66.7%	35.1%
11-20	13	13	26	10	0	10
	20.6%	36.1%	26.3%	29.4%	0.0%	27.0%
21-30	6	5	11	4	0	4
	9.5%	13.9%	11.1%	11.8%	0.0%	10.8%
31-40	5	3	8	2	0	2
	7.9%	8.3%	8.1%	5.9%	0.0%	5.4%

41+	11	10	21	7	1	8
	17.5%	27.8%	21.2%	20.6%	33.3%	21.6%
Total	63	36	99	34	3	37

Number of Years Running Company

Non-dyslexic entrepreneurs were more likely to be running a company for a longer period of time than dyslexic entrepreneurs. This was found to be statistically significant at the 90% confidence level (p=.056). When dyslexia was identified using 6 criteria, the effect was found to be significant at the 99% confidence level. This finding sits in contrast with the number of business held by dyslexic and non-dyslexic entrepreneurs.

In order to see the impact of the control group, a similar variable, time held in position, was analysed. The same effect was not found amongst corporate managers.

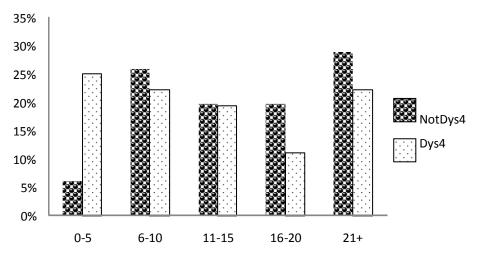


Figure 2: Length of time running company. n=102

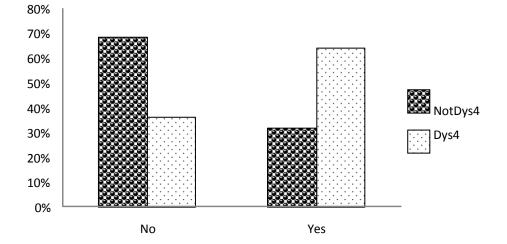
	Not Dys4	Dys4	Total
0-5	4	9	13
	6.1%	25.0%	12.7%
6-10	17	8	25
	25.8%	22.2%	24.5%
11-15	13	7	20
	19.7%	19.4%	19.6%
16-20	13	4	17
	19.7%	11.1%	16.7%
21+	19	8	27
	28.8%	22.2%	26.5%
Total	66	36	102

Owning Any Other Business

Although dyslexic entrepreneurs were less likely to have run their business for longer periods of time, they were more likely to have more than one business. This was found to be statistically significant at the 99% confidence level. When dyslexia was identified using 6 criteria, the effect was found to be significant at the 95% confidence level.

		Entre	epreneurs		Corporate I	Managers
	Not Dys4	Dys4	Total	Not Dys4	Dys4	Total
No other business	45	13	58	30	2	32
	68.2%	36.1%	56.9%	88.2%	66.7%	86.5%
Other Business	21	23	44	4	1	5
	31.8%	63.9%	43.1%	11.8%	33.3%	13.5%
Total	66	36	102	34	3	37

Figure 3: Run another business n=102



Analysis of Personal Attributes Risk Taking

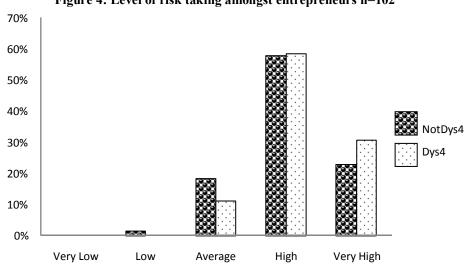


Figure 4: Level of risk taking amongst entrepreneurs n=102

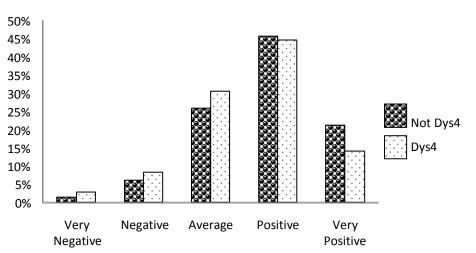
All entrepreneurs were likely to say they had a high level of risk taking. Those who were dyslexic were slightly more likely to rate their risk taking as high as non-dyslexic entrepreneurs, however this was not found to be statistically significant. However, with corporate managers included, this trend between dyslexic and non-dyslexic people is strengthened, and becomes significant at the 95% confidence level. Note that there was a very small sample of dyslexic corporate managers (n=3), so the finding should be only taken as indicative.

When asked if their risk taking had decreased over time, there were no patterns found between dyslexic and non-dyslexics.

		Entre	preneurs	(Corporate	Managers
	Not Dys4	Dys4	Total	Not Dys4	Dys4	Total
Very Low	0	0	0	0	0	0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Low	1	0	1	2	0	2
	1.5%	0.0%	1.0%	5.9%	0.0%	5.4%
Average	12	4	16	11	0	11
	18.2%	11.1%	15.7%	32.4%	0.0%	29.7%
High	38	21	59	18	3	21
	57.6%	58.3%	57.8%	52.9%	100.0%	56.8%
Very High	15	11	26	3	0	3
	22.7%	30.6%	25.5%	8.8%	0.0%	8.1%
Total	66	36	102	34	3	37

Analysis of Early Experiences

School Experience





There was a small trend where dyslexics were less likely to have a positive school experience; however this was slight and not found to be statistically significant. The trend held when the control group were added into the sample, however remained non significant.

		Entr	epreneurs		Corporate	Managers
				Not		
	Not Dys4	Dys4	Total	Dys4	Dys4	Total
Very Negative	1	1	2	0	0	0
	1.5%	2.8%	2.0%	0.0%	0.0%	0.0%
Negative	4	3	7	3	0	3
	6.1%	8.3%	6.9%	8.8%	0.0%	8.1%
Average	17	11	28	4	0	4
	25.8%	30.6%	27.5%	11.8%	0.0%	10.8%
Positive	30	16	46	16	1	17
	45.5%	44.4%	45.1%	47.1%	33.3%	45.9%
Very Positive	14	5	19	11	2	13
	21.2%	13.9%	18.6%	32.4%	66.7%	35.1%
Total	66	36	102	34	3	37

Early Years

Having a business in the family, or a mentor, were the most common influences for entrepreneurs. Other specified influences were to do with specific events or general comments.

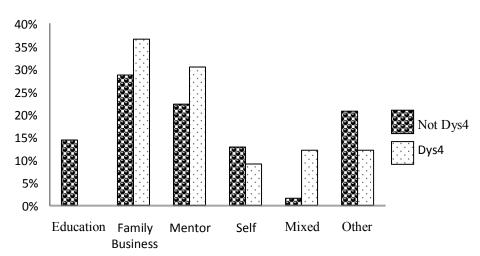


Figure 6: Early influences of entrepreneur's n=96

Non-dyslexic entrepreneurs are more likely to be influenced by their education; indeed no dyslexic entrepreneurs identified education as an influence unless it was amongst a mix of influences. Dyslexic entrepreneurs were more likely to be influenced by a mentor (often in the family) or family business than non-dyslexic entrepreneurs. Education was also found to be more likely to influence non-dyslexic corporate managers, however due to the range of options available, the number responses per category was too small to analyse.

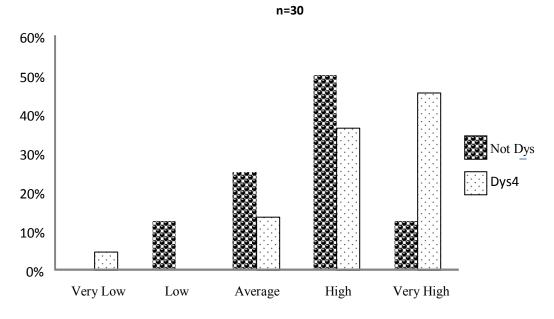
		Entre	preneurs	Co	orporate N	Ianagers
	Not Dys4	Dys4	Total	Not Dys4	Dys4	Total
Education	9	0	9	15	0	15
	14.3%	0.0%	9.4%	45.5%	0.0%	41.7%
Family Business	18	12	30	8	1	9
	28.6%	36.4%	31.3%	24.2%	33.3%	25.0%
Mentor	14	10	24	6	2	8
	22.2%	30.3%	25.0%	18.2%	66.7%	22.2%
Self	8	3	11	2	0	2
	12.7%	9.1%	11.5%	6.1%	0.0%	5.6%
Mixed	1	4	5	0	0	0
	1.6%	12.1%	5.2%	0.0%	0.0%	0.0%
Other	13	4	17	2	0	2
	20.6%	12.1%	17.7%	6.1%	0.0%	5.6%
Total	63	33	96	33	3	36

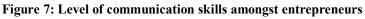
Adversity

80% of all respondents identified themselves as having faced adversity in their childhood. This proportion did not vary between different groups (e.g. Entrepreneurs 80%, Corporate Managers 81%).

Results of Second Subgroup Study

Communication Skills





This question had 34 responses. Nearly all respondents rated their communication skills as average or good. Dyslexic entrepreneurs were more likely to say they were very good than non-dyslexic entrepreneurs, a pattern which remained (although slightly weaker) with the control group included. With a larger sample, this effect could be statistically assessed.

		Entro	epreneurs	(Corporate 1	Managers
	Not Dys4	Dys4	Total	Not Dys4	Dys4	Total
Very Low	0	1	1	0	0	0
	0.0%	4.5%	3.3%	0.0%	0.0%	0.0%
Low	1	0	1	0	0	0
	12.5%	0.0%	3.3%	0.0%	0.0%	0.0%
Average	2	3	5	0	0	0
	25.0%	13.6%	16.7%	0.0%	0.0%	0.0%
High	4	8	12	2	1	3
	50.0%	36.4%	40.0%	66.7%	100.0%	75.0%
Very						
High	1	10	11	1	0	1
	12.5%	45.5%	36.7%	33.3%	0.0%	25.0%
Total	8	22	30	3	1	4

Delegation

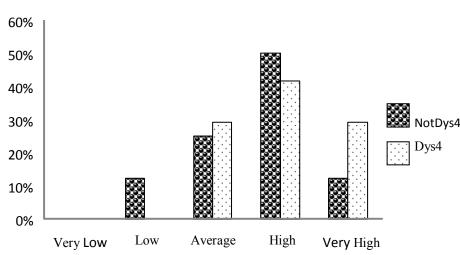


Figure 8: Delegation amongst Entrepreneurs n=32

Dyslexic people were more likely to say they were very good at delegation than non-dyslexic, a pattern which remained with the control group included (marginally stronger). With a larger sample, this effect could be statistically assessed.

		Entre	preneurs	С	orporate M	lanagers
	Not Dys4	Dys4	Total	Not Dys4	Dys4	Total
Very Low	0	0	0	0	0	0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Low	1	0	1	1	0	1
	12.5%	0.0%	3.1%	33.3%	0.0%	25.0%
Average	2	7	9	2	0	2
	25.0%	29.2%	28.1%	66.7%	0.0%	50.0%
High	4	10	14	0	1	1
	50.0%	41.7%	43.8%	0.0%	100.0%	25.0%
Very						
High	1	7	8	0	0	0
	12.5%	29.2%	25.0%	0.0%	0.0%	0.0%
Total	8	24	32	3	1	4

Visualisation of the Future Direction of the Business, Problem Solving Ability, Spatial Awareness and attention to detail

Whilst the dyslexics in the follow up survey scored marginally higher than the non-dyslexics on creativity and spatial vision the numbers in the pilot are too small for a pattern to emerge at this stage. Non dyslexics reported better at detail.

Semi-Structured Questions with Individual Responses

A number of questions asked for individual responses these included questions about the success of the venture but also about school experience. In answer to the question: 'What are the reasons for your success?' Two words meaning the same were stressed by all candidates dyslexic or otherwise; determination and perseverance. In answer to the question about achievement whilst at school: answered in a similar way by all dyslexic respondents; comments included:

"I really enjoyed college but really struggled"

"I do not believe I achieved my full potential"

Preferred Teaching Pedagogy

T 1:	
Teaching	
Preference	
Case Study	17
Guest entrepreneur	7
Lecture	23
Practical Projects	10
Role Play	2
Business	1
Simulation	
Action Learning	0
Total	60

Lecturers were asked which teaching methods they used most often. Each lecturer had two choices. The preferred options were a combination of lectures and case studies, followed by practical projects.

DISCUSSION OF RESULTS

Thirty five per cent of US entrepreneurs in this sample have dyslexic traits, (twenty three per cent report as highly dyslexic or extremely dyslexic). Less than one per cent of corporate managers reported as dyslexic, this compares with a US national incidence of up 15% (See note²: Morris 2002: Morgan & Klein 2000; International Dyslexia Association). The incidence of dyslexia in US entrepreneurs is higher than that of the UK with 19% of UK entrepreneurs and 3% of UK corporate managers reporting as dyslexic (Logan 2001).

There are a number of possible explanations for the difference between the incidence in the UK and the US: firstly the UK survey was not an online survey which is easier to complete. Dyslexics dislike completing forms so this may account for the lower incidence. Secondly the identification, intervention and support for those with dyslexia in the UK started later than in the USA and is still failing students. In a recent study of reading and spelling impaired undergraduates, Hanley (1997) found that the majority of students had not been identified as dyslexic at school, Those in the UK study (Logan 2001) reported a lack of identification and support whilst at school, a negative school experience and lower levels of self confidence in contrast to those in the US study. Lack of confidence, fear of failure and low esteem would possibly prevent a person considering entrepreneurship as a career option. A final factor which will be discussed in more detail later is the role of the mentor as a catalyst for an entrepreneurship career in the USA.

Non dyslexic entrepreneurs had run their companies for longer than those who were dyslexic. This was found to be statistically significant at the 90% confidence level (p=.056). When dyslexia was identified using 6 criteria, the effect was found to be significant at the 99% confidence level.

In contrast dyslexics had started and owned more ventures than non dyslexics. This was also statistically significant at the 99% confidence level.

Non dyslexic entrepreneurs may stay with their existing company longer because they are comfortable with the structure that develops as a company matures. Dyslexics find it very stressful to cope in a structured company environment and are more comfortable managing a situation in which they can control the variables so may prefer to focus their energies on the start up phase (Fitzgibbon& O'Conner 2002; Taylor & Walter 2003).

Dyslexics employed more staff, than non-dyslexics and this too was statistically significant at the 95% confidence level. The mean number of staff employed was 17 for non dyslexic and 25 for dyslexic. If the number of staff employed is taken as a measure of company size and turnover this together with evidence which suggests dyslexics have been running their companies for less time, and may have more than one company, may suggest that dyslexics are able to grow their companies more quickly. This may also be linked to the trend found in this study that dyslexics are more able to delegate. This

ability to delegate is an example of the "coping strategies" dyslexics employ to overcome their difficulties (Everatt, Steffert and Smythe, 1999).

Fitzgibbon & O'Connor (2002), suggest that successful dyslexics develop ways of controlling; coping and compensating for their deficits. These strategies may become transferable skills, giving them an edge in business. For example: Some dyslexics in this study reported learning at an early age to ask others to carry out the tasks they found difficult. One entrepreneur who was captain of the netball team used to ask another team member to write the names of those selected to play each week because she found spelling names impossible and wished to hide this weakness. Having learnt at an early age to trust others with tasks the dyslexic entrepreneur may find it easier to delegate leaving more time to focus on growing the business.

Delegation is essential for business growth, however it is a skill that may need to be learnt, many entrepreneurs find it difficult to make the transition from control to delegation (Timmons, 1999: Mazzarol,2003) so this is a potentially interesting and finding. There could be value from an investment prospective in knowing whether the person before you is likely to be able to delegate and grow a company quickly, particularly if an early exit is required.

Attitude to risk was examined, whilst all entrepreneurs perceived themselves to have high levels of risk taking, more dyslexic entrepreneurs reported as very high on the risk taking scale. This was not significant but may have an impact on other factors such as number of ventures and number of staff employed. A larger sample size would be required to examine the relationship.

Both dyslexic and non-dyslexic entrepreneurs in this study reported the usual characteristics which you might expect entrepreneurs to possess such as vision, determination and need to achieve. However there was a trend for dyslexics to perceive themselves as being better at communication than their non dyslexic counterparts. This is not surprising because dyslexia literature suggests that dyslexics compensate for their lack of written skills by developing enhanced communication skills (Nicholson and Fawcett, 1999). Whilst dyslexic entrepreneurs reported as better at problem solving ability and tasks involving spatial awareness the small number of respondents in the pilot follow up, means that results are only an indicative finding at this stage. However if s the case it is also likely that dyslexics develop these skills to compensate for their deficits.

Dyslexic entrepreneurs in both studies reported under achievement at school, university or college, the UK study found this also to be true for many non-dyslexic entrepreneurs. Whilst US entrepreneurs had enjoyed their school experience despite underachieving, UK entrepreneurs who were dyslexic reported a negative school experience. Does this mean that our school system is failing those who may have the potential to be innovative and create new ventures? Are we also trying to teach entrepreneurs to grow their companies using the same methods that have already failed them?

There are implications for those teaching entrepreneurship. The study revealed a high incidence of dyslexia in entrepreneurs so it is of great importance that entrepreneurship teaching programmes are dyslexia friendly but entrepreneurship lecturers reported their most commonly used teaching pedagogies were the lecture and case study, methods that dyslexics struggle with and which do not encourage soft skill development. Dyslexics need to be placed in a more holistic and practical teaching setting which will foster their skills and enhance their potential. This approach to teaching entrepreneurship will be beneficial to all and in turn will produce a more flourishing entrepreneurial society.

The role of a mentor was identified as being a key factor in the decision to embark on an entrepreneurial career for the dyslexic as was the influence of a family business. Education was considered the most important influence on the career decision of those entrepreneurs who are not dyslexic and on corporate managers. Does this suggest that those dyslexics who had a mentor had gone on to succeed? Morris (2002) discusses the role of mentoring:

"It was the kind of coaching that proved crucial to nearly everybody we talked to: mentors who took a genuine interest, parents who refused to give up, tutors who didn't even know what dyslexia was".

If mentoring has such a profound effect upon our entrepreneurs would this approach to enterprise education, or a action learning approach be more effective than traditional business school methods of the lecture and case study.

The survey found the role of the family business was a key influence for the dyslexic in the decision to create a new venture. This might seem to indicate that those who were less successful at school were channelled into the family business. However this does not seem to be the case: academic achievement of the two groups of entrepreneur's dyslexic and non dyslexic was similar so one would have thought that family business would be an influence for both groups but it was not. However the role of the mentor (often the father) seems to be the key. It is very possible that the fathers of the dyslexics in this study (who were successfully running family businesses) were also dyslexic (it is hereditary) so proved very powerful role models.

LIMITS OF RESEARCH

The number of respondents in the initial study provides a clear indication that there is a significantly higher incidence of dyslexia in the entrepreneurs than in similar successful corporate managers. The incidence is also much higher than the incidence in the general US population. The follow up study is at this stage a pilot so is only indicative. There are also some interesting trends that as yet are not "significant" and this is almost certainly the result of the sample size.

CONCLUSION

The results point to some interesting findings. There is a much higher incidence of dyslexia in entrepreneurs than in the normal corporate management population. The incidence of dyslexia in entrepreneurs is also much higher than the incidence in the US population in general. The research findings suggest that dyslexic entrepreneurs may be more comfortable in a start up or serial entrepreneur role so that they are able to do things their own way. They seem to grow their companies more quickly than non dyslexics and this may be a consequence of their perceived ability to delegate. This ability to delegate is possibly a compensatory strategy.

Recommendations for those researching dyslexia include: the need to examine the role of the mentor which in this study has been found to be pivotal. It may also be a crucial factor in encouraging the dyslexic to overcome difficulties and develop coping strategies and subsequent self-belief, all of which are essential if one is to succeed in life (Morgan & Klein 2000).

Further recommendations include: the need for comprehensive methods of intervention and remediation particularly in the UK. This is particularly essential if as suggested school curriculum is becoming geared left brain learning and weeding out some of our most innovative people (Frey 1990).

There are also implications for how we teach entrepreneurship. If many potential and existing entrepreneurs are dyslexic are we using the best techniques to help them create their new ventures? Lecture and the case study methods are used extensively in our business schools but we may need a more innovative approach. These methods of teaching have already failed many dyslexics, particularly in the UK. Should we be trying mentoring, action learning and a more practical holistic teaching approach?

Notes:

1) Dyslexia - difficulty with organisation, learning, working memory, Parker C. (1998) *British Dyslexia Association Handbook.* Reading.

2) National incidence dyslexia US/UK- 10% (International Dyslexia Association, <u>http://www.interdys.org</u> Accessed: 1st June 2007) / (Parker C. (1998) *British Dyslexia Association Handbook*. Reading).

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