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PSYCHOLOGICAL PROFILE OF FRENCH-CANADIAN M.B.A. STUDENTS: CONSEQUENCES FOR A SELECTION POLICY

by

Y. Allaire and J.M. Toulouse

University of Ottawa December, 1972

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The views and opinions expressed in this report are those of the authors and are not necessarily endorsed by the Department of Industry, Trade and Commerce.

Psychological profile of French-Canadian

M.B.A. students

Consequences for a Selection Policy*

by

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STATEMENT OF THE PROBLEM

P. 2

Over the past few years, a psycho-social theory concerning entrepreneurship and management seems to have been taking form.

Several authors state the existence of certain characteristics distinguishing these two types of economic agent, some (McClelland, 1969; Taylor, 1960) even going so far as to relate economic activity and development to the frequency with which these characteristics occur in a particular group.

Entrepreneurs

Studies on entrepreneurship have revealed certain elements of this form of human activity. Thus, McClelland (1965) showed that entrepreneurs have a great need for achievement, no matter in what sector they work. Previous studies in several countries (Alexander, 1967; McClelland et al., 1953; McClelland & Winter, 1969; Sayigh, 1962) show the existence of a significant relationship between the economic development of a group and the level of that group's need for achievement.

. These studies also suggest that individuals with a high need for achievement prefer situations involving moderate risks and in which they can see the tangible results of their efforts.

P . 3

Other studies concerning the relationship between riskbehaviour, the need for achievement and the self concept, were Litwin & Ciarlo (1959). They conclude that highly developed achievement motivation and a positive self concept are usually correlated to the taking of calculated risks. The relationship between a positive self concept and entrepreneurial behaviour was also confirmed by Caroll (1965) in his study of Filipino manufacturing entrepreneurs.

Furthermore, studies by Davids (1963), Stepanek (1960) and Collins & Moore (1970) led to the conclusion that entrepreneurs were characterized by a high need for autonomy, a desire to act on their own and avoid situations in which they were dependent on other people.

activity in the economic sector, the individual must perceive this type of activity as desirable, likely to satisfy this need for achievement and provide him with tangible proof of his accomplishments. Such a person must therefore have strong economic values if he is to direct his energies into this sector. The studies of McClelland et al. (1954) in fact indicate that economic activity is often seen by the entrepreneur as a convenient means of satisfying his need for achievement.

Managers

P. 4

Several studies have tried to identify the characteristics

peculiar to persons occupying administrative functions. Thus, studies by Baurnal (1968) and Cleeton & Mason show that managers are concerned with stability, that they are persevering in their undertakings and possess the ability to organize and plan their work. The research project described in Predicting Managerial Managerial Success (1968) indicates that managers are motivated by political and economic values. Furthermore, Livingston (1971) attempts to prove that managers have a strong need to influence others and exert authority, while at the same time being capable of empathy. Because of the very nature of administrative functions, managers should be sociable people, able to maintain harmonious relations with others (Wald & Doty, 1965).

After considerable empirical studies, Ghiselli (1971) concludes that managers have four basic qualities or characteristics: (1) they are able to influence others; (2) they show the ability to use their intellectual capacities in an original and effective way; (3) they are self-confident, and (4) they are highly motivated to get to the top of the organizational pyramid.

Several studies (Harrell, 1969; Pietrowski & Rock, 1963; Smoley & Slivinski, 1971; Wald & Doty, 1965) also emphasize that managers are usually very self-confident individuals with a strongly positive self concept.

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The international studies of Haire, Ghiselli & Porter (1966) also show that managers in all the countries studied would prefer to influence rather than compel their collaborators and that a strong need for independence and self-actualization was to found in these managers.

Conclusions

All these studies seem to indicate that managers and entrepreneurs have basic characteristics, specific psychological traits and particular values. Table 1 shows the characteristics that are most frequently mentioned.

The aim of this research is to measure the particular psychological characteristics of M.B.A. students, and compare their profile with the profiles of the entrepreneur and manager revealed by previous studies concerning these two types of economic agent.

TABLE 1

Basic characteristics of Managers and Entrepreneurs according to previous studies

ENTREPRENEURS

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- Achievement motivation
 (McClelland, Atkinson,
 Sayligh, Alexander)
- Self-confidence (Caroll)
- Individualism, autonomy,
 independence (Collins &
 Moore, Stepanek, Davids)
- Economic values

MANAGERS

- Order perseverance (Baurnal; Cleeton & Mason)
- Economic and political values (Foundation for research on human behaviour, Livingston)
- Self-confidence and
 positive self-concept
 (Harrell; Wald & Doty;
 Smoley & Slivinski)
- Affiliation (Wald & Doty)
 and empathy (Livingston)
- Domination, power, aggressiveness (Livingston, Ghiselli)
- . Autonomy, independence
 (Haire et al.)

METHODOLOGY

Measuring instruments

We therefore had to chose instruments that would measure the characteristics listed in Table 1, and which could also be tested in both French and English. These two criteria led us to select the Personal Preference Schedule, the AVS questionnaire and the Seff Concept Scale.

For measuring basic characteristics and preferences, we decided to use the Edwards Personal Preference Schedule with which it is possible to measure the following 15 basic preferences or manifest needs: order, achievement, perseverance, change, dominance-power, deference, benevolence, extrospection, affiliation, heterosexuality, individualism, inferiority, dependence, aggressivity, exhibitionism. This instrument has been widely studied and tested by Edwards in its English version, while Gauthier (1964) has tested the psychometric characteristics of the French version.

For measuring the values, we use the AVS test devised by Allport & Vernon, and adapted into French by Shevenell (1962). It permits the measurement of six types of values: theoretical, economic, aesthetic, social, political and religious. The results of this test indicate whether an individual is more interested

by theoretical or political considerations, or by one of the other four values measured by the test.

A measure of self-esteem was obtained by the Tennessee Self Concept Scale. The English version of this instrument was tested by Fitts and the French version prepared by Toulouse (1972). This scale provides measures of various aspects of the Self Concept, but for this study only a global measure of self-esteem was retained.

Subjects

These three tests were administered to 99 students at the beginning of their M.B.A. programme at the H.E.C. (13),

Laval (26) and at the University of Sherbrooke (60). The students were tested in groups (testing time was between 60 and 120 minutes) during the period of January to May, 1972.*

<u>Statistical analysis</u>

The profiles of different groups were compared by multivariate profile analysis (Morrison, 1967), according to a programme formulated by Allaire, Silk & Tsang (forthcoming).

This analysis permits the testing of two hypotheses related to multivariate profiles: (1) Are the profiles of the K groups parallel? (2) Are the profiles of the same height?

These three groups of students show profiles which do not differ in a statistically significant manner.

Hypothesis (1) is tested by the distribution of the largest characteristic value, using Heck's theta statistic, described by Morrison (1967). Hypothesis (2) is evaluated by a simple analysis of variance using the F test as criterion.

To establish the similarity between the subjects' profiles or between the profile of a subject and an ideal profile, we used the Cattell coefficient (Cattell, Coulder & Tsujioka, 1967), which has properties that are extremely useful for the purposes of our study:

- 1. It behaves like a coefficient of correlation; value 1.0 indicates perfect similarity, -1.0 total dissimilarity and 0.0 "independent" profiles.
- 2. It can take into account correlations between variables (i.e. oblique form).
- 3. It permits the attribution of differentweights to the profile variables.

In order to form homogeneous groups, these coefficients of similarity were submitted to a principal component analysis (Morrison, 1967) and to an algorithm of hierarchical clustering (Johnson, 1967). These two treatments enabled us to classify the subjects into different groups quite satisfactorily.

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RESULTS

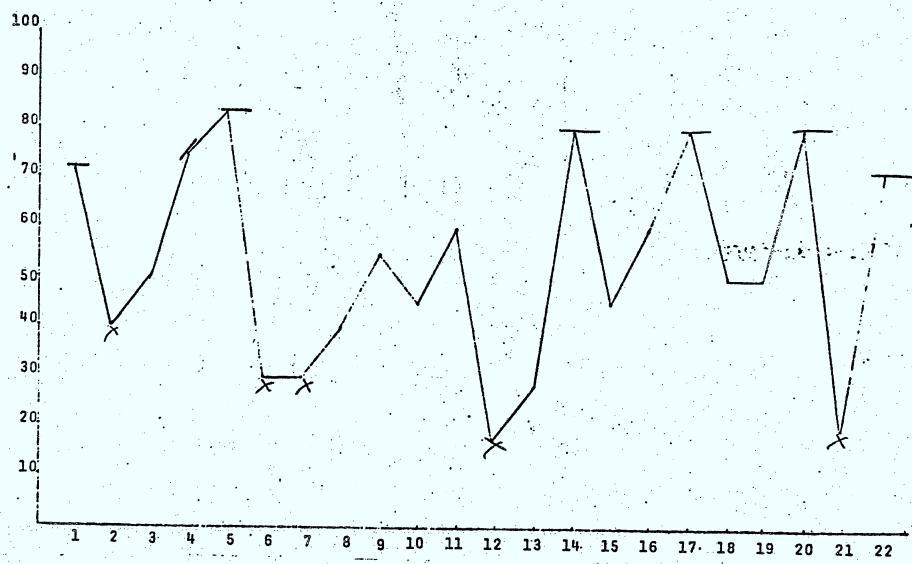
The analysis of results of the questionnaires has been divided into three sections; (1) What is the overall psychological profile of M.B.A. students? (2) Can homogeneous sub-groups of students be identified? (3) What are the consequences of these results for the selection of M.B.A. candidates?

What is the psychological profile of M.B.A. students?

The results of the M.B.A. students are shown in Table 2 and Graph 1. On the whole, the results indicate that M.B.A. students are active, competitive and aggressive individuals (aggressivity), who like to exert influence and dominate (dominance, power, politics), particularly interested in economics but low on achievement motivation. More particularly, the results indicate that the students have a propensity for organization (order); that they adapt easily to new situations (change); that they tend to dominate other people (dominance, power); that they are energetic and enjoy confronting or attacking opponents (aggressivity); place importance on the economic sector, are very interested in power (politics) and have positive self esteem. It must also be added that the absence of certain traits completes this picture. students do not feel specially inclined to accept the requirements of persons in authority (deference), or to help others (benevolence); they do not feel inferior to other people (inferiority); they do not seek approval (dependence) and they do not place too much value on the religious aspect (religion).

M.B.A. Students' results in Personal Preference, AVS and Self Concept Tests

•	Vari ab l e	Mean	Percentile equivalent	Median	Percentile equivalent
1.	Order	11.56	72	11.31	70
2:	Achievement	15.78	40	15.35	32
3.	Perseverance	13.45	50	13.44	50
A	Change	17.72	7 5	17.44	70
5.	Dominance/Power	17.28	84	17.45	84
6.	Deference	10.96	30	10.85	30
7.	Benevolence	14.49	30	14.22	30
8.	Extrospection	15.56	40	15.55	40
9.	Affiliation (Soc.)	17.31	55	17.64	60
10.	Heterosexuality	13.75	4 5	14.28	45
11.	Individualism	16.98	60	16.69	60
12.	Inferiority	6.56	20	5.92	15
13 .	Dependence	10.01	28	9.93	28
14.	Aggressivity	15.16 .	80	15.53	84
15.	Exhibitionism	12.62	45	12.55	45
16.	Theoretical	30.39	60	30.14	60
17.	Economic	36.21	80	37.66	90
18.	Aesthetic	28.90	· 50	28.81	50
19.	Socia1	28.04	50	28.00	50
20.	Political	35.3 6	80	35.31	80
21.	Religious	21.43	20	20.81	20
22.	Self concept	3 59 . 59	72	359.00	70



Graph 1: Results of M.B.A. students expressed in percentiles.

It should be noted that a high degree of dominance and aggressivity with a low degree of deference and benevolence might indicate that the sindents like to dominate, and that this is a hostile kind of domination (high aggressivity and low benevolence) exercised to the detriment of others (dominance - benevolence).

It is rather surprising to find that the result for achievement is so low since one would expect to find the entrepreneurs of tomorrow among this student population. These results suggest that the economic sector is not perceived by the students as offering possibilities of achievement but as a sector within which they wish to exert power, organize and adapt themselves. The low results for "inferiority" and "dependence" as well as the high score for self esteem indicate that the students are capable of assuming their responsibilities (dependence) and they are self-confident (self esteem - inferiority).

. 15 Identification of homogeneous sub-groups

The results for the sample as a whole are certainly interesting, but it is important to examine the possible existence of sub-groups showing a similar profile for the 22 variables used in this study. It is quite possible that a high degree of profile heterogeneity masks the real situation and leads to erroneous interpretations.

In order to identify these possible sub-groups, we have calculated the similarity between each pair of subjects (the rp Cattell coefficient - Cattell, Coulter & Tsujioka, 1967), and then submitted these similarities to a principal component and hierarchical clustering analysis as indicated at the beginning of this article.

This rp coefficient is calculated as follows (oblique case):

$$rp_{ij} = (E_k - d_{ij}^2) / (E_k + d_{ij}^2)$$

where rp = coefficient of similarity between subject i and subject j

E_k = expected value of distance (in standard units, i.e. variables having means of 0.0 and standard deviation of 1.0)

$$= 2 \cdot \underset{i-1}{\overset{k}{\xi}} \qquad \underset{i}{\overset{2}{\gamma}}$$

where λ_i - characteristic value of the matrix R of correlations between the variables.

 $= \underline{D}_{ij} \underline{R} \underline{D}_{ij}$

where D_{ij} = Vector (kxl) of differences between subjects i and j in terms of their (normalized) scores on the k variables.

E - symmetrical matrix (kxk) of correlations between the k variables (here, k - 22)

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This statistical treatment permits the identification of 6 groups of subjects (plus 4 subjects sowing apparently idiosyncratic profiles). These results are shown in Tables 3 and 4 and in Graphs 2, 3, 4, 5, 6 and 7.

A multivariate profile analysis, the results of which are shown in Table 5, indicate that the profiles of the 6 groups are not parallel although of the same height.

Close study of Tables 3 and 4 reveals that none of the groups presents a profile similar to that of the entrepreneur as defined in previous studies. On the contrary, most groups have a profile very close to the one suggested for managers in these studies.

2

TABLE 3

Results of sub-groups 1, 2, 3

,	variables	Group 1 N-13	.	Grou N-	p 2 18	Grou N-	ip 3 -17	
		Mean I	ercent.	Mean	Percent.	Mean	Percent.	
1.	Order	16.46	94	14.27	86	9.82	55	
2.	Achievement	18.00	60	17.88	60	13.94	25	٠
3 .*	Perseverance	19.23	93	17.27	84	12.47	48	
4.	Change	19.30	84	18.72	84	17.82	7 5	
5.	Dominance/Power	19.84	94	18.05	8 7	15.00	70	
6.	Deference	12.30	50	12.11	45	13.58	60	
7.	Benevolence	10.30	5	13.77	30	16.35	5 U	
8.	Extrospection	īž.6 9	27.	13.94	30	17.05	5.5	
9.	Affiliation	15.46	30	16.05	50	19.58	. 82	
i. 0 。	Heterosexuality	12.76	35	9.94	15	13.64	45	
11:	Individualism	15.76	50	17.50	60	16.00	50	
2	Inferiority	4.92	10	6.55	20	8.23	27	
L3.	Dependence	7.53	15	6.50	10	10.52	35	
L4.	Aggressiv ity	14.69	80	14.94	80	13.35	5 5	
L5 。	Exhibitionism	10.15	25	9.83	25	12.47	35	
L6.	Theoretical	35.08	80	32.52	70	31.02	60	
L7.	Economic	42.76	95	36.75	80	36.11	80	
18.	Aesthetic	25.11	30	24.75	30	31.58	60	
9.	Socia1	25.00	30	26.94	40	26.26	# O	
20.	Political	37.57	90	34.25	70	32.84	70	
21.	Religious	15.69	. 5	24.44	30	20.88	20	
22.	Self concept	372.38	81	365.38	· 75	362.52	74	

⁽Subjects no. 13, 17, (Subjects no. 1, 4, (Subjects no. 5, 11, 28, 31, 32, 35, 15, 22, 37, 38, 14, 18, 27, 41, 47, 49, 54, 74, 40, 42, 46, 61, 43, 44, 51, 58, 80, 81, 89) 65, 67, 72, 84, 64, 68, 75, 82, 85, 87, 90, 96) 86, 88, 92)

TABLE 4

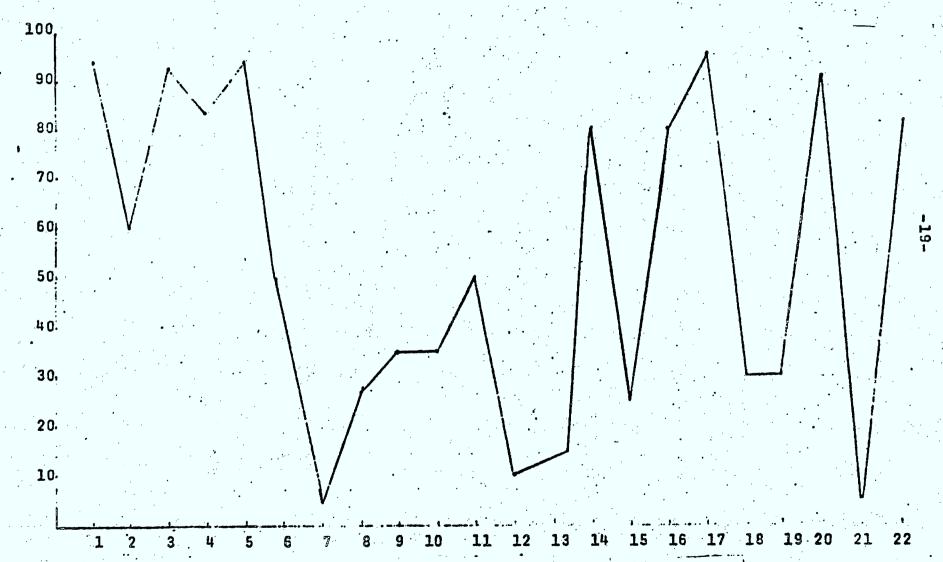
Results of sub-groups 4, 5, 6

7	yariables	Grou N=	p_ 4 8	Group N=		Group N=1	•
3		Mean	Percent.	Mean	Percent.	Mean	Percent.
1.	Order	9.87	55	8.19	35	12.11	72
-	Achievement	16.87	51	14.23	25	14.83	32
3 .	Perseverance	15.50	7 0	9.90	25	9.94	25
4.	Change	14.00	50	18.28	75	17.05	70
5.	Dominance/Power	11.25	35	16.57	84	20.94	97
	Deference	13.00	50	8.09	14	8.94	16
7.	Benevolence	22.75	99	16.66	60	12.11	15
8.	Extrospection	18.87	75	17.95	70	14.77	40
9.	Affiliation	14.87	30	19.14	72	17.94	65
10.	Heterosexuality	10.75	20	16.80	65	15.44	50
11.	Individualism	14.00	35	17.61	72	17.55	72
12.	Inferiority	11.00	49	6.00	15	4.44	7
13.	Dependence	15.75	72	11.19	35	9.05	20
14.	Aggressivity	12.12	50	15.66	84	16.83	90
15.	Exhibitionism	9.37	15	13.42	45	17.38	72
16.	Theoretical	29.12	50	27.78	50	28.16	50
17.	Economic	27.00	40	30.57	60	41.83	95
18.	Aesthetic	29.87	60	34.52	80	25.13	30
19.	Social	32.50	70	33.50	70	26.13	n O
20.	Political	29.87	60	32.73	70	39.94	90
21.	Religious	32.75	70	20.64	20	19.38	10
22.	Self concept	310.10	15	360.90	70	369.33	75

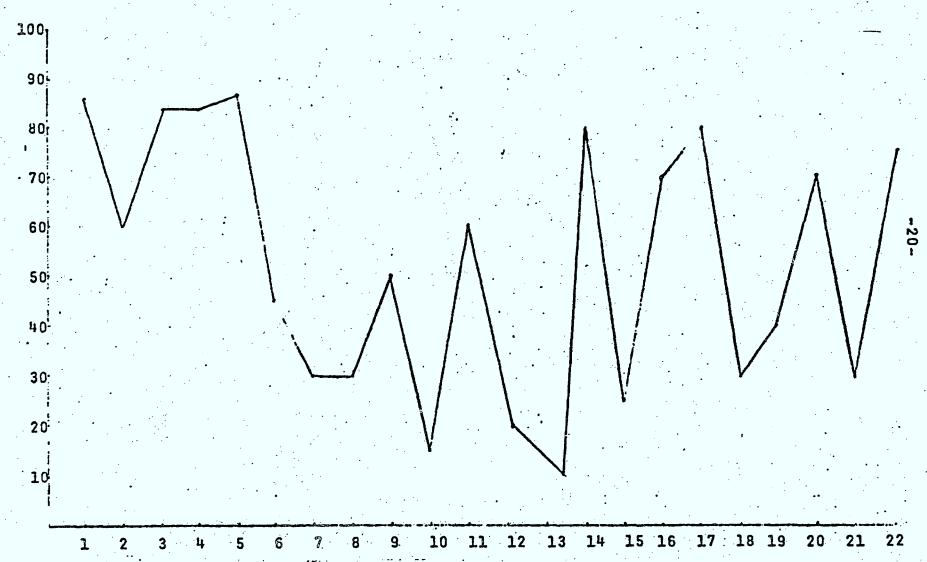
⁽Subjects no.2, 6, (Subjects no.9, 12, (Subjects no.3, 7, 8, 10, 23, 50, 63, 16, 20, 21, 33, 24, 26, 29, 30, 45, 94, 98)

34, 36, 53, 55, 48, 57, 58, 59, 60, 62, 66, 69, 70, 71, 73, 77, 83, 93)

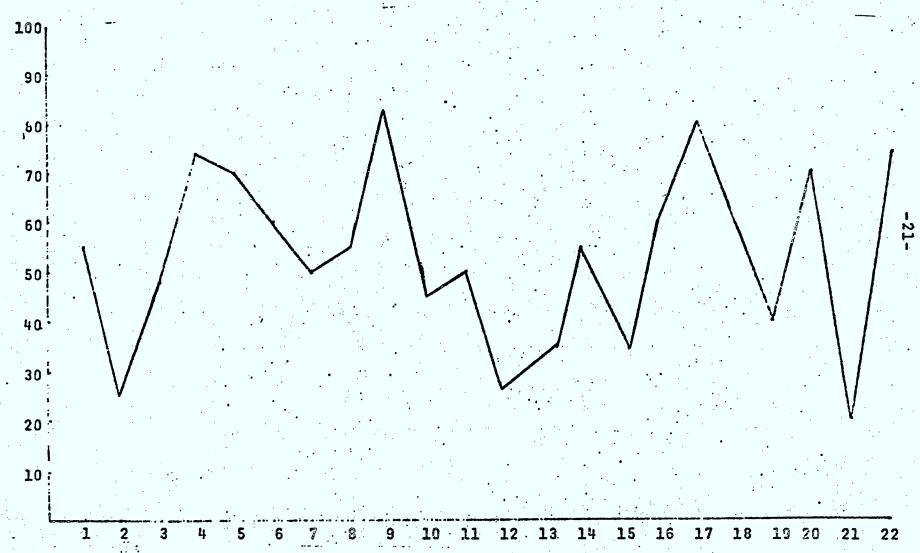
76, 78, 79, 91, 93, 95, 97)



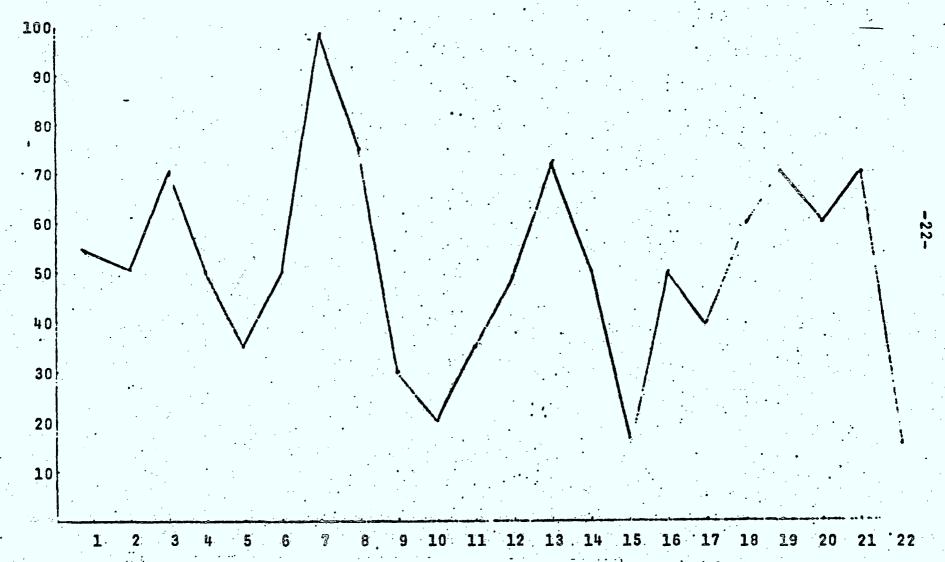
Graph 2: Results of sub-group 1 expressed in percentiles.



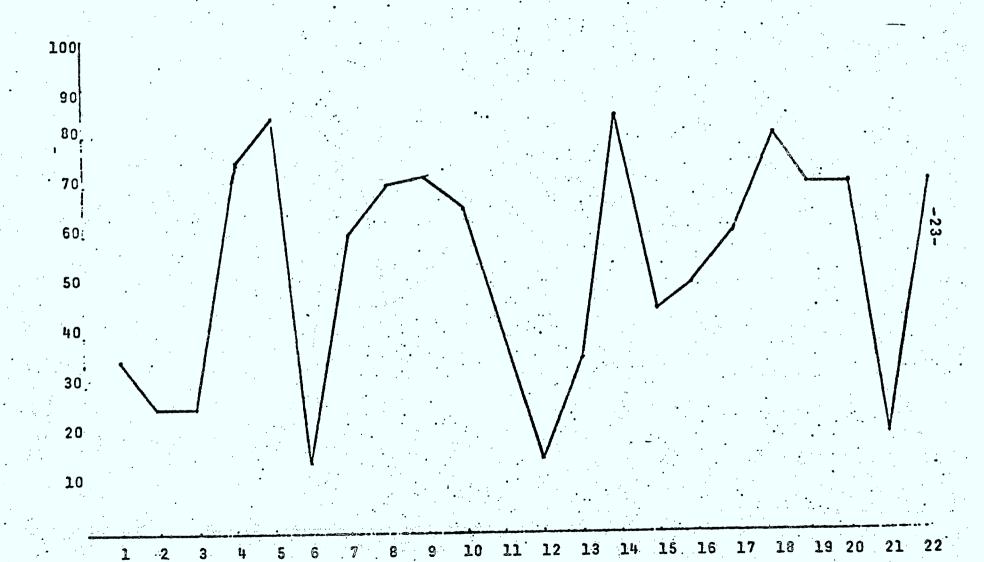
Graph 3: Results of sub-group 2 expressed in percentiles.



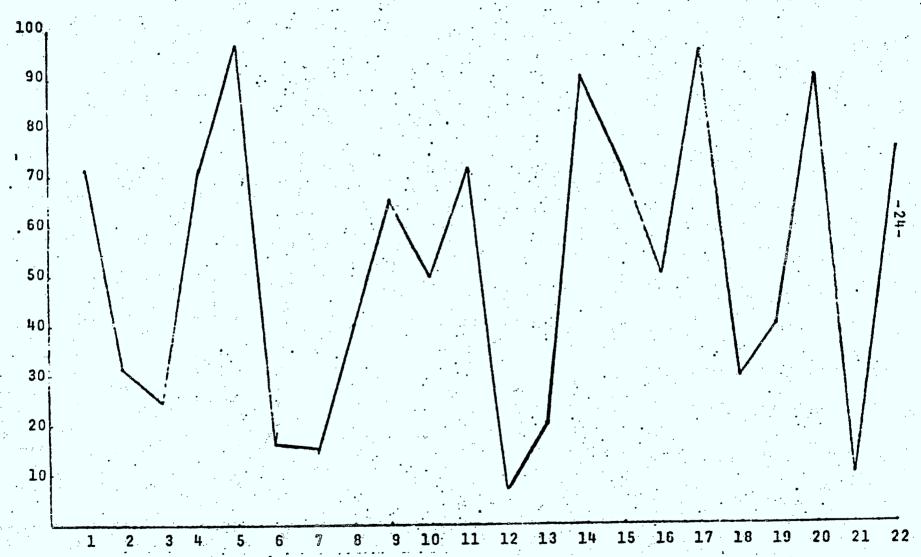
Graph 4: Results of sub-group 3 expressed in percentiles.



Graph 5: Results of sub-group 4 expressed in percentiles.



Graph 6: Results of sub-group 5 expressed in percentiles.



Graph 7: Results of sub-group 6 expressed in percentiles.

TABLE 5

Comparison of psychological profiles of sub-groups

EPPS		AVS	. ** .
Profile paralle	lism	Profile paralle	lism
e = .9570		θ = .7704	
S = 5		S = 5	
M = 4		M = -0.50	
N = 37	e sant de la companya (n. 1921). Sant de la companya (n. 1921).	N = 41.50	•
*0 crit., .01	= .412	*0 crit., .	01 = .26
•		•	

Profile height

$$\mathbf{F} = .8590$$

$$df = 5, 89$$

$$F \text{ crit., } .05 = 2.34$$

Profile height

$$F = .9798$$

$$df = 5, 89$$

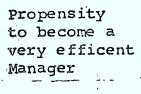
$$F \text{ crit., } .05 = 2.34$$

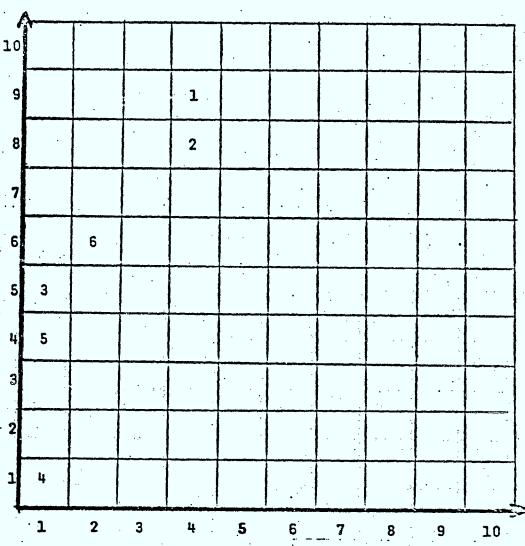
^{*} According to Heck's tables presented in Morrison (1967), pp. 312-319.

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P. 27

To illustrate these results, we present a grid showing where, in our opinion, the six groups are situated along the manager and entrepreneur axes. Thus, Graph 8 illustrates the fact that most of the subjects have a profile similar to that of the manager, and that no group shows a profile close to the standard entrepreneurial profile.





Propensity to become a successful Entrepreneur

Graph 8: Position of the six groups on a "manager - entrepreneur" grid.

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<u>for M.B.A. candidates</u>

Schools of business administration should adopt coherent selection policies consistent with the objectives pursued by their programmes. This implies that the administrators of these schools must clearly establish the objectives of their M.B.A. programme and translate these objectives into operational variables for the purpose of candidate selection and curriculum planning. The type of information presented in this document could, in our opinion, play a major role in such a process.

Thus, for the purposes of this section, let us suppose that the 99 subjects of our sample are, in fact, candidates for admission to an M.B.A. course that can only accept 40 students annually. We shall then postulate two (simplified) models representing different but realistic objectives for an M.B.A. programme.

The first model, that of the entrepreneur, would reflect a school's intention of training enterprising business men, motivated to launch out into business on their own and impatient for financial success. Basing ourselves on authors who have studied this phenomenon, we propose in Table 6 an ideal profile of the entrepreneur, including the (subjective) weighting to be attached to each variable.

IDEAL PROFILE

Entrepreneur

variables	Raw score	Percentage	Weighting
1. Achievement	28	100	.25
2. Individualism	28	100	.10
3. Dependence	1 .	0	.15
4. Aggressivity	17	90	.15
5. Economic value	. 60	100	.25
6. Self concept	384	90	.10
·			1.00

Manager

				•
	<u>Variables</u>	Raw score	Percentage	Weighting
1.	Order	15	90	.07
2.	Achievement	19	70	.10
3.	Perseverance	28	100	.07
4.	Change	17	70	.07
5.	Dominance/Power	28	100	.15
6.	Affiliation (Soc.) 19	70	.10
7.	Economic value	34	· 70	.10
8.	Social value	34	70	.04
9.	Political value	60	100	. 15
10.	Self concept	384	90	. 15
	·			1.00

A training programme for managers, on the other hand, might have as its objective the preparation of technocrats who would feel entirely at home in large enterprises. For such a programme, the candidates chosen should have quite different basic characteristics than those proposed for the entrepreneurial model. Table 6 shows the ideal profile we propose for this manager.

These two profiles resulting from the empirical considerations presented at the beginning of this article, should hardly surprise any reader familiar with the abundant documentation on the subject. In any case, although highly defensible, these profiles are only presented here to illustrate our case.*

A school administration should therefore 1) determine the orientation of its M.B.A. programme by taking into consideration the needs of the environment, the employment market and the competition with which it has to contend; (2) establish

^{*} In the formulation of the ideal models, we consider that a variable must be situated at a particular percentile. When we think the variable is entirely desirable, we postulate the 100th percentile. In certain cases, we specify limits because too high a score might indicate certain pathological behaviour or behaviour incompatible with either an entrepreneur or a manager.

the characteristics of an "ideal" profile for the M.B.A. candidate, (3) determine the relative importance of each characteristic in the composition of the profile.

When this has been established, the similarity between the ideal profile and that of each candidate must be calculated. For this purpose, we have again chosen to use the rp Cattell coefficient in its oblique and general form (Cattell, Coulter & Tsujioka, 1966). This permits correlations to be made between the characteristics and the different weightings attributed to each. This rp coefficient is calculated as follows:

$$r_{P_{i}} = (E_{k} - d_{i}^{2}) / (E_{k} + d_{i}^{2})$$

$$d_{i}^{2} = \underline{F}_{i} \underline{W} \underline{R} \underline{W} \underline{F}_{i}^{i}$$

where F vector (lxk) of differences between the ideal profile and the profile of subject i (both expressed in standard numbers) - (Z_{ij} - I)

W = diagonal matrix (kxk) containing
 weightings attached to each variable

R = symmetrical matrix (kxk) of correlations
between the k variables

$$\mathbf{E_k}$$
 - Trace $(\underline{\mathbf{D}}^{\frac{1}{2}} \underline{\mathbf{L}} \underline{\mathbf{W}} \underline{\mathbf{R}} \underline{\mathbf{W}} \underline{\mathbf{L}} \underline{\mathbf{D}}^{\frac{1}{2}})$

where <u>D</u> = diagonal matrix (kxk) containing the characteristic values (eigenvalues) of the matrix of covariance of the <u>Z</u>;

L matrix (kxk) of the eigenvectors of the matrix of covariance of the Z_i.

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These coefficients were calculated for the 99 subjects of our study using the entrepreneur profile first of all as our ideal profile. If we suppose that only 40 candidates are to be selected, then the subjects shown in Table 7 would be accepted. On the other hand, if a school were to adopt the manager profile, it would therefore accept the subjects listed in the second part of Table 7. It is interesting to note that 24 students would be accepted in both cases, thus demonstrating the fact that these two profiles are different but not mutually exclusive and that the candidate "population" includes few subjects with a profile very close to the "ideal entrepreneur". Even so, 40% of the candidates admitted would be different depending on whether the school had adopted a manager-rather than an entrepreneur-oriented programme. Furthermore, a school aiming to turn out entrepreneurs would obviously have to recruit candidates other than the 99 subjects of our sample.

It would, of course, be possible to experiment with different profiles, different weights, etc. but the crucial aspect, for us, is to show that precise criteria for candidate selection can be expressed in operational terms that are consistent with the formulation of the objectives of an M.B.A. programme.

TABLE 7

CHOICE OF CANDIDATES RESULTING FROM OBJECTIVES OF DIFFERENT COURSES

Candidates chosen (40) for an "Entrepreneur" course

Subjects: 3, 7, 9, 13, 14, 19, 20, 21, 22, 24, 29, 31, 33, 35, 36, 38, 40, 42, 45, 46, 49, 57, 59, 60, 61, 62, 65, 66, 72, 73, 74, 77, 79, 81, 83, 84, 85, 87, 89, 90

Candidates chosen (40) for a "Manager" course

Subjects: 3, 7, 8, 13, 17, 18, 19, 20, 24, 26, 28, 31, 35, 38, 39, 42, 43, 45, 46, 48, 49, 51, 54, 57, 58, 59, 60, 64, 65, 67, 71, 73, 74, 77, 80, 83, 84, 85, 89, 99

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· Summary and Conclusions

The results presented here indicate (1) that French-Canadian M.B.A. students do not have a very strong need for achievement; (2) that this student population is very heterogeneous since six groups can be identified, each with a considerably different profile; (3) that the profile of each of these groups is closer to the managerial than the entrepreneurial profile; (4) that Groups 3, 4 and 5 (46% of the sample), however, show a profile that is fairly distant from that of the "efficient manager", and (5) that a selection policy for M.B.A. candidates can be formulated in operational terms that reflect the objectives of a particular school. We have shown that the type of candidate admitted to an M.B.A. programme should depend on the nature of these objectives.

This first study requires two obvious additions. First of all, and this is now under way, we must establish a comparison between these results and those obtained among English-Canadian and American students. We must discover whether important differences systematically exist between these groups, and study the significance of these differences where necessary.

Secondly, we must accumulate data so as to be able, in several years' time, to evaluate the predictive value of the variables used in the profiles proposed here. By observing the

professional careers of many of our subjects, we should be able to define and modify the prototype profiles in the light of these empirical findings.

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