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Revisiting Schein (1965) Study on the Managerial Values and Attitudes of MBA Students

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ABSTRACT

As schools are organized networks of socializing experiences which prepare individuals to act in society, MBA programs are the socializing media to prepare the future managers. Our study is "a partial replication" of the study done by Schein (1965). The same constructs are used in the questionnaire of the present study. Assuming that what is valued by managers influences how those individuals make business decisions, we aim to find out the managerial values and attitudes of MBA students. We also aim to draw the attention of the faculty members to think about what attitudes, beliefs, and values MBA students are learning and what might the faculty contributions be to the transfer of managerial values. Therefore, the main question of our study is "What are the major managerial values and attitudes of our MBA students?" A second intended contribution of this study is the validation of the scales. The goal of science is empirical generalization, or knowledge development. Systematically conducted replications with extensions facilitate this goal. Keeping this in mind our reconsidering the original constructs of the Schein (1965) study contributes to the validation of at least some of these original constructs.

Keywords: Managerial Values, Managerial Attitudes, Socializing MBA Students
JEL Classifications: M1, M10

1. INTRODUCTION

When the first MBA programmes were started, the aim was to fulfill the educational needs of the young white collars, new graduates after they have spent some time in the business world. The focus was and has always been on "what we teach", in other words the educational elements; "which subjects are up to date?" "What are the recent trends and developments, so what should we add to the curriculums?"

However, today it has come to such a state that management s definition is all changed and redefined. Issues like ethics, social responsibility, sustainability, environmental sensitivity are some of the current values that are shared by humanity and of course by the companies that are trying to answer to the needs of the society depending on these current changes in beliefs and attitudes.

A study was conducted by Schein (1965) "attitude change during management education" in MIT Sloan School of Management. In this study, for the first time the role of the professional school as a socializing institution is examined in an empirical study of student attitudes in a management school. Only a few studies are done on this field so far. The major concern is usuallly on the "education" side of the MBA programmes; trying to design the right curriculums. Little or no effort has been put on the "socialization" process (Leavitt, 1991).

Schools are organized networks of socializing experiences which prepare individuals to act in society (Meyer, 1977). From this point of view MBA programs are the socializing media to prepare the future managers. Our study is "a partial replication" of the study by Schein (1965). The same constructs are used in the questionnaire. The original study is aiming to find out the value and attitude changes of a group of students as a case study.

Assuming that what is valued by managers influences how those individuals make business decisions (England and Lee, 1974; Haire et al., 1966), we aim to find out the managerial values and attitudes of MBA students and to draw the attention of the faculty members to think about what attitudes, beliefs, and values MBA

students are learning and what might the faculty contributions be to the transfer of managerial values. Therefore the main question of our study is "What are the major managerial values and attitudes of our MBA students?"

A second intended contribution of this study is the validation of the scales. As the goal of science is empirical generalization, or knowledge development, systematically conducted replications with extensions facilitate this goal (Hubbard et al., 1998). Our use of the constructs of the Schein (1965) study hopefully will contribute to the validation of at least some of these original constructs which has been lacking for 50 years.

1.1. Socializing MBAs

Some MBA students are in the process of a role transition from student to manager. Some are already practicing managers. MBA students, who are not managers, can be thought of as undergoing "socialization" processes to prepare them for managerial roles (Fukami, 1977). MBA students learn attitudes, beliefs, and values that they then carry with them into their managerial careers (Leavitt, 1991), although most MBA faculty and administrators don't worry much about what attitudes, beliefs and values their students are learning. They worry instead about more intellectual issues, about teaching "principles" and methods.

However, businesses are the dominant institutions in our contemporary world. The social and economic welfare of the citizens are effected by the attitudes and behaviour of the managers of the private business organizations. Business people do not only have a responsibility to their particular businesses but also to the society in which they operate their businesses (Worthy, 1955). This has continous implications for the management and the business education. Business schools should be the place where the fundamental values of the society are imparted to the future managers and leaders (Worthy, 1955). One other implication is that the importance and the questioning of the business education needs to be on the agenda of the contemporary scholars.

During the 1960s the effects of management training, the expected attitude change as the result of this training had been started to be questioned by the scholars of the time. A common implication, however was that all of the training activity for managerial development was producing very little actual change (Schein, 1967).

Mintzberg (2004) severely criticizes MBA programs:

"MBA students come out of business school arrogant, with values that emphasize maximizing shareholder wealth at the expense of customers and employees, and thinking they know more than they do. Mostly choosing careers such as consulting and investment banking where they do not actually have to manage anything. When the graduates do achieve positions of significant organizational responsibility, they are largely unable to exercise sound judgment but, instead, are trapped by quantification and analysis. This "corruption of management" has led to ineffective organizations.."

We observe many scholars who have tried to emphasize the importance of extra curriculum components of the business education: the business school has a special responsibility which goes beyond the teaching of the subject matter alone; to affect, strengthen and develop an individual's entire character (Silk, 1964).

If the basic goal of management training and development is defined as "an improved overall performance" in terms of the company, this broad goal can be further specified as: (1) developing skills in general academic subjects, and (2) changing attitudes and perceptions toward the company, capacity to see the larger issues for the company as a whole; towards the company's environment that is appropriate perceptions and attitudes towards consumers, suppliers, employees, the community, and society (Schein, 1965).

Contemporary MBA students usually come from different backgrounds. A great majority are from non-social sciences, like engineering departments of undergraduate schools. In the entrance interviews the things that they emphasize in common is that they lack the skills and knowledge in human relations and management functions so that they foresee a little chance for managerial succession. Therefore they have high expectations from the MBA education.

From the faculty's point of view there is actually another function of the MBA education: schools are responsible for training faculty members to teach, conduct research and provide administrative leadership in tomorrow's business schools (Cyert and Dill, 1964).

Globalization has direct effects on the shaping of managerial values of the contemporary manager. Recruitment from different cultures, diversity of the work force puts lots of responsibility on the shoulders of the manager today. For example, the most successful manager would be the one who is capable of managing the relationships with all the stakeholders of the business organization. He would be able to respond to the social needs arising in the society in which his company operates before his competitiors. In other words managerial values are stakeholder oriented. Schools, besides family and the society at large are the major socializing institutions. A business school goes one step further byletting the students internalize these managerial values so that they are prapared to manage both for today and in the future. In the light of these we can talk about two sides of an MBA education. First consists of supplying the necessary subjects related with business; like finance, economics, marketing, human resources, operations, etc. and secondly providing the students with the managerial mindset. This side involves providing the students with managerial values, beliefs and attitudes. For the purposes of this study we are interested in this second aim. Previous literature indicates some studies on the personal values of the managers, for example, the behaviorists believe that an individual manager's personal value system makes a difference in terms of how he evaluates information, how he arrives at decisions, in short, how he behaves (England, 1967). In an empirical study (Desalvia and Gemmill, 1971), differences in the personal values of businessmen and college students are compared, but there is a lack of managerial values perspective in the literature. A more recent study in managerial values discusses the role of traditional religious and social philosophies in the conduct of business and

management relationships in South Korea, Taiwan, Singapore and Hong Kong (Tai, 1991).

The concept of socialization in professional schools other than business schools has been extensively researched; like in medicine, dentistry and nursing (Ondrack, 1975). In a study of nursing schools as a test of socialization, students entering and graduating from each school were compared for evidence of a shift in attitudes and values towards those of significant others in each of the schools. The school with the most consistency among significant others evidenced the greatest socialization. The conclusion indicated that degree of socialization among students does vary directly with degree of attitude and value consistency among significant others in a school (Ondrack, 1975).

The study of Schein (1965) on managerial value and attitude change during MBA education in USA is discussed in Section 1.3.

1.2. The Schein (1965) Study on Managerial Value and Attitude Change

The role of the professional school as a socializing institution is examined in an empirical study of student attitudes in a management school. Two types of students are tested on a multidimensional attitude survey prior to entry into the school and again at graduation. Initial positions of the students and attitude changes are related to the attitudes of the school faculty and groups of managers (Schein, 1965). As the author states; *it is not definitive in its research design, in the variables studied, or in its conclusions, but it presents a model of research on one aspect of the educative process which, it is hoped, will stimulate others to work further in this area.*

His questionnaire was designed to measure attitudes based on some general assumptions. "*….to become a manager one must probably value the announced goals of the organization, have a sense of responsibility to subordinates, customers, and stockholders, and trust people enough to delegate duties and responsibilities to them. To rise from middle management to top management, one probably must be able to give up loyalties to a particular function in the organization, have a sense of responsibility toward the community in which the organization functions, and value profit and the survival of the organization."*

The pool of items was chosen around the following content: (1) Government-business relations, (2) labor-management relations, (3) areas of corporate responsibility, (4) superior-subordinate relations, (5) theory of how to organize and manage, (6) general cynicism- ıdealism about all aspects of business, (7) cynicism-idealism about how to get ahead in organizations, (8) degree of faith or confidence in workers, (9) individual versus group incentives and decisions, and (10) large versus small business.

The Schein study compares attitudes prior to entry with those held at graduation and relates patterns of change in students to attitudes held by senior managers and the faculty of the school (Schein, 1965). The purpose of the study was to determine: (1) What patterns of attitudes and values characterize the faculty and students of the Sloan School of Management, (2) what changes occur in the attitudes and values of students during their management education.

The items are measured in a four point interval scale: strongly disagree 1, mildly disagree 2, mildly agree 3, strongly agree 4.

The results of the Schein study in general indicate the similarities and discrepancies between the various groups in the study and the possible influence of faculty values on the MBAs between their entering and graduating from the school.

Believing in the importance of the subject under study and seeing the gap in literature we were inspired by the Schein (1965) study on managerial value and attitude changes of MBA students. In this present study we aimed at exploring the perceptions of the MBA students only, and thus secondly we aimed to use and validate the scales to a certain extend. The methods used and the findings are described below.

2. METHOD

2.1. Survey Sample

Our sample consists of 430 MBA students. Total valid responses are 94 (with some missing cases on demographics and a few missing cases on item c19.2).

The questionnaire is prepared and applied on line by surveymonkey. Data is analysed by SPSS 22 and AMOS 22.

2.2. Measurement Scales

The items contained in the surveys contained items designed to tap both demographic variables and managerial values and attitudes. The demographic variables are prepared by the reserachers of the study in order to explore some characteristics of the MBA students.

The managerial values and attitudes items are adopted from the original study done by Schein (1965). 19 constructs are theoretically independent of each other, and each is attempting to measure a different managerial value or attitude perception of the repondents. We measured 98 items on a six-point interval level scale. The name of the constructs and the number of items for each construct are given in Appendix A.

3. RESULTS

Since the main aim of this study is to find out the managerial value and attitude perceptions of the MBA students we will first give the mean scores on each item. For the interpretation of the means as in the original study see Appendix A. In general, low scores indicate a belief in favor of the construct measured.

In this study we used a six-point interval level scale: (1) Strongly disagree, (2) disagree, (3) slightly disagree, (4) slightly agree, (5) agree, (6) strongly agree. The individual mean scores of the items are given in Appendix B.

For the construct C1 management-labor relations: scores around 1, 2, 3 mean favoring freedom from labor control. The item means vary between 2.17 and 3.99. Only for the item c1.5 the mean is 4.21.

For C2 business-government relations: scores around 1, 2, 3 mean favoring freedom from government control. Only items c2.5, c2.6 and c2.8 have mean scores around 3. The rest of the items have means around 4.

For C3 corporate responsibility: scores around 1, 2, 3, mean belief in broad corporate responsibility. c3.1 and c3.3 only have means around 3. The others are above 4.

For C4 relations to society: scores around 1, 2, 3 means high interpersonal orientation. c4.4 has a mean score 3.90. The others vary around 4.

For C5 general cynicism: scores around 1, 2, 3 means high cynicism. c5.1, c5.2, c5.8 have means around 3, the rest vary around 4.

For C6 morality of managerial role: scores around 1, 2, 3 means belief that one must be tough and amoral as a manager. The item means vary around 4. Only c6.2 has a mean 3.34.

For C7 classical management theory: scores around 1, 2, 3 means belief in the principles of classical theory. c7.2 and c7.5 have means around 3, the rest of the items have mean scores around 4.

For C8 general conservatism: scores around 1, 2, 3 means high conservatism. All means are around 3 except c8.1 which is around 4.

For C9 change and cosmopolitanism: scores around 1, 2, 3 mean belief in the value of change and career movement. Items c9.1, c9.7, c9.8 and c9.9 have means around 3. The remaining 5 items have mean scores around 4.

For C10 faith in workers: scores around 1, 2, 3 mean having high faith in workers. All of the items have mean scores around 3 except c10.1 which is 4.02.

For C11 belief in group incentives: scores around 1, 2, 3 mean belief in group incentives. 2 of the total 3 items have mean scores around 3 and only c11.2 has a score around 4.

For C12 belief in group decision making: scores around 1, 2, 3 mean belief in the group decision making. All of the items have mean scores around 3.

For C13 interpersonal orientation: scores 1, 2, 3 mean high interpersonal orientation. This construct has 2 items only with c13.1 having a mean around 3 and c13.2 with mean around 4.

For C14 right to privacy: scores 1, 2, 3 mean that employee should not have rights to privacy. 3 of the items have scores around 3 and the remaining 2 items have means around 4.

For C15 cynicism about how to get ahead: scores 1, 2, 3 mean low cynicism. Item c15.1 has a mean around 3 and item c15.2 has a mean around 4.

For C16 cynicism about confirmaty pressures: scores 1, 2, 3 mean low cynicism. Only one of the items has a mean around 3, the other 2 items score around 4.

For C17 specialization versus general skills: scores 1, 2, 3 mean belief in general skills. Only one of the items has a mean around 3. The other 2 items have means around 4.

For c18 miscellaneous management beliefs: scores 1, 2, 3 mean belief in the various items.5 of the items have mean scores around 3 and only 3 items have means around 4.

For c19 corporate size: scores 1, 2, 3 mean favoring large corporations over small ones. Each of the 2 items have means around 4.

3.1. Descriptive Statistics of the 98 Items

Descriptive characteristics of each individual item is given in detail in Appendix B. Due to high level of missing cases in demographics only the following characteristics are identified (Table 1).

3.2. Results of the Reliability Analyses

Cronbach alpha values are checked for each measurement scale are presented in Table 2.

We took indexes of the reliable constructs for the data set; c3total, c14total and c5total.

3.3. Results of the Confirmatory Factor Analyses (CFA)

In this study, CFA are run to check for the construct validity of the scales with high reliabilities. The main intended contribution is to validate the constructs, as we have not met any prior empirical measurement of these scales since their first introduction to the literature by Schein (1965).

The 190-item attitude questionnaire measuring the original constructs of the Schein study (1965) had been pretested on earlier samples of Graduates, Sloans, and Executives. The 100 best items were retained and the resulting questionnaire was administered to the groups described above. Based on all the data obtained with these 100 items, the authors carried out a series of factor analyses to establish reliable attitude scales, and to refine the scoring procedure by including only those items in a scale which in fact tended to cluster. The exploratory factor analysis identified 19 scales with the deleted items. In our study, based on this prior empirical testing and conceptual rationalization, we aimed to test the validity of these original constructs given our initial sample data obtained from MBA students at Yeditepe University.

Generally, CFA is sensitive to sample size (Byrne, 2010) and usually above 200 is recommended. In this study the number of items for the reliable constructs is rather small like 4 and 5. Therefore sample size of 94 can be a sufficient size to run the confirmatory factor analysis.

Statistical research indicates that whereas skewness tends to impact tests of means, kurtosis severely affects tests of variance and covariance (De Carlo, 1997). Given that evidence of kurtosis, in particular multivariate kurtosis is exceptionally detrimental in CFA (Byrne, 2010). Based on this to run the confirmatory factor analysis we first wanted make sure that the data is multivariate normal. Review of kurtosis values reported (Appendix C) reveals no item to be substantially kurtotic.

3.3.1. CFA for c14: right to privacy

General model proved "good fit" with CMİN/DF (default model) = 2.714. We also checked for absolute model fit indices, goodness-of-fit (GFI) = 0.947 (>0.90 indicating good fit). However, root mean square error of approximation (RMSEA) = 0.136 which is usually expected to be ≤0.05 for good fit.

Modification indeces are checked and c14.5 is removed from the model and CFA is run for the second time. Result (default model) proved successful model fit with the data. Chi-square = 3.034, degrees of freedom = 2, P = 0.219 (insignificant so the first condition for general model fit is satisfied).

CMIN/DF = 1.517 which indicated good model fit. GFI (default) = 0.984 (>0.90 good fit). RMSEA (default model) = 0.075 proves acceptable model fit (0.06-0.08 is considered as acceptable model fit) (Schumacher and Lomax, 2004). Estimates also proved significant (see Table 3).

Table 1: Demographic characteristics of the sample (*N*=98)

Demographics	Frequency
Current MBA student	63
Graduate	30
Missing	1
My first semester	19
Missing	75
I don't have a job at the moment	9
Missing	85
0-1 years of experience	33
Missing	61
Domain of company: agriculture	3
Missing	91
Productions/operations Department	14
Missing	80
Female	29
Male	56
Missing	9

Table 2: Cronbach alpha values of constructs

Constructs and the related measurement scales	Cronbach alpha values
C1 perceptions on management-labor relations	0.064 if c1.5 deleted
C2 perceptions on business-governmentrelations	0.657
C3 perceptions on corporate responsibility	0.718
C4 perceptions on relations to society	0.566 if c4.4 deleted
C5 perceptions on general cynicism	0.716 if c5.1 deleted
C6 perceptions on morality of managerial role	0.445 if c6.4 deleted
C7 perceptions on classical management theory	0.460
C8 perceptions on general conservatism	0.269
C9 perceptions on change and cosmopolitanism	0.589
C10 perceptions on faith in workers	0.601
C11 perceptions on belief in group incentives	0.291
C12 perceptions on belief in group decision making	0.252
C13 perceptions on interpersonal orientation	0.444
C14 perceptions on right to privacy	0.703 if c14.5 deleted
C15 perceptions on cynicism about how to get ahead	0.539
C16 perceptions on cynicism about confirmaty pressures	0.676
C17 perceptions on specialization versus general skills	0.338
C18 perceptions on miscellaneous management beliefs	0.686
C19 perceptions on corporate size	0.189

3.3.2. CFA for C3 corporate responsibility

The results proved good model fit with the following measures: chi-square = 8.582, degrees of freedom = 5, P = 0.127 (prerequsite of insignificance satisfied) CMIN/DF = 1.716 (<3 good fit). Addingly GFI = 0.966 (>0.90), and RMSEA = 0.088 (0.06-0.08 acceptable model fit). There was no need for the modification of the model. Estimates also proved significant with the significant factor loadings of each item (Table 4).

3.3.3. CFA for C5; general cynicism

First run indicated the following: chi-square = 29.902, degrees of freedom = 14, P = 0.008. CMİN/DF = 2.136, GFI = 0.98, RMSEA = 0.111. We checked for modification indices to modify the model for a better fit. We added covariances between the error terms h5.8 and h5.5 and then rerun the model.

The following results indicated good fit with the data: chi-square = 13.668, degrees of freedom = 13, P = 0.398 (ınsignificance condition satisfied). Model fit measures: CMİN/DF (default) = 1.051 (<3 good model fit). GFI (default) = 0.959 (>0.90 good model fit), RMSEA (default) = 0.023 (<0.05 god model fit) (Schumacher and Lomax, 1996). Standardized regression weights of the modified model (Table 5).

Table 3: Standardized regression weights-C14

Paths	Estimates	Significance *P*
r.t.privacy → C14.4	0.688	0.000
r.t.privacy → C14.3	0.667	0.000
r.t.privacy → C14.2	0.802	0.000
r.t.privacy → C14.1	0.332	0.006

r.t.privacy: Right to privacy

Table 4: Standardized regression weights-C3

Paths	Estimates	Significance *P*
Corp.resp. → C3.5	0.751	0.000
Corp.resp. → C3.4	0.592	0.000
Corp.resp. → C3.3	0.725	0.000
Corp.resp. → C3.2	0.499	0.000
Corp.resp. → C3.1	0.364	0.002

Corp.resp.: Corporate responsibility

3.3.4. CFA for C18; miscellanous management beliefs

The first run indicated the following notes for model: chi-square = 72.445, DF = 20, $P = 0.000$. Based on modification indeces, M.I. 17.635, we added covariance between the error terms h18.5 and h18.4, $P = 0.000$. Then we added covariance between h18.5 and h18.1, P value still significant with 0.001. Then we added covariance between h18.6 and h18.5 with M.I 16.805 and rerun the model for the third time. Notes for model: chi-square = 22.765, degrees of freedom = 17, $P = 0.157$ which satisfied the condition of insignificance.

Model fit values proved good fit with the data: CMİN/DF = 1.339, GFI = 0.942 and RMSEA = 0.060 acceptable fit. Standardize regression weights of the final model; all paths proved significant except c18.5 with significance $P = 0.953$. Therefore we removed c18.5 from the model (Table 6).

3.3.5. Other results of CFAs

We also run CFA for the remaining scales with Cronbach alpha values >0.50. The results indicated the following. C16; saturated model. C2; all pathes proved insignificant.

4. CONCLUSIONS

This study has two major purposes: (1) To find out the managerial values and attitudes of our MBA students, (2) to check for the construct validity of the original measurement scales used by Schein (1965). Four of the scales; right to privacy, corporate responsibility, general cynicism and miscellanous management beliefs proved good fit with the existing data with small modifications. Based on the mean scores we can summarize the scale trends as follows: management-labor relations: students favor freedom from labor-control in general. They only do not favor the assumption that many employers think only of their profits and care little for their employees' welfare. Business-government relations: out of 10 items only 3 of them are in favor of freedom from government control. Corporate responsibility: sudents think that corporations have a definite obligation to take a stand on political issues and that they have a definite obligation to give money to charity. Relations to society: in this scale the most self-revealing perception of the students is that they favor less the assumption that the most important objective of a company is to manufacture and sell products which are useful to society. General cynicism: students do not agree that cynicism is a valuable attribute in a manager. Morality of managerial role: in general srudents don't favor the idea that one must be tough and amoral as a manager. Classical management theory: the students favor the folowing assumptions: c7.2 The human-relations-group-dynamics approach in industry tends to stifle the individuality of the employees. C7.5 the engineer in industry should give his primary allegiance to the company he works for, not the engineering profession as such. General conservatism: students are conservative in general. Change and cosmopolitanism: in 4 out of 9 items students believe in the value of change and career movement. Faith in workers: students favor faith in workers. Belief in group incentives: in 2 out of 3 items students favor group incentives. Belief in group decision making: all items are in favor of the belief in group decision-making. Interpersonal orientation: students favor human factor as more important than the economic factor. However, "sensitivity to the feelings of others" is not as much favored. Right to privacy: in general students favor that employee should not have rights to privacy. Cynicism about how to get ahead: the tendency is towards the belief that in order to get ahead in industry there must be someone sponsoring him/her. Cynicism about confirmaty pressures: students favor high cynicism in confirmaty pressures. General belief is that corporations are placing more stress on the "corporation loyalty" than individual growth. Specialization versus general skills: tendency is towards students favoring specialization. Miscellaneous management beliefs: students believe the following assumptions: c18.2 managers usually deal with people in a democratic manner. C18.3 a man who is willing to work hard in industry does not need a union to protect him. C18.6 most managers are delightful people to know socially. c18.8 ındustry would be better off if it consolidated some of its practices instead of constantly planning for change. Corporate size: students do not favor large corporations over small ones.

Table 5: Standardized regression weights-C5

Paths	Estimates	Significance
Gencynicim → C5.8	0.631	0.00
Gencynicism → C5.7	0.527	0.00
Gencynicism → C5.6	0.536	0.00
Gencynicism → C5.5	0.764	0.00
Gencynicism → C5.4	0.623	0.00
Gencynicism → C5.3	0.284	0.016
Gencynicism → C5.2	0.344	0.005

Table 6: Standardized regression weights-C18

Paths	Estimates	Significance
Mngbeliefs → C18.8	0.398	0.00
Mngbeliefs → C18.7	0.555	0.03
Mngbeliefs → C18.6	0.465	0.007
Mngbeliefs → C18.5	0.007	0.953
Mngbeliefs → C18.4	0.335	0.026
Mngbeliefs → C18.3	0.538	0.003
Mngbeliefs → C18.2	0.667	0.002
Mngbeliefs → C18.1	0.471	0.007

Consecutively we also aimed to draw the attention of our faculty to the managerial values and attitudes of our MBA students since graduate schools are the media for the socialization of the students and they are not solely the places for transferring knowledge. Therefore future study is intended to explore faculty values and measure possible effects on student perceptions. Also cross-cultural studies are planned to make comparisons among different nations and also to cross validate the measurement scales. This initial study will serve as a pilot study for our future research. Limitations: low overall response rate is due to probably total number of items (98). Missing data especially in demographics might be due to the intention to conceal identification. Low response to demographic items limited possible subgroup difference tests.

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APPENDIX A: CONSTRUCTS AND ITEMS

Table A1: Constructs C1-C4 and their ıtems

Constructs	Items
C1 management-labor relations Low score means favoring freedom from labor control	C1.1: Management will usually do what is best for its employees without outside influence from unions C1.2: A person who is willing to work hard in industry does not need a union to protect him/her C1.3: Managers are not always sincere in their dealings with other people C1.4: The average employee's standard of living would not be what it is today had it not been for the efforts of labor unions on his behalf C1.5: Many employers think only of their profits and care little for their employees' welfare
C2 business-government relations Low score means favoring freedom from government control	C2.1: Governmentally operated projects cannot compete with private enterprise because they are less efficient C2.2: Government should be headed by people trained in business techniques and sympathetic to the cause of business C2.3: Private enterprise working through a market economy provides the most equitable distribution of society's goods and services C2.4: Government competition with private enterprise is unfair and should be eliminated C2.5: The legal system of this country is generally slanted against big business C2.6: Management will usually do what is best for its employees without outside influence from the government C2.7: Present tax laws tend to stifle capital expansion by business more than they encourage it C2.8: The welfare of society is best achieved if all businesses pursue profit to the best of their ability C2.9: Price fixing, contract rigging, and other similar activities by leading business firms show that the government must take a more active role in the policing of private enterprise C2.10: Compulsory arbitration should be instituted in vital industries, such as the steel industry, to insure our country against work stoppages which jeopardize national defense
C3 corporate responsibility Low score means belief in broad corporate responsibility	C3.1: Corporations have a definite obligation to take a stand on political issues C3.2: Corporations have a definite obligation to support universities C3.3: Corporations have a definite obligation to give money to charity C3.4: A corporation must be responsible for the health and welfare of its employees and their immediate families C3.5: Corporations have a definite obligation to be actively involved in community affairs
C4 relations to society Low score means high interpersonal orientation	C4.1: Most consumers' products manufactured today have been designed to last not more than a few years C4.2: Proper advertising can sell virtually any product C4.3: A corporation with a good public image can sell even an inferior product C4.4: The most important objective of a company is to manufacture and sell products which are useful to society

Table A2: Constructs C5-C9 and their ıtems

Constructs	Items
C5 general cynicism	C5.1: The good manager is willing to make decisions which will hurt others
Low score means high cynicism	C5.2: The good businessman/businesswomen is basically a cold, calculating kind of person
	C5.3: Most corporations do not have clear objectives which can serve as guides to executive decisions
	C5.4: Industry's basic idea is to drive you as hard as it can and give you as little as possible
	C5.5: Many employers think only of their profits and care little for their employees' welfare
	C5.6: It is the tough, driving, impersonal individual who really gets ahead in industry
	C5.7: Many managers are suspicious of their business associates
	C5.8: Some degree of cynicism is a valuable attribute in a manager
C6 morality of managerial role	C6.1: The hardest part of a manager's job is having to compromise his own ethics and morals in order to get his job done
Low score means belief that one must be tough and amoral as a manager	C6.2: Managers often have to treat people unfairly to get their job done
	C6.3: Most managerial jobs require a person to compromise his ethics or morals to some degree
	C6.4: Religious teachings cannot be strictly observed in the business setting
C7 classical management theory	C7.1: In industry there must always be unity of command so that individuals will not be subject to conflicting authority
Low score means belief in the classical theory	C7.2: The human-relations-group-dynamics approach in industry tends to stifle the individuality of employees
	C7.3: Responsibility should never exceed authoritty because the individual cannot be held responsible for what he does not control
	C7.4: A clearcut hierarchy of authority and responsibility is the cornerstone of the business organization
	C7.5: The engineer in industry should give his primary allegiance to the company he works for, not the engineering profession as such
C8 general conservatism	C8.1: Most industrial problems can be attributed to a few basic causes
Low score means high conservatism	C8.2: The "committee way of life" in an organization often results in a good bit of wasted time
	C8.3: There are many sound principles of business which should not be changed even if economic and technological conditions change
C9 change and cosmopolitanism	C9.1: The best way to get ahead in business is to move from organization to organization
Low score means belief in the value of change and career movement	C9.2: Resistance to change is industry's major problem
	C9.3: The most important skill for the manager of the future will be skill in planning and controlling change
	C9.4: Nowadays it is more important for a manager to be loyal to his profession than to any given organization
	C9.5: Constant change and innovation is basically a good thing for society and its institutions
	C9.6: The more a young executive moves from job to job within a company, the greater will be his chance for success
	C9.7: A large corporation tends to suppress individual creativity
	C9.8: Industry would be better off if it consolidated some of its practices instead of constantly planning for change
	C9.9: There are many sound principles of business which should not be changed, even if economic and technological conditions change

Table A3: Constructs C10-C19 and their items

Constructs	Items
C10 faith in workers	C10.1: The average worker in industry seeks responsibility and is capable of exercising self-control
Low score means high faith in workers	C10.2: Leadership skills can be acquired by most people, regardless of their particular inborn traits or abilities
	C10.3: The average worker in industry prefers to avoid responsibility, has little ambition, and wants security above all
	C10.4:The average worker in industry has an inherent dislike of work and will avoid it if he can
C11 belief in group incentives	C11.1: Piece work systems are bad for company morale, since they force competition between fellow workers
Low score means belief in group incentives	C11.2: Group incentive plans are superior to piece work systems in stimulating high productivity
	C11.3: Piece work systems are good for company morale, because they stimulate high productivity
C12 belief in group decision making	C12.1: Individual decisions cannot be as consistently sound as group decisions
Low score means belief in group decision making	C12.2: Group decisions are generally more conservative than what the leader of the group would have done had he decided alone
	C12.3: The quality of individual decisions is generally higher than the quality of group decisions
C13 interpersonal orientaion	C13.1: In business decisions, the human factor is usually more important than the economic factor
Low score means high interpersonal orientation	C13.2: Sensitivity to the feelings of others is a definite asset to a manager

(Cond...)

Table A3: *Continued...*

Constructs	Items
C14 right to privacy Low score means that employee should not have rights to privacy	C14.1: A young person entering industry should be careful in selecting a spouse to make sure she/he will fit into his career plans C14.2: The private life of an employee is properly a matter of direct concern to his company, for the two can never be completely segregated C14.3: A spouse's social grace and attractiveness play a significant role in her husband's rate of advancement C14.4: Nowadays when industry hires a new manager, his whole family should be screened as an indication of his potential for advancement C14.5: The private life of an employee should be of no direct concern to his company
C15 cynicism about how to get ahead Low score means low cynicism	C15.1: The man who gets ahead in industry is the man who has someone sponsoring him C15.2: The man who gets ahead in industry is the man who knows the right people
C16 cynicism about confirmaty pressures Low score means low cynicism	C16.1: Industry's basic idea is to drive you as hard as it can and give you as little as possible C16.2: Most large corporations are placing more stress on the "corporation loyalty" of the employee than on his individual growth C16.3: A large corporation tends to suppress individual creativity
C17 specialization versus general skills Low score means belief in general skills	C17.1: The one most important factor contributing to a manager's advancement is his ability to get along with people C17.2: The successful manager is a "jack of all trades and master of none" C17.3: The successful manager is the one who becomes an expert in his own particular functions

Table A4: Constructs C18-C19 and their items

Constructs	Items
C18 miscellaneous management beliefs Low score means belief in the various items	C18.1: The man who gets ahead in industry is the man who is willing to work hard C18.2: Managers usually deal with people in a democratic manner C18.3: A man who is willing to work hard in industry does not need a union to protect him C18.4: The good manager should rely on explanation and persuasion rather than direct orders C18.5: To succeed in business one must be able to take criticism without being hurt by it C18.6: Most managers are delightful people to know socially C18.7: The most important objective of a company is to manufacture and sell products which are useful to society C18.8: Industry would be better off if it consolidated some of its practices instead of constantly planning for change
C19 corporate size Low score means favoring large corporations over small ones	C19.1: Large corporations create more opportunities than small companies for the individual to maximize his talents C19.2: A large corporation is generally a more desirable employer than a small company, because it offers security, regular advancement, and a wider selection of jobs

APPENDIX B: DESCRIPTIVE STATISTICS OF THE 98 ITEMS

Table B1: Descriptives of construct 1

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C1.1	94	1.00	6.00	3.7766	1.38466	1.917	−0.308	0.249	−1.069	0.493
C1.2	94	1.00	6.00	2.1739	1.52709	2.332	1.274	0.481	0.665	0.935
C1.3	94	1.00	6.00	2.3448	1.75816	3.091	0.997	0.434	−0.511	0.845
C1.4	94	1.00	6.00	3.9894	1.05234	1.107	−0.488	0.249	−0.025	0.493
C1.5	94	1.00	6.00	4.2128	1.17201	1.374	−0.713	0.249	0.001	0.493

Table B2: Descriptives of construct 2

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C2.1	94	1.00	6.00	4.0957	1.45963	2.131	−0.530	0.249	−0.872	0.493
C2.2	94	1.00	6.00	4.9149	1.17921	1.391	−1.159	0.249	0.920	0.493
C2.3	94	1.00	6.00	4.1915	1.26386	1.597	−0.795	0.249	−0.065	0.493
C2.4	94	1.00	6.00	4.0319	1.43274	2.053	−0.438	0.249	−0.876	0.493
C2.5	94	1.00	6.00	3.8085	1.48307	2.199	−0.431	0.249	−0.954	0.493
C2.6	94	1.00	6.00	3.2979	1.29374	1.674	0.185	0.249	−0.639	0.493
C2.7	94	2.00	6.00	4.1383	1.12260	1.260	−0.232	0.249	−0.571	0.493
C2.8	94	1.00	6.00	3.9149	1.23270	1.520	−0.468	0.249	−0.175	0.493
C2.9	94	1.00	6.00	4.1809	1.20895	1.462	−0.319	0.249	−0.429	0.493
C2.10	94	1.00	6.00	4.3404	1.11252	1.238	−0.712	0.249	0.481	0.493

Table B3: Descriptives of construct 3

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C3.1	94	1.00	6.00	3.5319	1.41954	2.015	−0.158	0.249	−1.032	0.493
C3.2	94	1.00	6.00	4.1702	1.43413	2.057	−0.485	0.249	−0.862	0.493
C3.3	94	1.00	6.00	3.8511	1.47347	2.171	−0.211	0.249	−0.918	0.493
C3.4	94	1.00	6.00	4.8298	1.20606	1.455	−1.055	0.249	0.867	0.493
C3.5	94	1.00	6.00	4.2234	1.25428	1.573	−0.669	0.249	−0.049	0.493

Table B4: Descriptives of construct 4

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C4.1	94	1.00	6.00	4.4043	1.18521	1.405	−0.875	0.249	0.818	0.493
C4.2	94	1.00	6.00	4.3511	1.16127	1.349	−0.639	0.249	0.249	0.493
C4.3	94	2.00	6.00	4.5106	1.01330	1.027	−0.853	0.249	0.526	0.493
C4.4	94	1.00	6.00	3.9043	1.40712	1.980	−0.323	0.249	−0.819	0.493

Table B5: Descriptives of construct 5

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C5.1	94	1.00	6.00	3.0957	1.42986	2.044	0.257	0.249	−0.996	0.493
C5.2	94	1.00	6.00	3.0532	1.31466	1.728	0.306	0.249	−0.700	0.493
C5.3	94	1.00	6.00	4.0426	1.06675	1.138	−0.629	0.249	−0.365	0.493
C5.4	94	1.00	6.00	4.2021	1.29166	1.668	−0.540	0.249	−0.320	0.493
C5.5	94	1.00	6.00	4.3617	1.15331	1.330	−0.578	0.249	−0.078	0.493
C5.6	94	1.00	6.00	4.1383	1.10328	1.217	−0.771	0.249	0.137	0.493
C5.7	94	1.00	6.00	4.0638	1.12459	1.265	−0.638	0.249	−0.143	0.493
C5.8	94	1.00	6.00	3.6915	1.14560	1.312	−0.287	0.249	−0.383	0.493

Table B6: Descriptives of construct 6

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C6.1	94	1.00	6.00	4.1383	1.21462	1.475	−0.675	0.249	−0.295	0.493
C6.2	94	1.00	6.00	3.3404	1.34046	1.797	−0.047	0.249	−0.958	0.493
C6.3	94	1.00	6.00	4.1383	1.17867	1.389	−0.677	0.249	0.062	0.493
C6.4	94	1.00	6.00	4.2766	1.28184	1.643	−0.693	0.249	−0.311	0.493

Table B7: Descriptives of construct 7

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C7.1	94	2.00	6.00	4.3830	1.01713	1.035	−0.583	0.249	0.124	0.493
C7.2	94	1.00	6.00	3.9894	1.01713	1.021	−0.298	0.249	−0.090	0.493
C7.3	94	1.00	6.00	4.2979	1.33465	1.781	−0.455	0.249	−0.806	0.493
C7.4	94	1.00	6.00	4.4894	1.17998	1.392	−0.716	0.249	0.180	0.493
C7.5	94	1.00	6.00	3.6170	1.25387	1.572	−0.439	0.249	−0.739	0.493

Table B8: Descriptives of construct 8

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C8.1	94	1.00	6.00	4.0319	1.22213	1.494	−0.929	0.249	0.304	0.493
C8.2	94	1.00	6.00	3.4362	1.21424	1.474	−0.014	0.249	−0.699	0.493
C8.3	94	1.00	6.00	3.8404	1.15752	1.340	−0.276	0.249	−0.575	0.493

Table B9: Descriptives of construct 9

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C9.1	94	1.00	6.00	3.7340	1.24586	1.552	−0.364	0.249	−0.599	0.493
C9.2	94	2.00	6.00	4.6383	0.90222	0.814	−0.201	0.249	−0.268	0.493
C9.3	94	1.00	6.00	4.4681	1.17959	1.391	−0.826	0.249	0.256	0.493
C9.4	94	1.00	6.00	4.1809	1.16363	1.354	−0.571	0.249	−0.050	0.493
C9.5	94	2.00	6.00	4.7021	1.08588	1.179	−0.665	0.249	−0.109	0.493
C9.6	94	1.00	6.00	4.1596	1.22959	1.512	−0.560	0.249	−0.200	0.493
C9.7	94	1.00	6.00	3.9255	1.19353	1.425	−0.552	0.249	0.061	0.493
C9.8	94	1.00	6.00	3.6809	1.07975	1.166	−0.167	0.249	−0.244	0.493
C9.9	94	1.00	6.00	3.5957	1.19424	1.426	0.136	0.249	−0.790	0.493

Table B10: Descriptives of construct 10

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C10.1	94	1.00	6.00	4.0213	1.06739	1.139	−0.151	0.249	−0.244	0.493
C10.2	94	1.00	6.00	3.7447	1.31930	1.741	−0.404	0.249	−0.532	0.493
C10.3	94	1.00	6.00	3.9894	1.06251	1.129	−0.308	0.249	−0.008	0.493
C10.4	94	1.00	6.00	3.8830	1.04579	1.094	−0.395	0.249	0.270	0.493

Table B11: Descriptives of construct 11

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C11.1	94	2.00	6.00	3.8191	1.03657	1.074	−0.101	0.249	−0.915	0.493
C11.2	94	2.00	6.00	4.2660	1.05927	1.122	−0.499	0.249	−0.114	0.493
C11.3	94	1.00	6.00	3.7128	1.27526	1.626	−0.490	0.249	−0.336	0.493

Table B12: Descriptives of construct 12

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C12.1	94	1.00	6.00	3.9787	1.09720	1.204	−0.257	0.249	−0.337	0.493
C12.2	94	1.00	6.00	3.9255	1.15693	1.338	−0.405	0.249	−0.360	0.493
C12.3	94	1.00	6.00	3.3191	1.25478	1.574	0.138	0.249	−0.777	0.493

Table B13: Descriptives of construct 13

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C13.1	94	2.00	6.00	3.8830	1.27723	1.631	−0.124	0.249	−1.041	0.493
C13.2	94	2.00	6.00	4.3511	1.03391	1.069	−0.694	0.249	0.053	0.493

Table B14: Descriptives of construct 14

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C14.1	94	1.00	6.00	4.0638	1.29356	1.673	−0.365	0.249	−0.631	0.493
C14.2	94	1.00	6.00	3.6383	1.31043	1.717	−0.236	0.249	−0.769	0.493
C14.3	94	1.00	6.00	3.8085	1.21174	1.468	−0.401	0.249	−0.417	0.493
C14.4	94	1.00	6.00	3.4787	1.25062	1.564	−0.271	0.249	−0.538	0.493
C14.5	94	1.00	6.00	4.0532	1.23015	1.513	−0.422	0.249	−0.105	0.493

Table B15: Descriptives of construct 15

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C15.1	94	1.00	6.00	3.8723	1.31357	1.725	−0.196	0.249	−0.535	0.493
C15.2	94	1.00	6.00	4.3191	1.13794	1.295	−0.882	0.249	1.022	0.493

Table B16: Descriptives of construct 16

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C16.1	94	1.00	6.00	4.0745	1.15693	1.338	−0.446	0.249	−0.131	0.493
C16.2	94	1.00	6.00	4.2447	1.02324	1.047	−0.942	0.249	0.433	0.493
C16.3	94	1.00	6.00	3.9468	0.99857	0.997	−0.686	0.249	0.571	0.493

Table B17: Descriptives of construct 17

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C17.1	94	1.00	6.00	4.4362	1.01132	1.023	−0.906	0.249	1.306	0.493
C17.2	94	1.00	6.00	3.7766	1.20174	1.444	−0.316	0.249	−0.559	0.493
C17.3	94	2.00	6.00	4.1915	1.05011	1.103	−0.338	0.249	−0.359	0.493

Table B18: Descriptives of construct 18

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C18.1	94	1.00	6.00	4.2340	1.21306	1.472	−0.426	0.249	−0.527	0.493
C18.2	94	1.00	6.00	3.6915	1.15495	1.334	0.204	0.249	−0.466	0.493
C18.3	94	1.00	6.00	3.3298	1.35510	1.836	0.118	0.249	−0.782	0.493
C18.4	94	2.00	6.00	4.5000	1.05494	1.113	−0.449	0.249	−0.526	0.493
C18.5	94	1.00	6.00	4.6277	1.10701	1.225	−0.914	0.249	0.707	0.493
C18.6	94	1.00	6.00	3.7340	1.21084	1.466	−0.213	0.249	−0.666	0.493
C18.7	94	1.00	6.00	3.9787	1.26132	1.591	−0.386	0.249	−0.337	0.493
C18.8	94	1.00	6.00	3.7128	1.08382	1.175	−0.230	0.249	−0.442	0.493

Table B19: Descriptives of construct 19

Variable	*n*	Minimum	Maximum	Mean	Standard deviation	Variance	Skewness	Standard error	Kurtosis	Standard error
C19.1	94	1.00	6.00	4.0745	1.22025	1.489	−0.617	0.249	−0.074	0.493
C19.2	68	1.00	6.00	4.2500	1.25037	1.563	−0.729	0.291	0.107	0.574

APPENDIX C: ASSESSMENT OF NORMALITY FOR CFAS

Table C1: Assessment of normality (Group number 1)

Variable	Minimum	Maximum	Skewness	c.r.	Kurtosis	c.r.
C18.1	1.000	6.000	−0.420	−1.661	−0.563	−1.114
C18.2	1.000	6.000	0.201	0.794	−0.504	−0.998
C18.3	1.000	6.000	0.116	0.459	−0.804	−1.592
C18.4	2.000	6.000	−0.442	−1.749	−0.562	−1.112
C18.5	1.000	6.000	−0.899	−3.559	0.606	1.200
C18.6	1.000	6.000	−0.210	−0.830	−0.694	−1.374
C18.7	1.000	6.000	−0.380	−1.504	−0.382	−0.757
C18.8	1.000	6.000	−0.226	−0.895	−0.482	−0.954
Multivariate					11.643	4.462

Table C2: Assessment of normality (Group number 1)

Variable	Minimum	Maximum	Skewness	c.r.	Kurtosis	c.r.
C14.1	1.000	6.000	−0.359	−1.420	−0.661	−1.309
C14.2	1.000	6.000	−0.232	−0.918	−0.792	−1.567
C14.3	1.000	6.000	−0.394	−1.561	−0.459	−0.908
C14.4	1.000	6.000	−0.266	−1.055	−0.573	−1.133
Multivariate					3.878	2.714

Table C3: Assessment of normality (Group number 1)

Variable	Minimum	Maximum	Skewness	c.r.	Kurtosis	c.r.
C3.1	1.000	6.000	−0.156	−0.616	−1.041	−2.060
C3.2	1.000	6.000	−0.477	−1.888	−0.880	−1.741
C3.3	1.000	6.000	−0.208	−0.822	−0.933	−1.847
C3.4	1.000	6.000	−1.038	−4.109	0.759	1.501
C3.5	1.000	6.000	−0.658	−2.604	−0.109	−0.216
Multivariate					10.716	6.209

Table C4: Assessment of normality (Group number 1)

Variable	Minimum	Maximum	Skew	c.r.	Kurtosis	c.r.
C5.2	1.000	6.000	0.301	1.193	−0.727	−1.438
C5.3	1.000	6.000	−0.619	−2.450	−0.409	−0.810
C5.4	1.000	6.000	−0.531	−2.102	−0.367	−0.726
C5.5	1.000	6.000	−0.569	−2.250	−0.137	−0.272
C5.6	1.000	6.000	−0.758	−3.002	0.067	0.132
C5.7	1.000	6.000	−0.627	−2.483	−0.199	−0.394
C5.8	1.000	6.000	−0.282	−1.118	−0.426	−0.842
Multivariate					9.719	4.197